



ANNUAL REPORT 2020



PETROBANGLA

Bangladesh Oil, Gas and Mineral Corporation



VOICE OF MILLIONS

POSTER BY SHAYKHAN



মুজিব MUJIB
শতবর্ষ 100

NATIONAL COMMITTEE FOR THE CELEBRATION OF THE BIRTH CENTENARY OF FATHER OF THE NATION
BANGABANDHU SHEIKH MUJIBUR RAHMAN, BANGLADESH

বাংলাদেশের
সুবর্ণজয়ন্তী
Bangladesh



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our vision

To provide energy for sustainable economic growth and maintain energy security of the country

Our mission

- To enhance exploration and exploitation of natural gas
- To provide indigenous primary energy to all areas and all socio economic groups
- To diversify indigenous energy resources
- To develop coal resources as an alternative source of energy
- To promote CNG, LNG and LPG to minimize gas demand and supply gap as well as to improve environment
- To contribute towards environmental conservation of the country
- To promote efficient use of gas with a view to ensuring energy security for the future

Message



Tawfiq-e-Elahi Chowdhury, BB, PhD

Adviser (Minister) to the Hon'ble Prime Minister
Power, Energy & Mineral Resources Affairs
Govt. of the People's Republic of Bangladesh



Following the path of development envisaged by the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman, his daughter Prime Minister Sheikh Hasina, has given the country's energy security one of the highest priorities.

Under the leadership of Sheikh Hasina, Petrobangla and its companies are actively pursuing hydrocarbon exploration, production, transmission, distribution and development of the two vital sources of energy-gas and coal in the country. It is taking initiatives to harness the potentials from the 26 blocks in deep and shallow seas, covering of 19.5 thousand square kilometers. It has already installed 2 FSRUs at Moheshkahali for regasifying imported LNG, and RLNG is being supplied from these FSRUs.

I hope the workforce of Petrobangla and its team will continue to be significant contributor to the prosperity of Bangladesh. Even during the COVID-19 pandemic, they are trying to ensure uninterrupted production, transmission and distribution of gas which is highly appreciable.

My felicitations to the officials associated in the publication of the Annual Report 2020.

I wish Petrobangla continued success.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh

Dr. Tawfiq-e-Elahi Chowdhury, Bir Bikram

Message



Nasrul Hamid MP

State Minister
Ministry of Power, Energy & Mineral Resources
Government of the People's Republic of Bangladesh



Bangladesh is celebrating the birth centenary of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman and the golden jubilee of its independence at a time when the country is fresh from nationwide jubilation over fulfilling all criteria for graduating from a least developed economy to a developing one.

Natural gas is a non-renewable energy resource. It provides about three-quarters of the total consumption of commercial energy of our country and as such, our economic development largely depends on sufficient supply as well as efficient utilization of this indigenous energy resource. Petrobangla, as the apex organization in providing primary energy to diverse users- power plants, industries, fertilizer factories, commercial concerns and others, has been assigned this key responsibility. Despite remarkable increase in the gas supply capacity during the tenure of present government, the supply and use of fuel are to be increased manifold. In order to explore new gas fields for meeting the rising energy demand, short, medium and long-term exploration plans have been undertaken in both land and sea areas. The drilling of Zakiganj-1 well in Sylhet has been successfully completed recently and it has been declared as the 28th gas field of the country. Ongoing Bibiyana process optimization project would enable to maintain the production plateau of the field until 2026. We have framed the Onshore Model PSC 2019 and the Offshore Model PSC 2019 to start new rounds of bidding for open blocks. In addition, a project for conducting 2D Multi Client Seismic Survey to get an idea of the offshore geology is being implemented.

As the supply from domestic natural gas is unable to meet the ever-increasing demand for energy, we are importing LNG through long-term contract and on spot basis. Further, activities for installation of a land-based LNG terminal at Matarbari, Cox's Bazar are currently in progress. To prevent wastage and pilferage of gas, improve energy efficiency, reduce monitoring costs and supply corrected volume of gas, pre-paid gas meters and electronic volume corrector (EVC) meters are being installed. Two Feasibility study projects for extension of existing underground mining operation of Barapukuria coal mine and development of Dighipara coal field have been completed.

We know, the COVID-19 pandemic has plunged many nations including Bangladesh into a new dimension of social, economic and commercial aftershocks. Amidst this unprecedented global crisis, Petrobangla is relentlessly putting its best efforts to sustain the country's economic development by ensuring uninterrupted gas supply to the customers.

I express my felicitations to the officials associated with the effort of publication of the Annual Report, 2020. I wish Petrobangla every success in its ongoing and future ventures.

Joy Bangla, Joy Bangabandhu.

Long Live Bangladesh.



Nasrul Hamid, MP



Senior Secretary

Senior Secretary
Energy & Mineral Resources Division
Ministry of Power, Energy & Mineral Resources
Government of the People's Republic of Bangladesh



It is a great pleasure knowing about the upcoming Annual Report 2020 of Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) highlighting the activities performed in the 2019-20 Fiscal Year.

We are well aware that the energy intensity and the sustainable development are reciprocally linked. To highlight energy, towards the higher economy growth trajectory, the intensive and optimum efficient use of natural gas is unique. It has achieved the "Energy of Choice" due to its extended use in power, fertilizer production, rapid industrialization and households. About 75% of commercial energy is met by the natural gas. As a relatively low cost fuel, natural gas provides a competitive edge of our industrial products at home and abroad. Moreover natural gas is also preferable as a cleaner fuel to conserve our environment. Being non-renewable, the optimal and efficient use of natural gas and coal put the maximum benefit to our economy.

The endeavors made by the Petrobangla in exploration, development, production and distribution of natural gas and coal are remarkable which maintain the pace of the required economic boost. A number of projects already been operated for enhancing supply of gas through exploration and development of oil in both onshore and offshore. Petrobangla has already installed two FSRUs at Moheshkahali for regasifying imported LNG to ease the demand and supply gap of gas. Besides natural gas and coal exploration, Petrobangla is also operating granite extraction which has become popular modern construction material in recent years. Due to present Government's energy friendly policy adoption and all-outs efforts the gas price is still affordable to the stakeholders which boosting our economic growth.

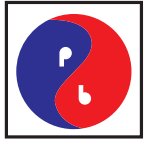
I am hopeful and happy to keep confidence on Petrobangla and its associated companies for their energy dedication, commitment, integrity and target-oriented performance with hard work and utmost sincerity.

I take this opportunity to thank the Chairman Petrobangla and his colleagues for bringing out this publication.

I wish the best of their achievements in their activities fixed ahead.


(Md. Anisur Rahman)

Introduction



Chairman

Petrobangla



It's a proud moment for the nation. The nation is celebrating the Birth Centenary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. This year also marks the 50th anniversary of Bangladesh's independence the golden jubilee of our glorious independence being celebrated. The year is like the confluence of two great streams - an estuary of time. In this great estuary, another feather is added: we have graduated from the status of a Least Developing Country to a Developing Country fulfilling the eligibility criteria in terms of per capita income, human assets and economic and environmental vulnerability, a major achievement in the nation's life. This year, in which we have earned 3 important milestones, will be considered, in the coming days, as the golden year in our nation's history.

At this proud moment, I am indeed delighted to present the Annual Report, 2020 of Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) for the financial year (FY) 2019-20. It provides an overview of the key activities, projects and performances of the corporation in the financial year, as well as future plans and priorities as it continues its endeavor with its 13 companies for ensuring environment-friendly, sustainable and affordable primary energy supply in the country.

Independence is the greatest achievement of a nation. Bangladesh emerged as an independent and sovereign nation on the world map in 1971 through 9 months of war and in exchange for the blood of 3 million martyrs under the strong, courageous and charismatic leadership of Bangabandhu Sheikh Mujibur Rahman. Following the attainment of political independence, Bangabandhu embarked on a journey for achieving economic emancipation by revolutionizing the country's economic sectors including agriculture, industries, energy and infrastructures. Bangabandhu, the great dreamer of self-reliant Bangladesh, realized the need to ensure energy security for our economic emancipation. From this foresightedness, Bangabandhu took over 5 gas fields (namely - Titas, Habiganj, Rashidpur, Kailashtila and Bakhrabad) from 'Shell Oil' at a price of 4.5 million pound sterling on 9 August, 1975. Today, even after 46 years of production, the remaining gas reserve of these fields is about 5.56 TCF which is worth about Taka 1 lakh 53 thousand crore (about US\$18.00 billion). The strong foundation of our economy has been established based on these gas fields.

Following the footprint of the father of the nation and the roadmap he laid down for our economic emancipation, the able successor of Bangabandhu, the icon of modern Bangladesh, Hon'ble Prime Minister Sheikh Hasina who emerged as a window of hope has consistently navigated the country to excel prosperity which has been articulated by achieving all the criterion to graduate as a developing country. Over the

past decade, Bangladesh's economy has stood on a strong footing. During this time, economic growth has increased on an average of 6.6% and in the year before the COVID-19 pandemic, growth rate was 8.2%, the highest in the Asia-Pacific countries as per the Asian Development Bank. Even during the pandemic, Bangladesh scored pretty well, with a GDP growth rate of 5.24%, when many of the developed economies registered negative growth. Bangladesh, once one of the ten poorest countries in the world, is now the 41st largest economy in the world. The extraordinary pace of development of Bangladesh has stunned the world today. Bangladesh is now a wonder of the wonders and an example of economic progress and a country of great hope and opportunity. This has been possible because of the Government's pragmatic policies, timely intervention and people-centric approach. This fast rate of economic development will need to be at least maintained for achieving our planned targets of 2030 (the UN sustainable development goals), 2031 (upper middle income country), 2041 (high income country) and 2100 (implementation of Bangladesh Delta Plan). To revive, stabilize and sustain the economic growth, the energy sector will play a crucial role as a major driver of social, economic and environmental development. As the growing size of the economy and rising energy demand go hand in hand, there is no alternative to ensuring the provision of quality energy supply in view of the rising demand for energy to implement necessary socio-economic activities.

Since the early 1960's, indigenous natural gas has been playing a very important role in the economy of Bangladesh. Due to its versatile use and affordable price, natural gas has been the principal fuel in the country for quite a long time. Although the energy mix of Bangladesh is diversifying slowly, indigenous natural gas still accounts for about three-quarters of commercial primary energy and more than half of the all primary energy supplies in the country. We are aware that the outbreak of COVID-19 pandemic has virtually stalled most of the activities around the globe. The pandemic is not only threatening our healthcare system but also putting our economic advancement in limbo. It is indeed a great challenge to ensure an unstinting supply of natural gas to sustain the economic growth of the country against the backdrop of sharply rising demand as well as outbreak of COVID-19.

Bangladesh Oil, Gas and Mineral Corporation (Petrobangla), the apex organization in the country's primary energy sector, entrusted with the responsibilities of exploration, production, transportation and marketing of natural gas along with extracting mineral resources in the country, has been continuing its endeavors for making natural gas available to its consumers at a reasonable price as well as playing a vital role in fueling the economy. Along with its traditional role of producing and supplying fuel from the indigenous sources, Petrobangla has been acting as an importer and marketer of liquefied natural gas (LNG) from August, 2018 in order to supplement indigenous natural gas to meet the demand.

In the FY 2019-20, Petrobangla and its companies produced 882.61 billion cubic feet (BCF) of natural gas, which was equivalent to 23.40 million metric tons of oil worth 8.17 billion USD. Besides, about 3.83 million barrels of condensate was extracted from natural gas in this timespan. A portion of it was fractionated into petrol, diesel and kerosene at the process plants of 3 companies under Petrobangla, and the rest of the condensate was sold to Bangladesh Petroleum Corporation (BPC) and private fractionation plants. The lone coal mining company of Petrobangla, BCMCL extracted about 8,11,138 metric tons of coal in this fiscal year. That is, Petrobangla and the companies under its umbrella provided fuels, around three-quarters of the country's total commercial energy supply, worth around 8.54 billion USD in aggregate to the energy basket of the country in FY 2019-20. Thus Petrobangla has become the lifeline of the economy of the country.

Since the first discovery of natural gas in Bangladesh in the year 1955, until today, including the recent discovery of Zakiganj-1 gas field, 28 gas fields have been discovered in this country. Reserve estimation of Zakiganj-1 gas field is underway by BAPEX. Excluding Zakiganj-1, total initial recoverable proven plus probable gas reserve of *27* fields has been estimated to be at 28.29 trillion cubic feet (TCF); out of this

estimated proven recoverable reserve (P1) is 21.5 TCF while the recoverable probable (P2) reserve is 6.79 TCF. Up to December, 2020 as much as 18.24 TCF gas was produced, leaving only 10.05 TCF of recoverable gas in 2P category. Currently, *20* gas fields are in production with *105* wells on-stream. Gas supply in the country increased from 600.86 BCF in FY 2007-08 to 994.4 BCF including R-LNG in FY 2019-20 due to various development programmes undertaken by Petrobangla during this period. Of this production, grid power consumed the largest share, about 455.9 BCF (45.84%) followed by captive power and industry which consumed 151.6 BCF (15.24%) and 155.7 BCF (15.65%) respectively; fertilizer 54.6 BCF (5.49%), domestic 132.7 BCF (13.34%), CNG 36.1 (3.63%) and commercial and tea-estates together 8.8 BCF (about 0.78%) in FY 2019-20.

Gradual transformation of the country's economy from the agrarian towards industrial one, marked by higher economic growth and consequent uplift of standard of living, is calling for rapid growth in energy demand in recent years. Shunning the sluggish policies of previous regimes, exploration and development activities in the gas sector got a momentum as soon as the government under the leadership of Hon'ble Prime Minister Sheikh Hasina came to power in 2009. Since then, 5 new gas fields (Sundalpur, Srikail, Rupganj, Bholā North and Zakiganj-1) have been discovered, 16 new gas structures have been delineated; 19 exploration and 50 development wells have been drilled, and workover of 39 wells have been completed. These activities added a gross flow capacity of about 1,506 million standard cubic feet per day (MMscfd) with net addition of about 1,006 MMscfd due to natural decline in flow capacity of some wells as well as depletion of 2 gas fields (Sangu and Feni). As a result, gas supply including regasified LNG has risen to more or less 3,250 MMscfd. At the same time, a total of 1,222.19 km transmission pipelines has been laid under different projects in addition to installation of 3 compressor stations, which has contributed to larger flow of gas in the system.

Although the problem of energy shortages has been confronting for a long time, the pace of exploration has been rather slow in the past, leaving large areas of the country still unexplored or underexplored. To come out of this paradox, Bangladesh Petroleum Exploration and Production Company Limited (BAPEX) along with Bangladesh Gas Fields Company Limited (BGFCL), Sylhet Gas Fields Limited (SGFL) and International Oil Companies (IOCs) have embarked on implementation of extensive exploration programmes that include drilling of 12 exploration wells, 22 work-over wells and 9 development wells during 2020 to 2024. Other than this, BAPEX has conducted 3,500 line-kilometer (lkm) of 2D seismic survey from 2017 to June, 2021 in the onshore.

In order to reduce overwhelming dependence on natural gas and diversify the sources of energy supply, Petrobangla has developed the first coal mine of the country at Barapukuria. At present, Barapukuria Coal Mine is producing approximately 3,000-3,500 metric tons of coal daily. About 8,11,138 metric tons of coal was produced in the FY 2019-20. Currently, the entire coal extracted from this mine is used to fuel the only coal fired 525 MW thermal power plant of the country located in Barapukuria.

Apart from these, Maddhapara Granite Mining Company Limited at Dinajpur the only company of its kind in the country-extracts granite which is used mostly as construction material. In the FY 2019-20, a total 8,23,959.10 metric tons of granite was produced from Maddhapara Mine and 8,64,906.52 metric tons was sold.

To get rid of the country from fuel shortage, Petrobangla is importing liquefied natural gas (LNG) in tandem with its endeavors to scale up exploration activities for new resources in the country. With a view to facilitating the government to attain the targets of 2030, 2031 and 2041, measures have been taken to accomplish all necessary activities relating to LNG including installation of floating and land based terminals. In the meantime, 2 floating storage and regasification units (FSRU) have been installed (by EEBL and Summit LNG Terminal Co. PVT. Ltd) at Moheshkhali for supplying 500 MMscfd of regasified LNG (RLNG) each and RLNG is being supplied to the national grid from these 2 terminals. Further, to install a land-based

LNG terminal at Matarbari, Cox's Bazar having the capacity of handling 7.5 MTPA of LNG equivalent to 1,000 MMscfd of RLNG (gas), activities such as the techno-economic feasibility study, the terminal developer selection and acquisition of land are currently in progress. In accordance with the 2 long-term sale and purchase agreements (SPA), RasGas, Qatar and OQ Trading Limited, Oman are supplying LNG to the said terminals. Additionally, a master sale and purchase agreement (MSPA) was signed with 14 nos. suppliers/traders to purchase LNG from the spot market. The first-ever spot cargo was imported in September, 2020.

On the other hand, exploration offshore is also gathering momentum. Initial exploration activities are in progress in blocks SS-04 and SS-09. ONGC Videsh Ltd. (OVL) has completed 3,008 lkm of 2D marine seismic survey data acquisition and carried out 2,520 lkm 2D OBC survey. OVL has started drilling of Kanchan-1 exploratory well in block SS-04 from 29 September, 2021. OVL is also in the process of awarding a contract for drilling of two more offshore exploratory wells to be drilled in 2022 both in block SS-04 and SS-09. In block SS-11 Santos acquired and interpreted 3,146 lkm 2D seismic data and identified 7 leads. Santos carried out 305 sq. km. 3D seismic survey over one of the potential leads. Despite promising post 3D data interpretation outcome, Santos's decision of wrapping up overall activities from Asia region led them relinquishing the entire block SS-11. Accordingly, the PSC has been terminated. In block DS-12, POSCO acquired and interpreted 3,580 lkm 2D seismic data and identified 5 leads, out of which 2 are very promising. But, POSCO came up with some proposals of improved commercial terms in the signed PSC which was not considered by Petrobangla. Subsequently POSCO relinquished the block.

In order to attract more investment in offshore oil and gas exploration, an agreement was signed between TGS-SCHLUMBERGER JV and Petrobangla to conduct a total of 32,000 lkm 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh with the object of getting an idea of the offshore geology. Depending upon the prevailing pandemic, a new offshore bidding round under the Offshore Model PSC 2019 will be announced shortly.

During FY 2019-20, Petrobangla group contributed to national exchequer an amount to the tune of *Tk. 60,775.4* million and saved a considerable amount of foreign exchange by substituting import of fuel.

Bangladesh rose from the ashes of a devastating and exceptionally bloody nine-month war. Infamously dubbed a 'basket case' in its infancy, the country bravely faced all odds and became a global role model of development. The UN gave its final recommendation to remove the least developed country tag by which Bangladesh has reached a new height in the world stage. We are determined to work with utmost commitment, sincerity, professionalism and inspired by the spirit of the great liberation war to transform the country into a "Sonar Bangla" ("Golden Bangla") as dreamt by Bangabandhu, a non-communal, hunger-free, modern, vibrant and economically prosperous country where no one is left behind.

I hope that the Annual Report will be considered as an important and informative document for countless readers, researchers, policy makers and students.



(A B M Abdul Fattah)

Board of Directors (Incumbent)



A B M Abdul Fattah
Chairman
Petrobangla
Chairman of the Board



A. K. M Fazlul Haque
Additional Secretary
EMRD
Director of the Board



Nazmul Ahsan
Director (Administration)
Petrobangla
Director of the Board



Md. Israt Hossain Khan
Joint Secretary
Planning Division
Director of the Board



A K M Benjamin Riyazi
Director (Finance)
Petrobangla
Director of the Board



Engr. Md. Shaheenur Islam
Director (Production Sharing
Contract)
Petrobangla
Director of the Board



Engr. Ali Mohd. Al-Mamun
Director (Operation & Mines)
Petrobangla
Director of the Board



Engr. Ali Iqbal Md. Nurullah
Director (Planning)
Petrobangla
Director of the Board

Past and Present Chairmen of Petrobangla

No.	Name	Tenure
01	Dr. A. Y. M. Habibur Rahman	21.04.1972 - 14.06.1976
02	Dr. Nazrul Islam	19.07.1976 - 14.02.1980
03	Syed Hasan Ahmed	18.02.1980 - 05.10.1981
04	M. A. Faiz	12.10.1981 - 28.02.1983
05	Gr. Capt. Qazi Aftab Ahmed, psc	01.03.1983 - 26.05.1984
06	Shaful Alam	26.05.1984 - 27.08.1984
07	Jalaluddin Ahmed	27.08.1984 - 10.03.1985
08	Md. Habibur Rahman	07.04.1985 - 09.10.1988
09	Jamiluddin Ahmed	10.10.1988 - 03.12.1988
10	Lt. Col (Retd.) Heshamuddin Ahmed, psc	03.12.1988 - 25.11.1989
11	Ataul Karim	27.11.1989 - 31.12.1990
12	M. A. Lutful Matin	01.01.1991 - 09.05.1992
13	S.K.M. Abdullah	09.05.1992 - 31.12.1995
14	Dr. Mujibur Rahman Khan	04.01.1996 - 25.05.1996
15	Md. Mosharraf Hossain	25.05.1996 - 31.12.1996 15.04.1997 - 22.05.2001
16	Professor Dr. Md. Hussain Monsur	05.07.2001 - 01.11.2001
17	Syed Sajedul Karim	03.12.2001 - 28.04.2003
18	S.R. Osmani	30.10.2005 - 14.12.2005
19	A.M.M. Nasiruddin	30.10.2005 - 14.12.2005
20	M Musharraf Hossain Bhuiyan	14.12.2005 - 09.01.2007
21	Md.Wahidunnabi Chowdhury	14.01.2007 - 14.02.2007
22	Dr. Sheikh Abdur Rashid	14.02.2007 - 24.09.2007
23	Jalal Ahmed	24.09.2007 - 19.04.2009
24	Major Md. Muqtadir Ali (Retd.)	19.04.2009 - 17.10.2009
25	Professor Dr. Md. Hussain Monsur	18.10.2009 - 18.10.2014
26	Istiaque Ahmad	23.10.2014 - 21.12.2016
27	Abul Mansur Md. Faizullah, ndc	01.01.2017 - 29.11.2018
28	Md. Ruhul Amin	29.11.2018 - 29.12.2019
29	A B M Abdul Fattah	13.01.2020 - Incumbent

The Genesis

Bangladesh Minerals, Oil and Gas Corporation (BMOGC) was established pursuant to President's Order No. 27 of 26 March, 1972 for dealing with the exploration and development of oil, gas and mineral resources of the country. The activities of the corporation relating to minerals was segregated and placed under a new organization named Bangladesh Mineral Exploration and Development Corporation (BMEDC) formed by President's Order No. 120 of 27 September, 1972. The reconstituted Bangladesh Oil and Gas Corporation (BOGC) was short-named "Petrobangla" by Ordinance No. XV of 22 August, 1974. Through the repeal Act No. LXX of 28 November, 1974, Oil and Gas Development Corporation established by the Ordinance No. XXXVII of 1961, was abolished and all its assets and liabilities were vested in the Petrobangla. On 13 November, 1976, by promulgation of the Ordinance No. LXXXVIII, the import, refining and marketing of crude and petroleum products were separated and vested in the newly-formed Bangladesh Petroleum Corporation (BPC).

BOGC and BMEDC were merged into a single entity under the name "Bangladesh Oil, Gas and Mineral Corporation (BOGMC)" by Ordinance No. XXI of 11 April, 1985. The corporation was short named "Petrobangla" and given power to hold shares or interest in any company formed for the purpose of exploration and exploitation of oil, gas and mineral resources by Act No. 11 of 28 February, 1989.



Petrobangla's Chairman A B M Abdul Fattah along with Directors, officials and employees placed a floral wreath at the portrait of Father of the Nation Bangabandhu Sheikh Mujibur Rahman commemorating the 45th National Mourning anniversary at the premises of GTCL.

Functions and Powers of Petrobangla

Petrobangla has been assigned with the following functions by the Bangladesh Oil, Gas and Mineral Corporation Ordinance, 1985 :

- a. to undertake research in the field of oil, gas and minerals;
- b. to prepare and implement programmes for the exploration and development of oil, gas and mineral resources;
- c. to produce and sell oil, gas and mineral resources; and
- d. to perform such other functions as the Government may, from time to time, assign to the Corporation.

Without prejudice to the generality of the foregoing provisions, the Corporation shall, in particular, have power :

- a. to undertake research for alternative use of natural gas;



Drilling activities of BAPEX

- b. to carry out geological, geophysical and other surveys for the exploration and development of oil, gas and mineral resources;

- c. to carry out drilling and other prospecting operations to prove and estimate the reserves of oil, gas and mineral resources and collect all data required for adopting the most suitable extraction and mining method;

- d. to set up mining industries and to continue production and sale of mined commodities;

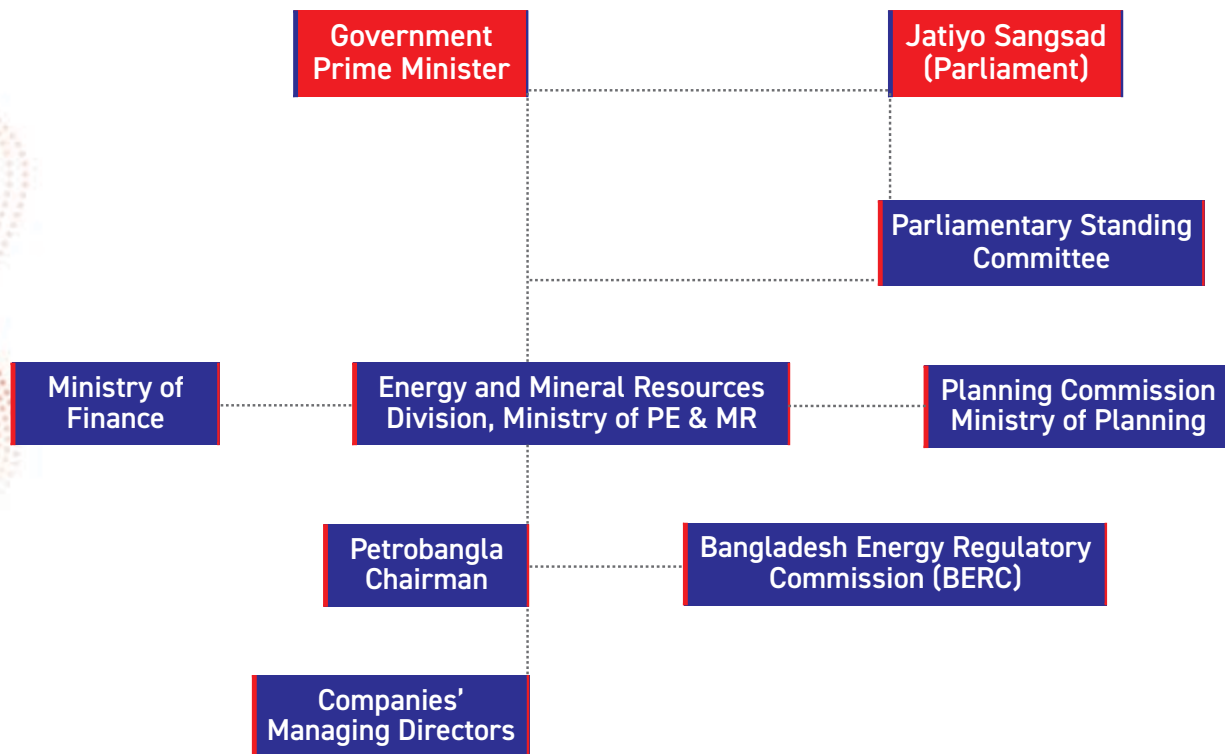
- e. to take up, execute and operate any project on mining and mineral development;
- f. to contribute towards the cost of any studies, experiments or technical research, connected with the functions of the Corporation and under-taken or done in the interest of the Corporation by any other person, body or agency; and
- g. to undertake, assist or encourage the collection, maintenance and publication of statistics, bulletins and monographs pertaining to the business of the Corporation.

Petrobangla and the Government

Petrobangla operates as a public sector statutory body pursuant to Bangladesh Oil, Gas and Mineral Corporation Ordinance, 1985 and Bangladesh Oil, Gas and Mineral Corporation (Amendment) Act, 1989. The general direction and administration of the affairs and business of the corporation vest in its Board of Directors. It is the policy making and managing body of the corporation, with members from Energy, Finance and Planning Ministries. The Board in discharging its functions acts on commercial consideration having due regard to public interest. The corporation is under the administrative control of the Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resources. The corporation has also close relationship, through the Ministry of Power, Energy and Mineral Resources, with the Ministry of Finance and the Ministry of Planning for its development programmes. There is also active relationship between the corporation and other functional bodies such as Bangladesh Energy Regulatory Commission, National Board of Revenue, the Department of Explosives and the Department of Environment for relevant purposes.

The activities of the corporation are reviewed and examined by the Public Accounts Committee and the Parliamentary Standing Committee on Power, Energy and Mineral Resources.

Accountability Chain



A Brief History of Oil, Gas and Mineral Industry in Bangladesh

The beginning : up to 1947

The search for oil and gas in the area constituting Bangladesh began in the later part of the 19th century through some isolated geological mapping. The first serious attempt to find oil and gas was undertaken in Sitakund in 1908 by the Indian Petroleum Prospecting Company, 18 years after the first oil discovery in Digboi, Assam. During 1923-31 Burmah Oil Company (BOC) drilled 2 shallow wells in Patharia. The wells were abandoned though there was a reported show of oil. A total of 6 exploratory wells were drilled, the deepest being 1047 meters. There was, however, no discovery and the Second World War disrupted further activities.

The interim : 1948 to 1971

The promulgation of the Petroleum Act in 1948 generated a lot of interest in oil and gas exploration by international oil companies. The Standard Vacuum Oil Company (STANVAC) of the USA, Pakistan Petroleum Ltd. (PPL), Burmah Oil Company affiliate and Pakistan Shell Oil Company (PSOC) carried out exploration till the end of the sixties. STANVAC drilled 3 wells at Hazipur, Bogura and Kuchma in the north-western part of the country without success. PPL drilled wells in Haripur, Patharia, Chatak, Fenchuganj, Patiya and Lalmai and made the first gas discovery in Haripur in 1955, followed by Chattak in 1959. PSOC was the most successful company and discovered 5 gas fields named Titas, Habiganj, Rashidpur, Kailashtila and Bakhrabad. They also drilled the first offshore well Cox's Bazar-1, which was dry.

Oil and Gas Development Corporation (OGDC) was established in 1961 providing an institutional foundation for exploration of oil and gas in the country. OGDC carried out geological and geophysical surveys including gravity, magnetic and seismic types and drilled wells in Jaldi and Semutang, discovering gas in Semutang in 1970.

The way forward : 1972 to 1979

After the independence of Bangladesh, exploration activities by both national and international companies gathered pace. Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) continued its exploration efforts while the Bangladesh Petroleum Act was passed in 1974 to facilitate international participation under production sharing contract (PSC). The offshore area of Bangladesh was divided into 6 blocks, which were taken up by Ashland, ARCO, BODC (Japex), Union Oil, Canadian Superior Oil and Ina Naftaplin under PSCs. These companies carried out gravity, magnetic and seismic surveys (about 32,000 km) and drilled 7 wells. Of them, only Union Oil Company discovered an offshore



Ownership Transfer Agreement of 5 Gas Fields from Shell Petroleum Company to Petrobangla

gas field Kutubdia in 1977. This phase of PSC ended in relinquishment of the blocks by the PSC operators in 1978. On 9 August, 1975, government led by the Father of the Nation Bangabandhu Sheikh Mujibur Rahman purchased 5 gas fields, namely Titas, Habiganj, Rashidpur, Kailashtila and Bakhrabad from British company, Shell Petroleum Company Limited, for a nominal amount of 4.5 million pound sterling. This landmark decision taken by the then government laid the foundation of energy security of the country by introducing sole ownership of the state over these major gas fields.

Gathering Momentum : 1980 onwards

The 1980s saw accelerated exploration activities by Petrobangla. During the time, 12 exploration wells were drilled at Muladi, Begumganj, Singra, Beanibazar, Atgram, Feni, Fenchuganj, Sitakund, Bogura, Kamta, Marichakandi (Meghna) and Belabo (Narshindi); and 7 gas fields were discovered at Begumganj, Beanibazar, Feni, Fenchuganj, Kamta, Marichakandi (Meghna) and Belabo (Narshindi). Among these, Fenchuganj no. 2 well remain the deepest one drilled so far in Bangladesh (4,977 m). Meanwhile, a new milestone was achieved when Petrobangla discovered the first commercial oil pool in Sylhet no. 7 on 23 December, 1986. Since 1989, after the formation of BAPEX as the national exploration company and thereafter exploration and production company, the company has continued exploration and production activities and drilled 4 exploratory wells discovering gas at Shahbazpur, Saldanadi, Srikail and Sundalpur.

In 1981 Shell Oil Company (Shell) was awarded the Chattogram Hill Tracts for petroleum exploration under PSC. Shell conducted geological and seismic surveys and drilled the Sitapahar well which was found dry. Subsequently Shell undertook exploration in the extreme north west of the country and drilled the first well in the area - the Salbanhat well which was also dry. In 1988 Scimitar Exploration Limited was awarded another PSC of what is now block no. 13 in the Surma basin. They failed to prove the extent of the oil discovery at Sylhet structure but discovered the Jalalabad gas field.

Formulation of National Energy Policy, 1996 and adoption of a model production sharing contract (PSC) document together with redefining the whole of Bangladesh territory into 23 exploration blocks ushered in a new phase of exploration and development of oil and gas in the country. In the first stage under the new arrangement, 8 blocks were awarded to 4 companies under PSC. Exploration and development activities in these blocks were rather limited and most of the blocks were moderately covered by seismic surveys. A total of 11 exploration wells were drilled and 3 gas fields were discovered in these blocks. These fields are Moulvibazar, Sangu (offshore) and Bibiyana. These 3 fields along with Jalalabad gas field discovered by Scimitar Exploration Ltd. were developed under PSC and are currently in production. The first 3D seismic survey of the country took place in Bibiyana during its appraisal. Bibiyana came under production in March, 2007. Another PSC bidding round during the late nineties culminated in awarding 4 more blocks. These were SHELL/CAIRN/ BAPEX in blocks no. 5 and 10, UNOCAL/BAPEX in block no. 7 and TULLOW/CHEVRON/TAXACO/BAPEX in block no. 9. Exploration activity was conducted in these blocks. Substantial activities were undertaken in block no. 9 only where 5 exploration wells were drilled on the basis of seismic survey including 3D seismic discovering Bangura gas field.

The Offshore Bidding Round 2008 being limited to newly-formed deep water blocks, attracted a significant number of bids. However, the ensuing maritime boundary dispute in most of the blocks created a stalemate. In this backdrop, PSC for 2 blocks was signed with ConocoPhillips in 2011. During FY 2012-13, ConocoPhillips completed acquisition of 5,860 lkm of 2D seismic survey and interpretation of data

identified 4 leads. Among them, one of the leads has an estimated in place gas resource of 2.8 TCF (P50). Despite having good potential for the block, the then fiscal terms and conditions were not in favor of the ConocoPhillips' portfolio for further investment. As a result ConocoPhillips relinquished these blocks in 2014 without drilling any exploratory well.

After the resolution of the maritime boundary dispute with Myanmar by virtue of the judgment awarded on 14 March, 2012 by International Tribunal For The Law of The Sea (ITLOS), the deep water blocks on the eastern part was rearranged. This is a widely acclaimed achievement of the government led by Hon'ble Prime Minister Sheikh Hasina. The Bangladesh Offshore Bid Round 2012 was announced in December, 2012 and substantial initial response was received. Under this bid round, 2 shallow water PSCs were signed with the consortium of ONGC Videsh Limited (OVL), Oil India Limited (OIL) and BAPEX for blocks SS-04 and SS-09 and 1 shallow water PSC was signed with the consortium of Santos, KrisEnergy and BAPEX for block SS-11. Under "Quick Enhancement of Electricity and Energy Supply (Special Provisions) Act, 2010", a PSC has been signed for deep sea block DS-12 with POSCO DAEWOO Corporation (presently POSCO INTERNATIONAL Corporation) in March, 2017.

As per PSC for blocks SS-04 and SS-09, OVL acquired and interpreted 5,528 lkm of 2D seismic data and identified 3 locations for drilling of 3 exploratory wells. In Block SS-11 Santos acquired and interpreted 3,146 lkm 2D seismic data and identified 7 leads. Santos carried out 305 sq. km. 3D seismic survey over one of the potential leads. In Block DS-12, POSCO acquired and interpreted 3,580 lkm of 2D seismic data identified 5 leads.

On the other hand all of the onshore PSCs have matured from the exploration phase to the production phase and major areas of the blocks have been relinquished. As of December, 2020 PSCs are active in production areas of blocks 12, 13 and 14 with Bibiyana, Jalalabad and Moulvibazar gas fields operated by Chevron, and block 9 with Bangora Gas Field operated by Tullow Bangladesh Limited.

Even though exploration history of oil and gas in Bangladesh goes back almost a century, exploration density could not be enhanced as much as it is required to convert domestic oil and gas resources into proven reserves. However, the exploration success ratio is high as of about 1 in 3 wells. PSC was the major contributor in country's gas production throughout the year of 2020. As of December, 2020 out of 27 gas fields discovered, 20 were under production. Meanwhile, peak gas production per day crossed the level of 2,700 MMscfd in December, 2016. Despite increase in production, the rising demand could not be met and the gap between supply and demand is widening. To minimize the gap, LNG has been importing since August, 2018 and massive exploration programmes in both onshore and offshore areas are being implemented.

Minerals

Petrobangla is also entrusted with mineral development in the country. While the exploration part of minerals activity falls under the charter of Geological Survey of Bangladesh (GSB), subsequent development of economic deposits are undertaken by Petrobangla. Mineral activities were part of the erstwhile Bangladesh Mineral Exploration and Development Corporation (BMEDC) till its merger with BOGC. Petrobangla has developed 2 underground mines, one for coal at Barapukuria which started commercial production in September, 2005 and the other for granite at Maddhapara which went into commercial production in May, 2007. Certain other extraction operation, like limestone, white clay and boulder, are controlled by the Government through the Bureau of Mineral Development (BMD).

Activities of Petrobangla

The activities of the Petrobangla group encompass the whole spectrum of oil, gas and mineral sector of the country. The companies under Petrobangla are involved in each of the stages from the drill bit to burner tips. Through its companies, Petrobangla conducts geological and geophysical exploration with the help of its own crew, drills exploration and development wells with its own rig or with the help of hired contractors, processes raw gas to the pipeline specification, transports the processed gas through an increasing network of high-pressure transmission lines and distributes gas to the customers, be it a large power plant or fertilizer factory or a single household. Value added LPG and liquid fuel such as motor spirit, diesel, kerosene etc. are extracted from NGL and condensate which are by-products of gas. Compressed natural gas (CNG) is extensively used in vehicles substituting for imported liquid fuels. Extraction of coal and granite are also conducted by Petrobangla. Furthermore, Petrobangla is set to be an importer and marketer of imported gas in the form of liquefied natural gas (LNG) from 2018 in order to supplement indigenous natural gas to meet the demand.

Exploration

Geological: During the fiscal year 2019-20, geological survey of 93 lkm has been completed in Sitapahar structure of Rangamati district with the own finance of BAPEX. A complete geological map of the structure is being prepared after analyzing the collected data and information. Moreover, well proposals for Shariatpur-1 exploratory well, Sundalpur-3 appraisal-cum development well and Begumganj-4 (west) appraisal-cum development well have been prepared after analyzing relevant 2D and 3D seismic data and information as well as the information collected from the previously drilled wells in the surrounding areas. Well location of Sylhet-9 and Kailashtila-9 appraisal-cum development wells under SGFL have been confirmed through field survey.

Two consultants have been appointed for smooth implementation of the geological and geophysical survey. In order to explore gases from dry, abandoned and suspended wells, an EOI has been called from the eligible companies experienced in this regard. On 8 November, 2020, a memorandum of understanding (MoU) was signed between BAPEX and Mitsui Oil Exploration Co. Ltd. (MOECO), Japan on "Joint exploration proposal for Bangladesh Onshore Blocks 8 & 11".

Being directed by the Energy & Mineral Resources Division, "Operating Procedure (OP) for Exploration to Production of Hydrocarbon" for BAPEX has been published by incorporating opinions/suggestions and evaluations received from experts in the oil/gas sector, university faculty and oil field service providers. Hon'ble State Minister for the Ministry of Power, Energy & Mineral Resources of the Government of the People's Republic of Bangladesh officially unveiled the operating procedure (OP) manual at BAPEX Bhaban on 15 December, 2019.

2D Seismic Survey: With a view to identifying locations of exploratory wells under the scope of a project entitled 'Rupkalpa-9 2D Seismic Project' financed by the gas development fund (GDF), a total of 3,000 lkm 2D seismic data has been acquired over Kishoreganj, Narsingdi, Tangail, Gazipur, Netrokona, Sherpur, Jamalpur and Sunamganj districts. Till 30 June, 2020, a total of Tk. 779.20 million has been spent out

of the total allocated amount of Tk.1,058.00 million marking 73.65% financial progress. Revised DPP of Rupkalpa-9, 2D seismic project has already been approved to acquire 500 lkm more seismic data from Noakhali and Laxmipur districts and adjacent areas.

3D Seismic Survey: 200 sq. kms 3D seismic survey has been completed over Semutang Gas Field. So far, 2,700 sq. kms 3D seismic data has been collected from Sunetra, Srikail, Sundalpur, Begumganj, Shahbajpur, Narsingdi, Mobarakpur, Rugganj and Semutang Gas Fields under '3D Seismic Project' of BAPEX. Total of Tk. 2,338.20 million has been spent out of allocated Tk. 2,476.90 million marking a financial progress of 94.40% and physical progress of 100%.



commercially viable for production. Madarganj-1 well was scheduled to be drilled by SOCAR-AQS. However, this programme was suspended due to the cancellation of the contract. As a result, Tk. 738.80 million was spent out of allocated Tk. 2162.2 million under this project. The project ended on 31 December, 2019 marking financial progress of 34.17%.

Drilling

Rupkalpa-1 Drilling Project: Under this project Srikail East-1 exploratory well drilling programme has successfully been completed on 31 January, 2020. A reserve of 50 BCF gas has been estimated in this well after DST operation. It will be possible to supply 10-12 MMscfd of gas to the national grid after construction of required gas gathering line. Till 30 June, 2020, a total of Tk. 1,442.50 million has been spent out of allocated Tk. 1,622.80 million marking a financial progress of 89% and physical progress of 100%.

Rupkalpa-2 Drilling Project: With a view to implementing Vision-2021 of the Government, drilling preparation of Zakiganj-1 well with Bijoy-12 (ZJ50DBS) Rig has been completed under GDF finance. A total of Tk. 1,489.20 million has been spent out of allocated Tk. 2,202.0 million marking a financial progress of 68%.

Rupkalpa-3 Drilling Project: The project for drilling Kasba-1 well and Madarganj-1 well was approved under GDF finance. Drilling of Kasba-1 well has already been successfully completed. The existence of gas was detected in this well but it was not

Development

Rupkalpa-5 Drilling Project: With a view to implementing Vision-2021 of the Government, the project for appraisal and drilling of Begumganj-3 and Begumganj-4 wells was approved under GDF finance. A contract was signed with SOCAR-AQS within the scope of the project for drilling of Begumganj-4 well. However, in March, 2019 SOCAR-AQS served BAPEX a notice for terminating the contract and consequently the drilling could not be completed. At present, the issue is waiting to be resolved.

Workover

Narsingdi-1: Under the scope of a contract between BAPEX and BGFCL, workover operation of Narsingdi-1 well was started on 27 June, 2019 with Rig Bijoy-11 (ZJ40DBT) and manpower. The workover operation ended on 30 July, 2019 successfully and now a total of 20 MMscfd gas is being supplied to the national grid.

Titas-9: Workover operation of Titas-9 well was started on 10 December, 2019 with BAPEX's own rig and manpower. The workover operation ended on 2 February, 2020 successfully and now a total of 20-25 MMscfd gas is being supplied to the national grid.

Titas-7: Contract between BAPEX and BGFCL work over operation of Titas-7 well was started after killing the well. Due to the prolonged production, the tubing got damaged which created a bit of complications in the operation.

Titas-13: The operation was started on 5 September, 2019 after killing the well, but there arose some technical complications. For this reason, in the light of the instructions of the foreign consultant of BGFCL, measures were taken to shut the well, ensuring well protection. Preparations are underway to resume the workover.

Shahbazpur-3: The IPS Cardwell Rig and other equipment were shifted to Shahbazpur-3 well location in Bhola in order to complete the Shahbazpur-3 well workover with the own rig and manpower of BAPEX. However, the operation was discontinued for the time being due to the Covid-19 pandemic situation. Finally, the work over operation of this highly sensitive well was resumed on 9 August, 2020 and ended on 18 September, 2020. The well is ready to produce about 20 MMscfd of gas.

Production

In the FY 2019-20, total 882.61 BCF gas was produced in the country. Two major public sector gas production companies Bangladesh Gas Fields Company Limited (BGFCL) and Sylhet Gas Fields Limited (SGFL), added 32.94% of total gas produced during the FY. BAPEX was assigned with production activities in 2000. It produced 36.44 BCF gas in FY 2019-20. Total production of these 3 national companies stood 327.17 BCF which was 37.06% of total production of gas during the FY. The remaining 555.44 BCF gas was produced by IOCs (Chevron and Tullow), which was 62.93% of total production of gas.

Compared to the previous year, Tullow produced 1.78% higher, while Chevron, Bapex, SGFL and BGFCL produced 5.53%, 13.86%, 8.83% and 13.6% lower amounts of gas respectively in FY 2019-20. The total production in FY 2019-20 stood at 882.61 BCF, averaging about 2,418 MMscfd. Out of this, BGFCL produced 248.60 BCF, SGFL 42.14 BCF, Bapex 36.44 BCF, Chevron 522.52 BCF and Tullow 32.92 BCF. The major gas producing fields of the companies under Petrobangla are: Titas Gas Field contributing 17.39%, Habiganj

7.69%, Bakhrabad 1.70% and Rashidpur 1.99%, whereas major producing fields under IOCs are: Bibiyana contributing 50.37%, Jalalabad 8.23%, Moulvibazar 0.60% and Bangura 3.73%.

At the end of December, 2020, 20 gas fields were in production with 107 flowing wells. Out of these fields, 5 were operated by BGFCL, 4 by SGFL, 7 by BAPEX, 3 by Chevron and 1 by Tullow.

In addition to the indigenous gas, 202.79 BCF imported RLNG was fed into the national gas grid in the FY 2019-20.

During the period from July to December, 2020, Chevron and Tullow produced 276.52 BCF and 17.03 BCF gas respectively while local companies produced 157.32 BCF gas, making a total of 450.87 BCF. In the same period, 102.96 BCF imported RLNG was fed into the national gas grid.

Transmission

Transportation of high pressure gas in the country is the responsibility of Gas Transmission Company Limited (GTCL). GTCL owns and operates major gas transmission pipelines throughout the country. Gas transmission pipelines built by other companies before the creation of GTCL have been integrated with the GTCL system. Currently GTCL operates the following gas transmission pipelines:

Bakhrabad-Demra 20" x 68.72 km gas transmission pipeline; Bakhrabad-Chattogram 24" x 174.65 km gas transmission pipeline; North-south 24" x 175 gas transmission pipeline; Ashuganj-Bakhrabad 30" x 58.50 km gas transmission pipeline (1st phase); Paschimanchal gas transmission projects - (a) 30" x 9 km Bangabandhu (B-B) Bridge, (b) 24" x 28.50 km Elenga-Nalka and (c) 20" x 38.5 km Nalka-Baghbari gas transmission pipeline; Beanibazar-Kailashtila 20" x 18 km gas transmission pipeline; Rashidpur-Ashuganj 30" x 28 km gas transmission pipeline (1 st Phase); Rashidpur-Habiganj, Rashidpur-Ashuganj 30" x 54 km gas transmission pipeline (2 nd Phase); Habiganj-Ashuganj, Ashuganj-Elenga (BB) 24" x 124 km gas transmission pipeline; Ashuganj-VS3 20" x 3.5 km gas transmission pipeline; Nalka-Bogura gas transmission pipeline - (a) 30" x 6 km Nalka-Hatikumrul and (b) 20" x 54 km Hatikumrul-Bogura gas transmission pipeline; Ashuganj-Monohordi 30" x 37 km gas transmission pipeline; Dhaka Clean Fuel 20" x 60 km gas transmission pipeline; Monohordi-Dhanua and Elenga-Bangabandhu Bridge East 30" x 51 km gas transmission pipeline; Titas Gas Field (Location-G)- AB 24" x 8 km gas transmission pipeline; Srikail Gas Field (Location-2) – AB 20" x 1.5 km gas transmission pipeline; Bonpara-Rajshahi 12" x 53 km gas transmission pipeline; Bibiyana-Dhanua 36" x 137 km gas transmission pipeline; Titas Gas Field (Location- C, B and A) to Titas A-B 10" x 7.7 km gas transmission pipeline; Bheramara-Khulna 20" x 163.03 km gas transmission pipeline; Hatikumrul-Bheramara 30" x 84 km gas transmission pipeline; Titas Gas Field Well No. 23, 24 (Sorail) to Khatiahata and Well No. 25, 26 (Malihata) to Khatiahata 20" x 3.30 km gas transmission pipeline; Gas transmission capacity expansion - Ashuganj-Bakhrabad 30" x 61 km gas transmission pipeline; Moheshkhali-Anowara 30" x 91 km gas transmission pipeline; Bakhrabad-Siddhirgonj 30" x 60 km gas transmission pipeline; Anowara-Fouzdarhat 42" x 30 km gas transmission pipeline; Jamuna West Bank-Nalka 30" x 15 km gas transmission pipeline; Moheshkhali (Zero Point)-CTMS 42" x 7 km gas transmission pipeline; Moheshkhali CTMS-Anowara 42" x 79 km parallel gas transmission pipeline and Chattogram-Feni-Bakhrabad 36" x 181 km gas transmission pipeline.

GTCL has also completed the installation of compressor stations at Ashuganj and Elenga and expansion of existing supervisory control and data acquisition (SCADA) system of national gas grid under GTCL (Component B of Bheramara Combined Cycle Power Plant Development Project).

Running projects are:

- a. Construction of Dhanua-Elenga and Bangabandhu Bridge West Bank-Nalka 30" x 67 km gas transmission pipeline.
- b. Construction of Bakhrabad-Feni-Chattogram 36" x 181 km gas transmission pipeline.
- c. Construction of Moheshkhali-Anowara 42" x 79 km gas transmission parallel pipeline.
- d. Construction of Bogura-Rangpur-Saidpur 30" x 150 km gas transmission pipeline.

Pipelines

Gas pipeline network continued to expand both in transmission and distribution. In total about 349.76 km pipelines of various sizes and grades were completed during the year 2019-20; these included 267.17 km transmission pipelines, 3.97 km distribution lines, 15.78 km feeder main and service lines and 62.84 km others (customer financing) pipelines. As on June, 2020 the gas pipeline network encompassed about 24,646.69 km comprising of about 3,138.75 km transmission lines, 2,384.71 km distribution lines, 235.74 km lateral lines, 16,743.80 km feeder main and service lines and the rest 2,143.69 km other (customer financing) lines.

As in December, 2020 the pipeline network increased to about 24,674.86 km, which included about 3,158.64 km transmission lines, 2,386.95 km distribution lines, 216.45 km lateral lines, 16,747.88 km feeder main and service lines and the rest 2,164.94 km pipelines constructed under customer financing.

Distribution

Six marketing or distribution companies under Petrobangla are entrusted with the responsibility of marketing of natural gas to the customers varying from large power and fertilizer plants to small households. These companies are : (1) Titas Gas Transmission and Distribution Company Limited (TGTDC), (2) Bakhrabad Gas Distribution Company Limited (BGDC), (3) Jalalabad Gas Transmission and Distribution System Limited (JGTDSL), (4) Paschimanchal Gas Company Limited (PGCL), (5) Karnaphuli Gas Distribution Company Limited (KGDCL) and (6) Sundarban Gas Company Limited (SGCL). Each company has its own marketing franchise area, covered by a fairly extensive distribution network. Among these marketing companies, Sundarban Gas Company Limited is the youngest one, which has started its operation in Bhola.

The total gas sales of the aforesaid 6 marketing companies in operation during the FY 2019-20 was about 994.4 BCF, of which TGTDC, being the largest, shared about 54.1%, followed by BGDC 12.0%, KGDCL 11.37%, JGTDSL 13.3%, PGCL 5.9% and SGCL 3.3%. Gas sector catered to 4.3287 million customers under various categories as in June, 2020 which decreased to 4.3280 million at the end of December, 2020. Most of these customers are of the domestic category.

Condensate and Natural Gas Liquids (NGL)

Some of the gas fields located in north-eastern part of Bangladesh contain high concentrations of liquid hydrocarbons. Production of value added finished petroleum products from this liquid hydrocarbon

or condensate is becoming a growing activity. With the introduction of the liquid recovery unit (LRU), condensate production from Bibiyana Gas Field has been increased from 5,500 barrels/day to 9,500 barrels/day. Apart from the fractionating condensate from national fields in fractionation plants installed at different gas fields, Rashidpur condensate fractionation plant with a capacity of 3,750 barrels/day is producing petrol, diesel and kerosene by fractionating the condensate received from Bibiyana Gas Field. During 2019-20, a total of 453,699.35 barrels of condensate was produced by SGFL, BGFCL and BAPEX and 3,377,493 barrels by IOCs as a by-product of gas. During the same period, SGFL extracted 139,067 barrels of NGL from the gas processed in its Mole-Sieve Turbo Expander plant at Kailashtila. On the other hand, a total of 1,181,613 barrels of petrol, 272,788 barrels of diesel and 146,353 barrels of kerosene was produced by fractionating the condensate at the fractionation plants located at different fields of SGFL, BGFCL and RPGCL.

CNG and LPG

Rupantarita Prakritik Gas Company Limited (RPGCL), a company under Petrobangla, has been entrusted with the functions to manage, supervise and coordinate the use of CNG in Bangladesh. The extensive use of CNG has been playing an important role in reducing our dependence on imported liquid fuel for use in vehicles. On an average 3.0 BCF of CNG is being used every month from 602 CNG stations, which is about 3.63% of the total gas consumption in the country. Consequently, the Government has been able to save about Tk. 2,949.04 million per month as foreign exchange in the sector against fuel import. With a view to curbing the import along with production of pollution-free fuel and to maximize the utilization of NGL obtained from the gas fields, the company also produced 5,119 metric tons of LPG by processing NGL in its fractionation plants at Kailashtila in Sylhet in the FY 2019-20.

Liquefied Natural Gas (LNG)

To accomplish Vision 2021 and sustainable development goals (SDGs) particularly Goal # 7: Secure access to affordable, reliable, sustainable and modern energy for everyone by 2030 and to minimize the demand supply gap, the Government has invigorated its effort to enhance gas production along with initiatives to import significant quantities of LNG.

Consequently, two separate terminal use agreements (TUA) have been signed with Excelerate Energy Bangladesh Limited (EEBL) and Summit LNG Terminal Co. (Pvt.) Ltd. to install 2 floating storage and re-gasification unit (FSRU) at Moheshkhali approximately 90 kilometers south of Chattogram for supplying 500 MMscfd of RLNG each. The first ever FSRU (by EEBL) was commissioned in August, 2018 and the second FSRU (by Summit) was commissioned in April, 2019.

Besides, a feasibility study is underway to install a land-based LNG terminal at Matarbari, Cox's Bazar having a capacity of handling 7.5 MTPA of LNG equivalent to 1,000 MMscfd of RLNG (gas). Petrobangla signed a contract in December, 2020 with the joint venture of Tokyo Gas Engineering Solutions Corporation (TGES), Japan and Nippon Koei Co. (NK), Japan for techno-economic feasibility study, engineering services and tender management services for the construction of the said terminal.

Two long-term sale and purchase agreements (SPA) were signed with Ras-Laffan Liquefied Natural Gas Company Limited (3) of RasGas, Qatar and with Oman Trading International (OTI) (presently known as OQ

Trading Limited/OQT), Oman for supplying LNG to these terminals. Additionally, master sale and purchase agreement (MSPA) was signed with 14 nos. suppliers/traders to purchase LNG from the spot market. The first ever spot cargo was imported in September, 2020.

Construction of 30" x 91 km transmission pipeline and a parallel 42" x 79 km pipeline from Moheshkhali to Anowara in Chattogram and another 42" x 30 km gas transmission pipeline from Anowara to Fauzdarhat have been completed to evacuate RLNG (gas).

Mining

Petrobangla is also entrusted to develop mineral resources in the country. As the pioneer in subsurface mining in the country, Petrobangla has developed a coal mine at Barapukuria and a granite mine at Maddhapara of Dinajpur district. The commercial production started from the coal mine in 2005 and from the granite mine in 2007. Coal is being used mostly for power generation at the mine mouth thermal power plant of BPDB and granite is used mostly as construction material. At present, several feasibility study projects have been undertaken to develop more mine in our country to extract valuable natural resources.

Coal

Energy is the main indicator of economic growth for a country and constitutes one of the vital infrastructural inputs in socio-economic development. At present, natural gas is the main indigenous energy source of Bangladesh accounts 54% of the total electricity generation. Several studies reveal that domestic production of natural gas will be depleting soon in the near future. Taking into account the uncertainty of sustainable supply of primary energy it is imperative to diversify the primary energy sources in the country. In that case, coal can be a major alternative energy source for the country.

Five coal fields have been discovered so far in the north-western part of Bangladesh. These are Khalaspir coal fields in Rangpur, Barapukuria, Phulbari and Dighipara coal fields in Dinajpur and Jamalganj coal field in Joypurhat/Naogaon. The total estimated reserve of five coal fields is 7.80 billion metric tons.

Out of these 5 coal fields, Petrobangla has developed the first and only coal mine of the country at Barapukuria. Commercial coal production started from September, 2005 with a capacity of 1 million metric ton per annum and currently the production rate is 3,000-3,500 metric tons per day. Till December, 2020, a total of 12.01 million metric tons of coal has been produced from the commencement of commercial production. Due to Covid-19 pandemic situation, in the year 2020, yearly production has been reduced to 0.621 million metric tons. Presently the entire amount of produced coal is being supplied to Barapukuria 525 MW coal fired thermal power plant. According to the revisiting power system master plan (PSMP) in 2016, the demand of coal by 2030 will be 58 million metric tons/year approximately. In September, 2018 a feasibility study project has been completed for north-south extension of the existing Barapukuria mine to increase the current production. The study suggests that about 3.2 million metric tons of coal from northern part and about 6.9 million metric tons of coal from the southern part can be extracted. Physical activities are ongoing for development of underground mining operations from the northern extension of the basin and expected to launch production from 2024. In addition, another feasibility study project for an open pit mine in the northern part of Barapukuria coal mine has been submitted to the EMRD for approval.

For the development of the Dighipara coal field, Petrobangla conducted a 1st stage feasibility study which

proves the prospect of this coal field and coal reserve has been estimated as 865 million metric tons. In 2nd stage, a project named “Techno-Economic Feasibility Study of Coal Deposit at Dighipara, Dinajpur” has been completed to develop an underground coal mine at Dighipara with a target production of 3 million tons/year. This study report reveals that, total geological reserve of Dighipara coal basin is 706 million metric tons among which 90 million metric tons is extractable by underground mining. Considering high value investment cost and necessity to review the present feasibility study report, further development activities of Dighipara coal field has been suspended temporarily.

A feasibility study project for extraction of coal bed methane (CBM) from Jamalganj coal field was carried out by Petrobangla during the year 2015-16. This study brings out that CBM production is not economically viable due to extreme gas under-saturation. The consulting firm of this project informed that 5.45 billion metric tons of coal resources are present over an area of 64 sq. km in Jamalganj coal basin. The consulting firm recommended detailed coal exploration especially in the demarcated 15 sq. km area where the upper coal seams occur in 600-800 m depth. Petrobangla is planning to conduct further comprehensive feasibility study with a view to developing an underground mine in the north western comparatively shallower area of Jamalganj coal field.

To meet up the present and upcoming energy demand, it is required to increase the coal production by conducting feasibility studies on other coal fields, such as - Jamalganj coal field, Khalaspir coal field and Phulbari coal field. Development of coal fields can be augmented by engaging foreign and local investors. However, to get rid of the present and upcoming energy crisis the development/production of indigenous coal resources need to be exaggerated on a priority basis.

Granite

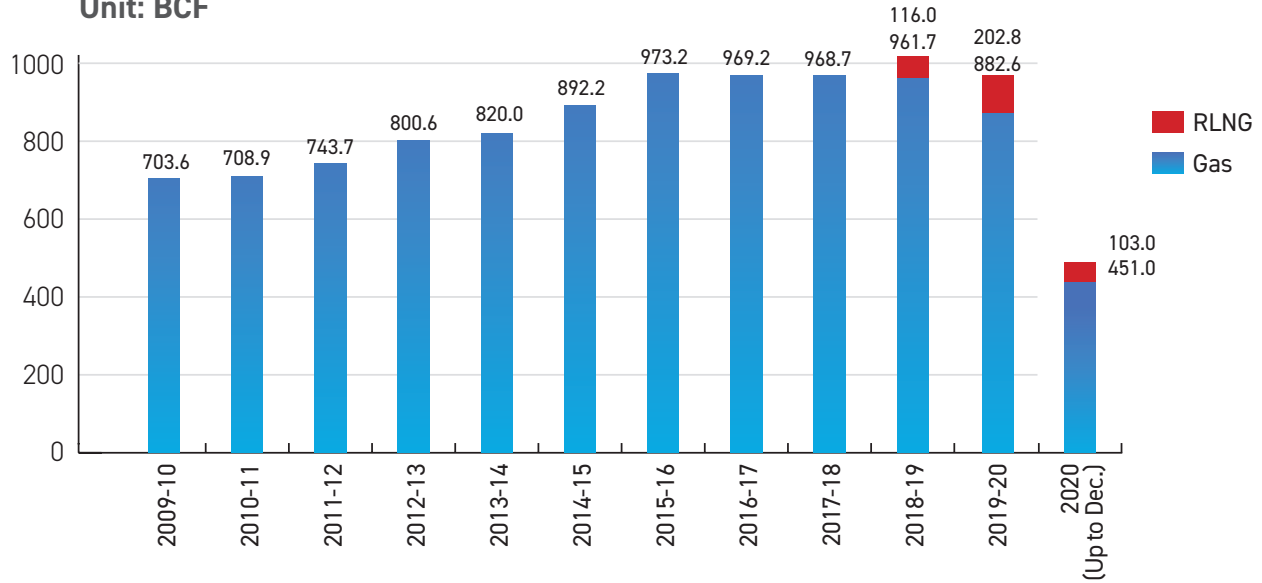
Maddhapara Granite Mining Company Limited (MGMCL) at Dinajpur, the only underground mining company of this kind in the world, has been extracting granite which is used mostly as construction material. During the FY 2019-20, a total of 8,23,959.10 metric tons of granite was extracted from the mine and 8,64,906.52 metric tons was sold.



Cage Skip Shaft and Crushing Plant of MGMCL

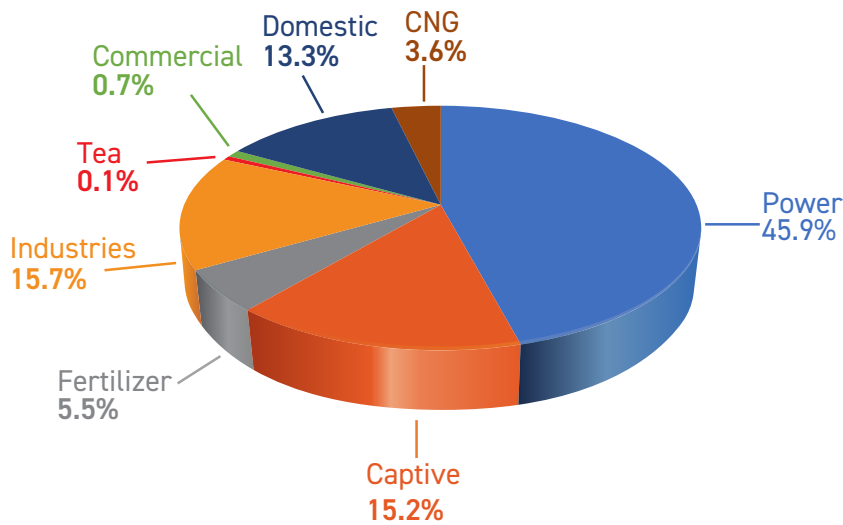
Gas Production in Bangladesh

Total production up to Dec'20 is 18.24 TCF
Unit: BCF



Marketing

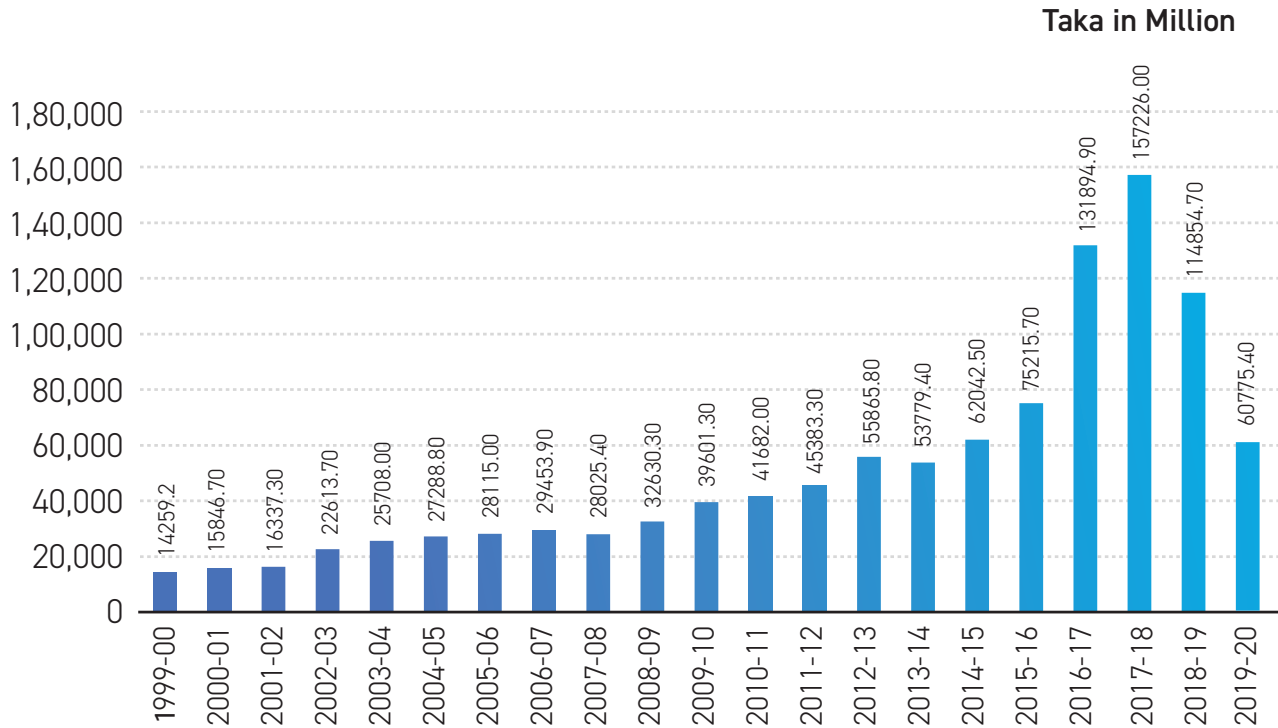
By the end of 2019-20 financial year, total sales was 994.4 BCF, of which power sector (Grid + Non-Grid) consumed the largest part amounting to 455.9 BCF followed by fertilizer sector 54.6 BCF, captive power 151.6 BCF, industry 155.7 BCF, domestic sector 132.7 BCF, and other non-bulk sectors 43.9 BCF. As in December, 2020 the gas sector catered to more than 4.328 million customers of various categories. Most of these customers fall under the domestic category; however, the power sector remained the largest consumer.



Financial

The gross income in 2019-20 by Petrobangla Group from Sales is Tk. 578252.76 million. After paying SD & VAT net income was Tk. 525105.33 million. Gross expenses comprising of Tk. 53147.43 million as SD & VAT along with Tk. 532817.93 million as cost of sales, amounted to Tk. 585965.36 million. After paying income tax, net profit/(loss) is Tk. 20274.28 million. After paying dividend of Tk. 8704.50 million, net profit/(Loss) is Tk. 11569.78 million.

Payment to National Exchequer



Innovation Programme

Innovation is a key driver of Bangladesh's goal of becoming a developed country by 2041 and in achieving the sustainable development goals (SDGs) by the year 2030. Petrobangla has taken some innovative action plans to accelerate the speed of work, ensure better services, accountability, transparency and easy access to its stakeholder. These are (a) Providing digital card (Bill card) for customers instead of Bill Book by BGDCL, (b) SMS notification to the customer on gas bill & other related information by PGCL, (c) Digitize map of existing gas transmission & distribution pipeline of SGCL, (d) Implementing RFID sticker system & maintaining an online database to recognize and checking the CNG vehicle in RPGCL CNG station by RPGCL, (e) Implementation smart delivery system for granite from the stock yard to the customer by MGMCL, (f) Developing web based system of daily gas production & marketing by BAPEX and BGFCL. Petrobangla encourages its employees, stakeholders and visitors to participate in developing innovative ideas for better services.

Energy Efficiency

Petrobangla has implemented a TA project namely "TA to Review the Approach for Increasing the Efficiency of Gas Utilization in Certain Major Users" under JDCF financing for identifying opportunities to increase gas utilization efficiency of major users such as fertilizer industries, captive power plants, glass industries, steel re-rolling mill and other industrial establishments that use boilers through consultancy services.

Findings of the pilot programmes : (i) Boiler Economizer Pilot Programme (to fit an economizer to exhaust of the boiler to recover waste heat for heating the boiler feed water): gas consumption has been reduced by 4.4%. (ii) Generator Jacket Water Pilot Programme (to recover heat from the generator jacket water for use as process heat): gas consumption has been reduced by 14.4%. (iii) Reheating Furnace Recuperator Pilot Programme (to install a recuperator to the exhaust of the furnace to pre-heat the combustion air) : gas consumption has been reduced by 9.10%. Excess air has been controlled by installing a butterfly damper at the chimney. Excess air as well as oxygen controlled by these two dampers as a result furnace losses scale reduced significantly. Reduction of scale loss gives a dramatic result i.e. gas consumption was reduced by 35%.

The potential natural gas savings and greenhouse gas (GHG) emission reductions that could be achieved if the energy management opportunities (EMOs) proposed by the consultants are implemented.

Petrobangla proposed to include the EMOs suggested by the consultants in the Energy Efficiency and Conservation Master Plan to be prepared by Power Division to improve industrial boiler efficiency, captive power generator and industrial furnace as well as ensure energy conservation and the master plan has been prepared by the Power Division during the month of May, 2016.

Furthermore, Petrobangla has set up a standard for gas utilization efficiency for industrial plants using appliances i.e. boiler, captive power generator and industrial furnace and also given directives to its gas distribution companies to maintain the standard. The findings of the pilot programs are being implemented by the distribution companies of Petrobangla.

Potential Gas Savings and Carbon Emissions Reduction

Energy Management Opportunities	From Audited Industries		Nationwide projection			
	Possible Annual Gas savings (MMscf)	Savings to Consumption Ratio of Gas	Total Gas consumption (MMscfd)	Potential Gas savings (MMscfd)	%	Carbon Emission reduction (Ton/year)
Industrial Boilers	664	0.17	350	58	17	1,172,254
Captive Generator	1054	0.50	444	224	50	4,167,538
Re-heating Furnace	202	0.18	22	4	18	11,172
Total			816	286		5,350,964

Annual Performance Agreement

The Government of Bangladesh has launched a government performance management system (GPMS) for qualitative and quantitative evaluation of the performance made by public sector organizations. Under this system, a mechanism of annual performance agreement (APA) had been introduced from the FY 2014-



Signing of APA between Petrobangla and its companies in a virtual meeting

15. APA between Energy & Mineral Resources Division (EMRD) and Petrobangla and individually between Petrobangla and its companies are being signed at the beginning of every FY. Regarding APA in the FY 2019-20, Petrobangla has achieved 93.0% which was 96.7% of the previous year. Due to the COVID-19 situation, the achievement was less than the previous year. In the FY 2020-21, APA was signed between EMRD and Petrobangla on 28 July, 2020 while between Petrobangla and its companies on 29 July, 2020. Reports of achievement regarding APA are being sent to EMRD on monthly, quarterly, half-yearly and yearly basis.

Right to Information

To make provisions for ensuring transparency and accountability in all public, autonomous and statutory organizations and in other private institutions constituted or run by government or foreign financing, the Parliament of the People's Republic of Bangladesh passed the 'Right to Information Act, 2009 on 27 March, 2009. To ensure the effective implementation of the Act, the Government has already formulated rules and regulations regarding preservation of information, publication of information, disclosure of information and access to information. According to the Right to Information (RTI) Act, Petrobangla has specifically designated an officer. Besides, Petrobangla has taken initiatives to make its employees well acquainted with the provisions of the Act, Rules and Regulations.

National Integrity Strategy

As per Government's decision, a time bound action plan on national integrity strategy at corporation level has been implementing since 2014. In light of the Government's direction, a committee has been formed to implement the national integrity strategy action plan in the corporation. And an official has been deployed in order to implement the national integrity strategy of Petrobangla. In the guidelines of the Cabinet Division of Bangladesh Government, Petrobangla has prepared a time bound action plan on national integrity strategy for FY 2020-21. The 1st quarter report of the national integrity strategy action plan was sent to EMRD on October, 2020 as per schedule. The major portion of the time bound action plan works have already been implemented within the stipulated time and hope that this national integrity strategy will play a pivotal role in building the Golden Bengal-the dream of the Father of the Nation and the people of Bangladesh as well.

Human Resources Development

As a part of the continuing efforts to upgrade its manpower resources to meet the changing needs of the industry, Petrobangla and its companies pursue skill development and diversification programmes on a regular basis. Apart from conventional training opportunities for job-specific subjects, new areas of specialization are being inducted to cater to a new milieu of activity. In view of gradual deregulation of certain aspects of the gas industry, introduction of private ventures as sole or joint collaboration, taxation regime, tariff mechanism and overall reinvigoration of the sector, regular and frequent participation are ensured by the widest possible selection of personnel in various training, workshops and seminars.

During the FY 2019-20, Petrobangla group arranged foreign programmes of different durations and disciplines for 272 personnel, while 252 participants were sent for attending training, 9 for seminars, 8 for attending inspections and 3 for forums. During the same period, local programmes was imparted to 545 personnel, while 473 were sent for attending training, 58 for seminars and 14 in workshops held in the country.

Information Technology

Petrobangla and its companies are working for digital services. Petrobangla is using e-Nothi system and e-Government procurement (e-GP) system. Official meetings have been arranged by various kinds of video-conferencing systems for direct communication to save time and labor. Redundant internet bandwidth has been ensured with auto failover to ensure internet availability. Besides, Petrobangla has wi-fi connectivity in each floor and all officials and staff have access to wi-fi networks. Petrobangla maintains an updated website which is both in english and bangla versions. Petrobangla also maintains a mail server to ensure authentic, rapid and digital communication. Besides this, Petrobangla and its companies are trying to initiate some e-services to ensure smooth, fast and better services to its stakeholders. Petrobangla has already taken an initiative to implement enterprise resource planning (ERP) with its own data centre (DC) and disaster recovery (DR) across its 13 companies.

Grievance Redress System

Grievance redress system (GRS) provides a way to reduce risk for the public service delivery, an effective avenue for expressing concerns and achieving remedies for public, and promote a mutually constructive relationship. The aim of GRS is to develop a range of procedures to facilitate airing, and resolution of

grievances in a non-threatening, supportive environment. Under the government performance management system, Energy & Mineral Resources Division and Petrobangla have signed an annual performance agreement (APA), which includes a grievance redress system. An officer has been appointed as focal point for implementation of grievance redress system in Petrobangla. Activities of Petrobangla and its companies under GRS are being regularly monitored and evaluated.

Production Sharing Contracts (PSC)

Under its charter, Petrobangla has the right to enter into petroleum agreements with any international oil company (IOC) for the purpose of any petroleum operations. One of Petrobangla's major activities consists of organizing, supervising and administering the production sharing contracts (PSC) it enters into with the IOCs. Major block bidding and awards took place under the 1974 offshore bidding round, 1993 bidding round, 1997 bidding round, 2008 offshore bidding round and 2012 offshore bidding round.

1974 Offshore Bidding Round

Bidding was limited to near offshore areas and 6 of the then 7 offshore blocks were contracted with the following IOCs :

- Atlantic Richfield (ARCO);
- Ashland Oil;
- Union Oil;
- Canadian Superior;
- BODC (JNOC/JAPEX JV); and
- Naftaplin (Yugoslav oil company INA).

These companies conducted 31,069 km of marine seismic surveys, drilled 7 wells, discovered the Kutubdia Gas Field in 1977 and all winded up by 1978.

PSCs in the 1980s

In the interim, 3 PSCs were concluded. Of these, 2 PSCs were concluded with Shell Oil Company for the Chittagong Hill Tracts (later Block 22) and North West Bangladesh (later block 23). Shell conducted seismic surveys and drilled 2 wells at Sitapahar and Salbanhat without any success, and relinquished their concessions. One PSC was concluded with Scimitar Exploration of Canada for exploration of oil in the Surma basin (the area later became Block 13). Scimitar only discovered gas in the Jalalabad field and relinquished the field.

1993 Bidding Round

At that time, 23 onshore and offshore blocks were offered. Of these, 8 blocks were awarded to the following 4 IOCs:

Occidental (OXY) for blocks 12, 13 and 14 (Onshore): Later transferred to Chevron which is producing from Bibiyana, Jalalabad and Moulvibazar fields.

Cairn Energy for blocks 15 (Onshore) and 16 (Offshore): Cairn discovered Sangu gas field in 1996 which produced until 2013. Blocks 15 and 16 were relinquished, except for the ring-fenced offshore Magnama structure which was transferred to Santos. After drilling two exploratory wells in Magnama without success, the ring fenced area was relinquished by Santos in 2017.

Oakland-Rexwood for blocks 17 and 18 (Offshore): Transferred to TOTAL who relinquished both the blocks in 2010.

United Meridian Corporation (UMC) for block 22 (Onshore): Relinquished the block in 2004.

1997 Bidding Round

4 blocks were awarded as follows:

- Tullow/Chevron/Texaco/BAPEX for block 9 (Onshore); Discovered Bangura Gas Field in 2004 which is now producing, operated by Tullow.
- Shell/Cairn/BAPEX for blocks 5 and 10 (Onshore); relinquished in totality; and Unocal/BAPEX for block 7 (Onshore); relinquished in totality.
- During this bidding round, the provision for a mandatory 10% carried interest for BAPEX was introduced and implemented for all blocks.

2008 Bidding Round

It attracted some bids, but the ensuing maritime boundary dispute with Myanmar in most of the blocks created a stalemate. However, the Government succeeded in signing a PSC for 2 deep sea blocks on 16 June, 2011 with ConocoPhillips for DS-10 and DS-11. ConocoPhillips conducted a total 5,750 lkm of 2D seismic survey in 2012 and 2013. After interpretation, ConocoPhillips identified a few prospects. However, ConocoPhillips relinquished the blocks considering their investment was not feasible.

2012 Offshore Bidding Round

Following the delimitation of the maritime boundary between Bangladesh and Myanmar by ITLOS in March, 2012, Petrobangla reshaped the blocks considering the new boundaries and announced a bidding round in December, 2012.

a. Shallow Water Bids:

Under this round, the following 3 shallow water PSCs were signed :

ONGC Videsh Ltd. (OVL), Oil India Ltd. (OIL) and BAPEX for blocks SS-04 and SS-09; and Santos, KrisEnergy and BAPEX for block SS-11.

b. Deep Water Bids :

Three proposals were received for blocks DS-12, 16 and 21 Jointly from ConocoPhillips and Statoil. However, no PSC was signed for any deep sea block under this bidding round.

Operating Fields under PSC in 2019-20

Currently, 4 gas fields are being operated by IOCs under PSC. Of these 3 fields, namely Bibiyana, Jalalabad and Moulvibazar gas fields are being operated by Chevron and Bangora gas field by Tullow Bangladesh Limited.

Bibiyana : Bibiyana field is now the largest supplier of gas to the national grid, delivering around 1,314 MMscfd gas and 7,000 bbl/day condensate from 26 wells. The design capacity of the process plant is 1,350 MMscfd. To maintain the current production plateau, few work programmes and activities such as thin bed analysis, infill drilling, process plant optimization and flank development projects are being planned.

Jalalabad: Currently Jalalabad gas field is producing around 195 MMscfd gas and 950 bbl/day condensate

from 7 wells. The 2015 drilling campaign discovered a new sand layer (BB-20) which indicates further potentiality of the field.

Moulvibazar: Moulvibazar gas field is experiencing natural production decline and currently producing around 15 MMscfd. At present 4 wells are producing out of 9 wells. To increase the field deliverability, it has been decided to supply the produced gas directly to the local distribution line at a lower regulated pressure.

Bangora: The Bangora field started producing in 2006, peaking at 120 MMscfd in 2010 and thereafter declining to 80 MMscfd in November, 2018 from 4 wells. In December, 2016 one development well was drilled successfully. Later on a successful well intervention program held in November, 2018 augmented the field's production by 20 MMscfd. The Bangora field is now producing at around 90 MMscfd.

PSCs have resulted in addition of significant sources and supplies of gas in the country. Productions from the PSC blocks have increased significantly over the last few years. The total gas production from the PSC operations during FY 2019-20 was around 559.24 BCF. Since the beginning of PSC operations in Bangladesh in the 1970s, a total of 28 exploration wells were drilled resulting in the discovery of 6 gas fields.

Current and upcoming exploration activities

Initial exploration activities are in progress in blocks SS-04 and SS-09. In the 1st phase ONGC Videsh Ltd. (OVL) has completed 3,008 lkm of 2D marine seismic survey data acquisition. In the 2nd phase OVL carried out 2,520 lkm 2D OBC survey. OVL will drill 2 exploratory wells in block SS-04 and 1 exploratory well in block SS-09. The drilling rig is on site from March, 2020 to drill one exploratory well in block SS-04 but the program has been deferred due to prevailing restriction of crew movement during COVID-19 pandemic. Drilling of this well will be started very soon which will be followed by two more exploratory drilling in the offshore area.

In block SS-11 Santos acquired and interpreted 3,146 lkm 2D seismic data and identified 7 leads. Santos carried out 305 sq. km. 3D seismic survey over one of the potential leads. Despite promising post 3D data interpretation outcome, Santos's decision of wrapping up overall activities from Asia region led them relinquishing the entire block SS-11. Accordingly, the PSC has been terminated.

In block DS-12 POSCO acquired and interpreted 3,580 lkm 2D seismic data and identified 5 leads, out of which 2 are very promising. But POSCO came up with some proposals of improved commercial terms in the signed PSC which was not considered by Petrobangla. Subsequently POSCO relinquished the block.

Blue Economy

Bangladesh's maritime victory over Myanmar and India have opened the doors to immense possibilities for harnessing resources from the 26 blocks in deep and shallow seas, covering more than 118,813 square kilometers of area. Petrobangla is currently implementing 3 programmes related to blue economy on a fast track and short term basis.

Under the fast track programme, an agreement to conduct 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh was signed between TGS-SCHLUMBERGER JV and Petrobangla in March, 2020. The objective of this survey is to provide oil and gas industry with 2D non-exclusive multi-client seismic data of the offshore areas in order to help with basin evaluation, prospect generation and robust

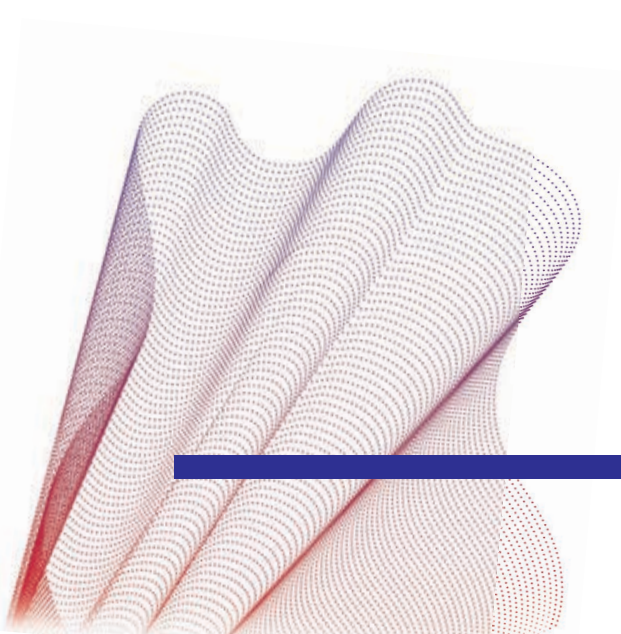
bid round participation. A total of 32,000 lkm of 2D seismic survey will be conducted in the offshore in a phased manner. At the moment, the collection of environmental clearance certificate (ECC) for the survey is at a final stage. The first phase of the survey is likely to start in the last quarter of 2021.

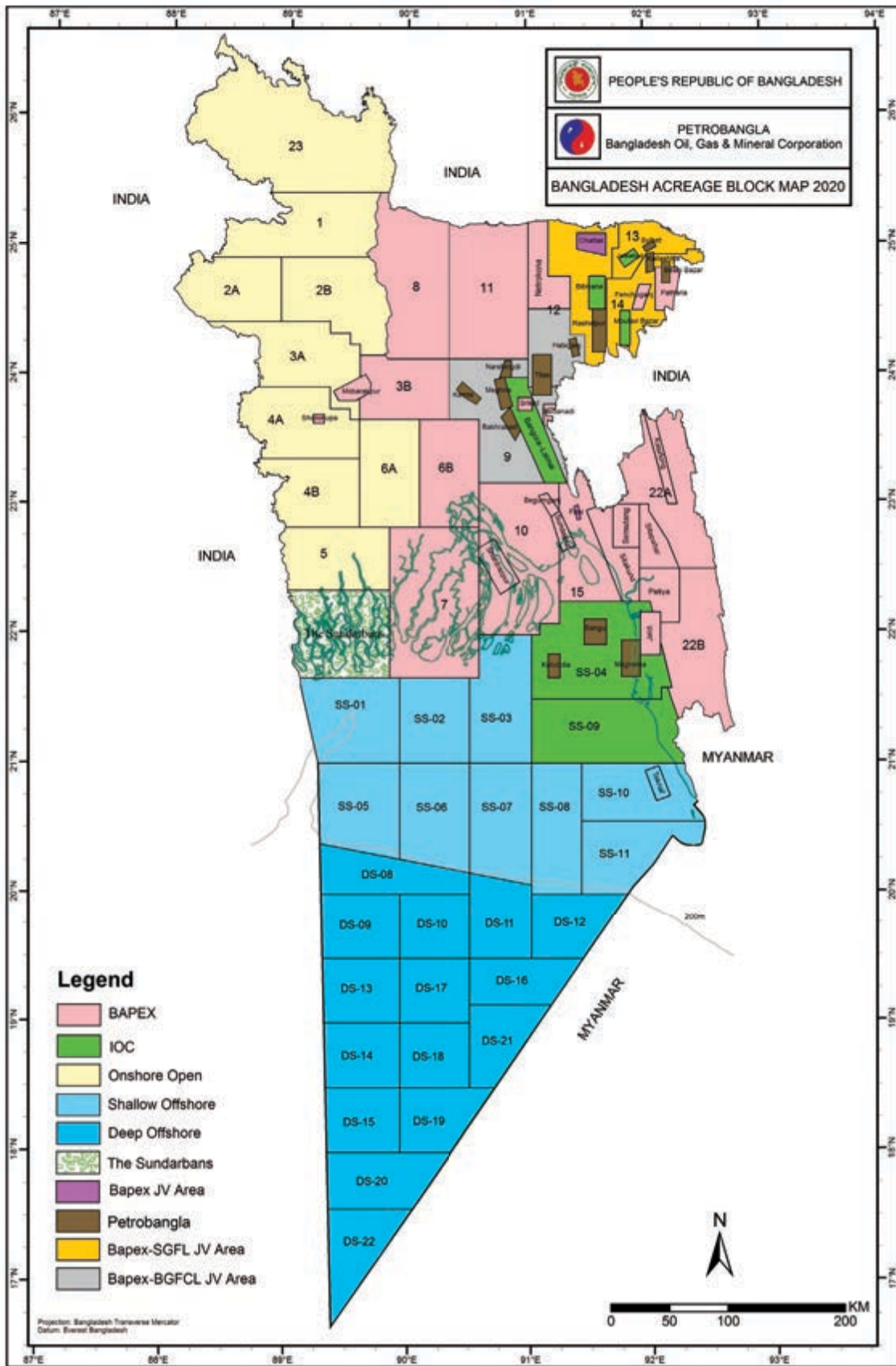
Under the short term programme existing Model PSC 2012 has been updated and splitted into "Onshore Model PSC 2019" and "Offshore Model PSC 2019". New offshore bidding round was planned to be announced by the end of 2020 but postponed due to COVID-19 pandemic.

Another short term programme is the drilling of 2 exploratory wells in block SS-04 and one exploratory well in block SS-09. The drilling rig is on site from March, 2020 to drill one exploratory well in block SS-04 but the programme has been deferred due to prevailing restriction of crew movement during COVID-19 pandemic. Drilling of this well is expected to start very soon which will be followed by two more exploratory drilling in the offshore area.



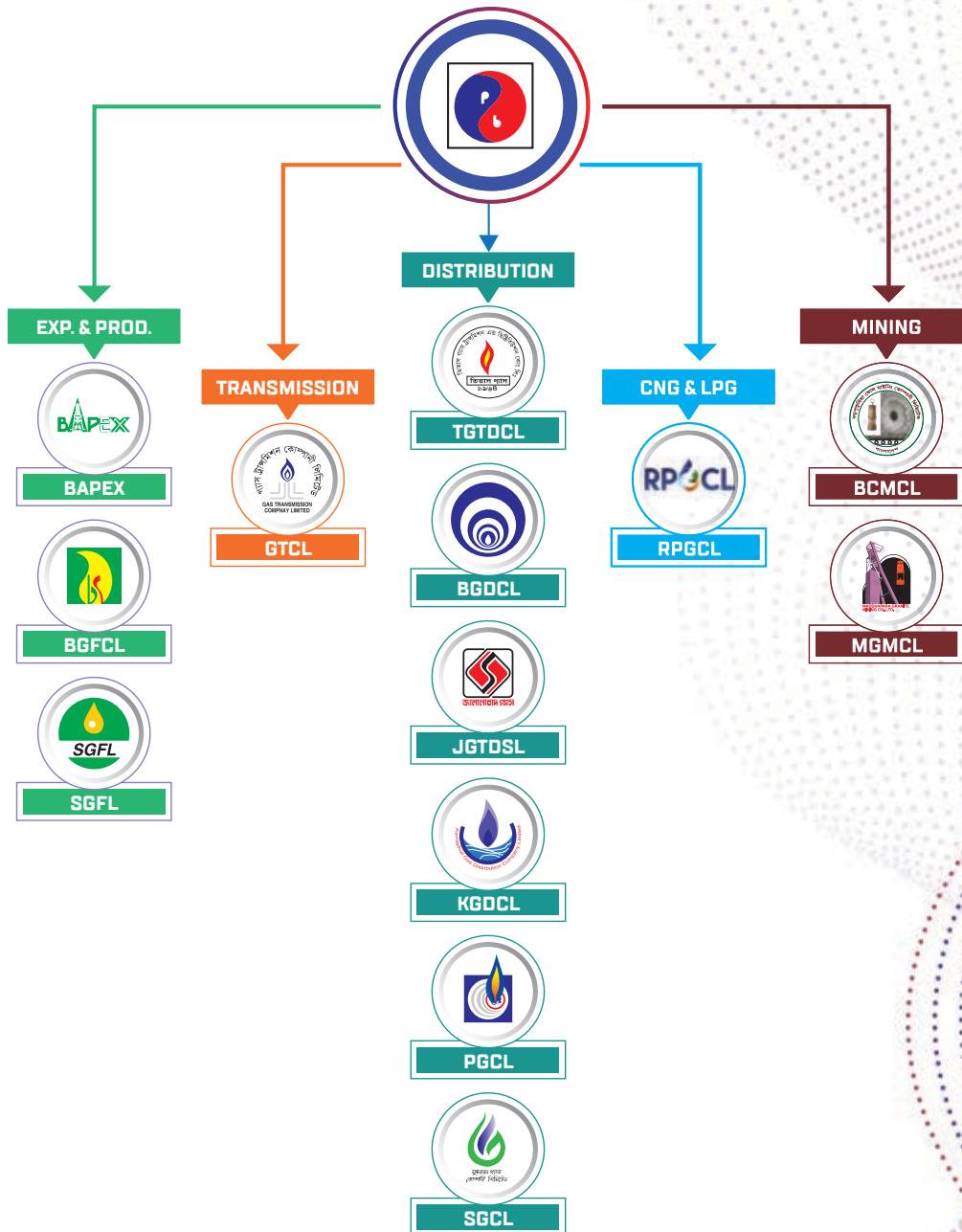
Petrobangla`s Chairman A B M Abdul Fattah (centre) is inaugurating the ceremony of Petrobangla Annual Sports Competition 2020.





Companies of Petrobangla

Over the years, the activities of Petrobangla have expanded and diversified to a great extent. To manage these activities, specialized companies are operating to achieve specific objectives. Currently, there are 13 companies operating under Petrobangla, dealing in oil and gas exploration, production, transmission, distribution, conversion and promotion of LNG as well as development and marketing of coal and granite.





Bangladesh Petroleum Exploration and Production Company Limited (BAPEX)

BAPEX was established in 1989, as the national exploration company by abolishing the Exploration Directorate of Petrobangla with a view to accelerating oil and gas exploration in the country. The main functions of BAPEX were to undertake geological and geophysical surveys, and drilling operations for the purpose of exploring oil and gas in the country. The work of exploring oil and gas in the public sector, now undertaken by BAPEX, was originally initiated in 1964 under the aegis of the then OGDC of Pakistan. After independence in 1971, exploration works were conducted by OGDC (Bangladesh) and Oil Exploration (ToiloSandhani) till 1974 and continued under Exploration Directorate of BOGMC (Petrobangla) for the next 15 years, later in 1989, BAPEX emerged as a company. Its objective was to undertake exploration works for oil and gas within the country. In 2000, the Government granted BAPEX the permission to go into production aside from exploration activities to increase its financial capability. At present, BAPEX is running its production in addition to continuing the activities of exploring oil and gas onshore within the country.

Aside from exploring oil and gas and drilling, BAPEX is producing and supplying about 103 MMscfd of gas to the national grid from its 7 gas fields, namely Saldanadi, Fenchuganj, Shahbazpur, Semutang, Sundalpur, Begumganj and Sreekail and the total amount of gas produced from these fields in the fiscal year 2019-20 was about 36.44 BCF. The produced gas was sold to Bakhrabad Gas Distribution Company Limited, Karnaphuli Gas Distribution Company Limited, Sundarban Gas Company Limited and Titas Gas Transmission and Distribution Company Limited. Besides, about 34,644 barrels of condensate was produced as a byproduct which was sold to Bangladesh Gas Fields Company Limited, Sylhet Gas Fields Limited and Bangladesh Petroleum Corporation.

Fiscal year 2019-20 was a successful one for BAPEX, as under the Rupkalpa-1 drilling project (2nd revised), BAPEX discovered Sreekail Gas Field by drilling an exploratory well named "Sreekail East-1" with its own rig (Bijoy-10) and manpower where 50 BCF of gas reserves have been confirmed. After construction of necessary infrastructures and new gas gathering pipelines (8 km @ 6" Dia) about 10 MMscfd gas will be supplied to the national grid.

BAPEX has successfully completed workover operation of highly risk Shahbazpur-3 well through its own manpower without any foreign consultant. In addition, under bilateral contract, BAPEX with its own rig and manpower, completed workover of Narsingdi-1 and Titas-9 wells of BGFCL from which 40-45 MMscfd gas is being contributed to the national grid.

Under the "Speedy Supply of Power and Energy (Special Provision) Act, 2010" another project has been taken for drilling of three more wells including 2 exploratory wells (Tagbi-1 and Ilisha-1) and 1 appraisal/development well (Bhola North-2) in the Bhola Island.

BAPEX has drilled 16 exploratory wells, out of which 10 gas fields have been discovered (producing 7). Since its inception, BAPEX has successfully completed workover operations of 40 wells and drilling of 30 development wells. Experience of exploring oil and gas gathered over a period of 31 years has enhanced the technical capacity of BAPEX. New gas reserves to be explored through the ongoing drilling works will help implement the Vision 2021 by mitigating the energy crisis of the country.

Under Bangladesh Offshore Bidding Round, 2012, 2 production sharing contracts (PSCs) have been concluded with ONGC Videsh Ltd. (OVL) and Oil India Ltd. (OIL) for shallow-sea blocks SS-4 and SS-9, and 1 PSC with Santos Sangu Field Ltd. and KrisEnergy Bangladesh Ltd. for shallow-sea block SS-11. The Government of Bangladesh has nominated BAPEX as stakeholder carrying 10 percent interests for

these blocks. As a stake owner, BAPEX monitors the activities taking place in those blocks. BAPEX, as 10% participatory partner with Tullow Bangladesh (Krisenergy) and Niko Exploration (Block-9) Limited in PSC block-9 monitors the operations of Bangora gas fields. At present, about 95 MMscfd of gas is being produced from Bangura gas fields. After a long 10 years of legal pleading, the International Center for Settlement of Investment Disputes (ICSID) proclaimed the verdict in the Niko case on behalf of Bangladesh where the Canadian company Niko Resources (Bangladesh) Limited caused 2 consecutive blow-outs in January and June, 2005 due to their negligence while drilling a well in Chattak Gas Field.

During the FY 2019-20, total earnings of BAPEX stood at Tk. 4,822.10 million, of which Tk. 3,154.60 million (excluding SD and VAT) earned from sales of natural gas and condensate of own gas fields and Tk. 1,667.60 million earned from PSC Block-9, interest income and income from other sources. Against this earnings, total cost stood at Tk. 4,603.90 million during the year. The net profit after tax of the company stood at Tk. 139.90 million. During the FY, the revenue reserve stood at Tk. 4,715.7 million after prior year's adjustment costs of Tk. 13.10 million and accumulated revenue of Tk. (4,562.7) million. The company paid Tk. 1,264.20 million to the Government exchequer during FY 2019-20.

Future Work Plans (2019-2041)

With a view to achieving the aspired goal to uplift the country to a middle income by 2021 and to a developing country by 2041 under "Vision 2021", BAPEX has prepared a future plan for the period of 2019-2041. It has been planned to implement 9 projects in the short-term (2019-2021), 11 projects in the mid-term (2022-2030) and 10 projects in the long-term (2031-2041). The overall activities of BAPEX is closely associated with the aspired goal of the Government.

Overcoming the fear of Covid-19 pandemic, BAPEX's activities including drilling, workover, production and seismic survey activities continued as usual. BAPEX has formulated a time-bound action plan with a view to accelerating the exploration of oil and gas and augmenting production by 2021. The overall support and cooperation of the present government for turning BAPEX into a technically and financially strong institution will continue to add momentum to its operation in the days ahead and help to reach its target.

Vision 2021 of BAPEX

The Hon'ble Prime Minister of the People's Republic of Bangladesh, expressed her deep interest in strengthening of BAPEX, the sole state-owned petroleum exploration company in different occasions, with a view to trimming down the dependence on IOCs. To materialize this objective, as per her instruction BAPEX adopted the strategy of time-bound action plan. Pursuant to the Hon'ble Prime Minister's instruction, BAPEX has undertaken the following work-plan to reach the goal of Vision 2021:

- Geological survey: 570 lkm
- 2D seismic survey project: 12,800 lkm
- 3D seismic survey project: 2,840 sq. km
- Drilling of exploratory wells: 12
- Drilling of development wells: 8 and workover : 24

On-going Projects during FY 2019-20 are:

Zakiganj-1 well drilling project under Rupkalpa-2; 2D seismic survey project over exploration Block-15 and 22; 3D seismic survey project of BAPEX at Semutang Gas Field; Rupkalpa-9: 2D seismic project to acquire 500 line-km more seismic data from Noakhali and Laximpur district and adjacent areas; procurement of 60 MMscfd TEG type gas process plant; Shariatpur-1 exploratory well drilling project; 2 exploratory wells (Tabgi-1 and Illisha-1) and 1 appraisal cum development well (Bhola North-2) drilling project.



Bangladesh Gas Fields Company Limited (BGFCL)

Bangladesh Gas Fields Company Limited (BGFCL) is the largest state-owned natural gas production company in the country. The company is the successor to the Shell Oil Company established on 30 May, 1956. After independence of Bangladesh, on a far-sighted decision of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, 5 gas fields of the erstwhile Pakistan Shell Oil Company Limited (PSOC), namely Rashidpur, Kailashtila, Titas, Habiganj and Bakhrabad were brought under state ownership on 9 August, 1975 by purchasing at a minimal price. Accordingly, Shell Oil Company was renamed as Bangladesh Gas Fields Company Limited on 12 September, 1975 and management of Titas, Habiganj and Bakhrabad was entrusted to BGFCL. It is a public limited company registered under Companies Act, 1994 (Revised) and also is a company of Bangladesh Oil, Gas and Mineral Corporation (Petrobangla).

BGFCL produces natural gas and processes condensate into petrol and diesel. Presently, BGFCL owns 6 gas fields - Titas, Habiganj, Bakhrabad, Narsingdi, Meghna and Kamta. This company continued gas production from 5 gas fields except Kamta out of its 6 fields in the FY 2019-20 and daily on an average 681 million cubic feet gas has been supplied to the national grid from 44 wells of 5 producing fields. BGFCL shares about 27% of the country's total gas production and around 80% of state-owned gas production companies. During 2019-20 FY, 248.60 BCF of gas and 172,283 barrels of condensate, extracted as by-product from the gas, were produced by the company. There are 29 different types of gas process plants (such as - glycol, silica gel, LTX and LTS dehydration) for processing produced gas. The processed gas is being supplied to TGTDC, BGDCL, KGDCL, JGTDSL, PGCL and SGCL through transmission networks under GTCL and TGTDC. Besides, processed petrol and diesel are being supplied to the oil marketing companies under Bangladesh Petroleum Corporation. To ensure energy security of the country, BGFCL is carrying out drilling of new wells, workover of existing wells, installation of gas compressors and process plants etc. in accordance with the Government work plan.

According to the study report-2010 of Gustavson Associates, USA engaged by Hydrocarbon Unit (HCU) of Energy and Mineral Resources Division, total recoverable gas reserve of 6 fields under the company is about 12.252 TCF, out of which 8.566 TCF or about 69.92 percent was recovered till 30 June, 2020.

To meet the growing demand of natural gas in the country, BGFCL has kept up its relentless efforts to ensure uninterrupted gas supply from its different fields and implementation of various development projects of drilling of new wells, workover of existing wells, installation of gas compressors and process plants etc. with the financing of the gas development fund (GDF) and financial assistance of ADB, AIIB, GOB and JICA aligning with the government work plan.

During 2019-20 FY, workover of 2 wells (Narsingdi-1 and Titas-9) have been completed under GDF financing project. Daily 16 and 18 million cubic feet of gas are being produced from those wells respectively. Installation of wellhead compressors at Titas location-C and Narsingdi Gas Fields have been started by the EPC contractor under a JICA and GOB financing project. Another project for installation of wellhead compressors at Titas location-A is underway. The contract was signed on 5 November, 2020 with EPC contractor for installation of wellhead compressor.



Wellhead compressor of Narshingdi Field of BGFCL

To sustain gas supply to national grid maintaining grid line pressure, the company has future programmes for installation of wellhead compressors at Titas location E and G, drilling of 3 new wells (Titas-28, 29 and 30), workover of 7 wells (Titas-8, 14, 22 and 24, Bkb-6 and 7 and Meghna-1) and 480 Sq. km 3-D seismic survey over Bakhrabad, Habiganj and Meghna gas fields upon review of 3-D seismic survey report of Titas and Bakhrabad gas fields by BGP Inc., China National Petroleum Corporation.

The company earned gross revenue of Tk. 12,675.9 million and a pre-tax profit of Tk. 2,039.8 million during the FY 2019-20. The company also paid Tk. 6,810.5 million to the national exchequer in the form of SD, VAT, DSL, dividend and income tax during the year.

BGFCL consistently pursues for establishing good governance in management policies and procedures. In this regard, BGFCL has achieved 100% progress against the target of the NIS programme. During this fiscal year, 93.50% progress have been achieved against the target of annual performance agreement (APA). Various local training/seminars, in-house and overseas training programs have been organized on innovation, NIS, simplification of services, e-governance, accountability and transparency etc. aiming for the capacity building of the employees. Environment and safety related regulations have been complied during execution of operational and development activities of the company.



Sylhet Gas Fields Limited (SGFL)

Sylhet Gas Fields Limited is the second largest state-owned gas producing company in the country. It used to be operated in the name of Pakistan Petroleum Ltd. (PPL) during pre-independence days. After independence, the company ran its business operations in the name of "Bangladesh Petroleum Limited" until a company in the name and style of "Sylhet Gas Fields Limited" was formed, and incorporated under Companies Act on 8 May, 1982 with a view to taking over from the Government of Bangladesh all gas fields, installations, production facilities, all other assets at Sylhet and Chhatak fields or elsewhere in Bangladesh owned by Pakistan Petroleum Ltd. (PPL).

The company, under its umbrella, currently operates Sylhet (Haripur), Kailashtila, Rashidpur and Beanibazar Gas Fields. A total of 11 wells (1 at Sylhet, 4 at Kailashtila, 5 at Rashidpur and 1 at Beanibazar) are presently on stream which produce an average of 115 mmscfd. The produced gas is supplied to Jalalabad, Bakhrabad, Pashchimanchal and Karnaphuli gas distribution companies franchised areas. SGFL shares about 5% of the country's total gas production. In the FY 2019-20, SGFL produced 42.14 BCF of gas and 252,583 barrels of condensate and 139,067.53 barrels of natural gas liquids (NGL) from its own fields. The company also produced 1,405,853.50 barrels of finished petroleum products (petrol, diesel and kerosene) by fractionating condensate from its own fields and Bibiyana Gas Field operated by Chevron.



Maintenance work at Rashidpur Gas Field of SGFL

The company has been implementing various development projects with the objective of diversifying its activities and enhancing the company's revenue income. The ongoing projects include: (i) Installation of a 3000-bbl/day capacity catalytic reforming unit (CRU) to convert petrol into octane at Rashidpur; (ii) Drilling of well no. Sylhet-9 (appraisal/development well); (iii) 3D seismic survey of Beanibazar field of SGFL; (iv) Drilling of well no. Kailashtila-8 (exploratory well); (v) Work over of well nos. Sylhet-8, Beanibazar-1 and Kailashtila-7; (vi) 3D seismic survey at relinquished area of acreage block-13 and 14 and (v) Drilling of well no. Sylhet-10 (exploratory well).

The company earned pre-tax profit to the tune of Tk. 5,159.0 million during the FY 2019-20 and paid Tk. 2,732.20 million as supplementary duty and VAT, Tk. 1,272.90 million as income tax, Tk. 1,750.0 million as dividend and Tk. 164.80 million as DSL. The total contribution by the company to the Government exchequer in the financial year stood at Tk. 5,919.90 million which was 36.19% of the total income from sales.

Sylhet Gas Fields Limited was adjudged as the top-most VAT paying organization in the production sector at national level for the last consecutive 8 years up to FY 2019-20 and was rewarded by the National Board of Revenue. In the company, e-tendering and e-filling have already been introduced and going on.



River crossing activities by HDD method under Moheshkhali-Anowara parallel project of GTCL

Gas Transmission Company Limited (GTCL) was incorporated on 14 December, 1993 with the objectives of (i) centralized operation and maintenance of national gas grid; and (ii) expanding of national gas grid and as required, ensuring balanced supply and usage of natural gas in all regions of the country. GTCL owns and operates major gas transmission pipelines throughout the country. Gas transmission pipelines built by other companies before creation of GTCL have been integrated with the GTCL system.

During the FY 2019-20, GTCL transmitted in total 892.30 BCF of gas, 1.97% higher than the previous year, delivering 546.56 BCF, 94.78 BCF, 115.24 BCF, 58.16 BCF, 61.03 BCF and 16.53 BCF to franchise areas of Titas, Bakhrabad, Karnaphuli, Jalalabad, Paschimanchal and Sundarban gas distribution companies respectively. The Company transported a total of 14,69,803 barrels of condensate through its 175 km long north-south condensate pipeline during the year, which was 6.37% less than the previous year.

The company earned an amount of Tk. 10,938.3 million as revenue and Tk. 3,045.7 million as pre-tax profit and contributed an amount of Tk. 6,459.9 million to Government exchequer during the FY 2019-20.

Ongoing projects in the year 2020 were : (i) Construction of 42" x 7 km Moheshkhali zero point (Kaladiar Char)-(Dhalghat Para) CTMS gas transmission pipeline project; (ii) 42" x 79 km Moheshkhali-Anowara gas transmission parallel pipeline project; (iii) 36" x 181 km Chattogram-Feni-Bakhrabad gas transmission parallel pipeline project; (iv) Construction of 30" x 67 km Dhanua-Elenga and West Bank of Bangabandhu Bridge-Nalka gas transmission pipeline project; (v) Construction of 30" x 150 km Bogura-Rangpur-Syedpur gas transmission pipeline project; and (vi) Construction of 30" x 6.15 km gas transmission pipeline along Padma Bridge.

Up-coming projects are: (i) Construction of 42" x 50 km Bakhrabad-Meghnaghat-Haripur gas transmission pipeline project; (ii) Installation and modification of gas station at off-transmission points of GTCL; (iii) Construction of 36" x 10 km 2nd Bangabandhu Bridge (Railway) Section gas transmission pipeline project; (iv) Construction of 30" x 65 km Satkhira (Bhomra)-Khulna (Araonghata) gas transmission pipeline project; (v) Construction of 30" x 75 km Langalband-Mawa and Jajira-Tekerhat gas transmission pipeline project; (vi) Construction of 30" x 115 km Tekerhat-Faridpur and Tekerhat-Barishal gas transmission pipeline project; (vii) Construction of 30" x 77 km Khulna-Gopalganj-Tekerhat gas transmission pipeline project; (viii) Construction of 30" x 60 km Bhola-Barishal gas transmission pipeline project; (ix) Construction of 42" x 87 km Payra-Barishal gas transmission pipeline project; (x) Construction of 36" x 110 km Khulna-Bagerhat-Pirojpur-Jhalokathi-Barishal gas transmission pipeline project; and (xi) Construction of 30" x 55 km Hatikumrul-Bogura gas transmission pipeline project.



On stream pigging of 30" X 84 k.m. Hatikumrul-Bheramara pipeline of GTCL

Prime Minister's Office for creating digital Bangladesh, the company's e-file management was activated on 27 March, 2017. All tender notices and important information are being published in the company's own website regularly. All tender of the company relating to procurement of goods and services are being completed through the national e-Government procurement (e-GP) portal for ensuring wide participation and establishing equal rights of all bidders and maintaining procurement skill, transparency and accountability.

LNG and transmission pipeline

To meet the ever-increasing gas demand in the country, the Government has taken initiatives to import a considerable quantity of liquefied natural gas (LNG). In this regard, 2 FSRUs having the capacity of 500 MMscfd each have been installed at Moheshkhali in Cox's Bazar and commenced transmission to the national gas grid from 18 August, 2018 and 29 April, 2019 respectively. With the aim of supplying RLNG from the imported LNG to the national grid, GTCL has already constructed 30" x 91 km transmission pipeline from Moheshkhali to Anowara, Chattogram; 42" x 30 km gas transmission pipeline from Anowara to Fouzdarhat; 42" x 79 km parallel transmission pipeline from Moheshkhali to Anowara; 42" x 7 km transmission pipeline from Moheshkhali zero point (Kaladiar Char) to CTMS (Dhalghat Para) and 36" x 181 km Chattogram-Feni-Bakhrabad parallel transmission pipeline. With these pipelines and associated stations, 202.79 BCF RLNG has been transported through the national gas grid during FY 2019-20.

Network analysis at steady state are being conducted for all existing transmission pipelines under the company to quickly and accurately determine the pipeline pressures and pipeline transmission capacities by using pipeline studio software. Under supervision of the Cabinet Division with assistance from the access to information (a2i) program of the



Titas Gas Transmission and Distribution Company Limited (TGTDCL)

The discovery of a huge gas field on the bank of the Titas River in Bhramanbaria in 1962 created a new horizon for the utilization of natural gas. Titas Gas Transmission and Distribution Company Limited (TGTDCL) was established on 20 November, 1964. The company began its commercial operation with the commissioning of gas supply to Siddhirganj Thermal Power Station on 28 April, 1968 after construction of 14" x 58 km Titas-Demra gas transmission pipeline by the then East Pakistan Industrial Development Corporation. In October, 1968 the first domestic natural gas connection was provided to the residence of renowned litterateur Shawkat Osman.



Operational activities of TGTDCL at Dhanua TBS during Covid-19 situation

In the beginning, 90% of its shares belonged to the then Pakistan Government, and Pakistan Shell Oil Company owned the rest. Under the Nationalisation Order of 1972, all the Government owned shares of the company were vested in the Government of Bangladesh (GoB). In accordance with an agreement signed between Shell Oil Company and GoB on 9 August, 1975 the ownership of the remaining 10% shares was transferred to the GoB through Petrobangla in exchange for a lump-sum payment of £1,00,000. After

the independence of Bangladesh in 1971, the company started its journey as a company of Petrobangla with an authorized and paid up capital of Tk. 17.8 million. At present, the authorized and the paid up capitals of the company are Tk. 20,000.0 and Tk. 9,892.2 million respectively. Presently, Petrobangla holds 75% shares of this company while private shareholders hold 25% of shares.

The main objective of the company is to supply natural gas to customers of different categories under its franchise area and thereby reduce dependency on imported liquid fuel. Towards this end, the company has to construct, operate and maintain pipelines, stations and associated facilities. Currently, the company distributes gas in the districts of Dhaka, Narayanganj, Narsingdi, Munshiganj, Manikganj, Gazipur, Tangail, Mymensingh, Jamalpur, Sherpur, Netrokona and Kishoreganj.

Presently, total length of pipeline owned by the company is 13,196.85 km including 58.18 km built during the FY 2019-20. The total number of customers of the company was 28,65,907 as on 30 June, 2019 which

rose to 28,74,848 in June, 2020. Bulk customers of the company include 3 fertilizer plants, 17 government and 29 private power stations. The company hogs about 53.65% of natural gas market share in Bangladesh.

During FY 2019-20, total 533.33 BCF of gas (including condensate) was sold and Tk. 1,69,504.1 million was earned as revenue with meter rent and surcharge, which was Tk. 1,36,220.9 in the previous FY. During the FY, a sum of Tk. 1,51,823.2 million was realized against the revenue income of Tk. 1,69,504.1 million, which was Tk. 17,680.9 million less than the receivable. The company earned a net profit before tax and a net profit after tax of Tk. 5,046.1 million and Tk. 3,598.1 million respectively. The company paid Tk. 6,089.1 million to the Government exchequer during FY 2019-20. During the year the earnings per share (EPS) was Tk. 3.64.

Modern and state of the art web-based total integrated computer system has been set up to boost up all the functions of the company to facilitate improved customer services which includes – automatic updating of customer ledger if bill payment is made through banks having online banking facilities; informing registered customers about their gas bills through SMS; obtaining online update about payment and dues; complaining through online facility; e-mail facility through own web-domain; processing of annual/half yearly financial reports and other related information through integrated accounting software; paying gas bills through Rocket and Nexus Pay of Dutch-Bangla Bank, Nagod and bKash.



DRS at Meghnaghat of TGTDC

A project of Tk. 4,989.4 million financed by Japan International Cooperation Agency (JICA), Bangladesh Government (GoB) and TGTDC is being implemented for installation of 2,00,000 pre-paid meter for the domestic customers of Dhaka metropolitan area with the objectives of conservation of energy; ensuring its efficient, safe and sustainable use, reduction of system loss; introducing customer-friendly modern management systems and above all improving customer service. The company has already established e-tendering procedure for inviting bid. The company has 3 emergency gas control centers including 24 hours central emergency control room. The company has launched a dedicated call center to serve customers. During the FY 2019-20, 386 km illegal gas distribution line has been removed and around 1,65,000 illegal gas burners have been disconnected.



Bakhrabad Gas Distribution Company Limited (BGDCL)

Bakhrabad Gas Distribution Company Limited (BGDCL), previously named as Bakhrabad Gas Systems Limited (BGSL), was established on 7 June, 1980 initially with the three-fold responsibilities of production, transmission and distribution. Gas supply commenced on 20 May, 1984. Subsequently, Bakhrabad Gas Field was handed over to BGFCL putting an end to its production wing. Further, the 2 main transmission pipelines of the company, 24" x 110 km Bakhrabad-Chattogram and 20" x 69 km Bakhrabad-Demra gas transmission pipelines were handed over to GTCL leaving only the responsibility for marketing gas in the Chattogram division excluding Brahmanbaria district and Kashba and Bancharampur upazilas (outside its franchise area). As per Government decision, the company has again been reconstituted keeping greater Cumilla and greater Noakhali districts under its franchise area and adding Brahmanbaria to its operational area.

The cumulative gas pipelines of different categories constructed by the company up to 30 June, 2020 was 3,890.96 km. The cumulative gas connection stood at 4,90,824 as on 30 June, 2020 which includes 19 power, 1 fertilizer, 176 industrial, 78 captive power, 2,139 commercial, 91 CNG and 4,88,320 domestic (Burner) connections.

During the FY 2019-20, BGDCL sold 117.55 BCF gas to its customers, of which power plants consumed 75.55 BCF (64.27%). The company earned Tk. 25,129.80 million as sales revenue, net profit before tax stood at Tk. 1,437.11 million and paid Tk. 1,198.50 million to the national exchequer. The company purchased 116.37 BCF gas and sold 117.55 BCF gas this year.



200 MW RMS at Ashuganj of BGDCL

During the year, under the loan agreement signed between BGDCL and GTCL, an amount of Tk. 182.90 million and Tk. 84.90 million totalling Tk. 267.80 million was paid to GTCL as loan against "Moheshkhali-Anowara Gas Transmission Pipeline Project" and "Moheshkhali Zero Point Gas Transmission Pipeline Project" respectively.

During the FY 2019-20, the gas connections of 728 nos. of different categories of customers were disconnected due to non-payment of gas bills amounting to Tk. 328.70 million. Besides, 25.30 km of illegal pipelines of different diameters have been removed during the year.

Under the e-service innovation activities undertaken by access to information (a2i) of the Prime Minister's Office, e-filing activities have been launched in BGDCL. Collection of gas bills through bill-pay system of Grameen Phone has been continuing and customers are paying their gas bills through mobile phones, internet and at the counter of the bank through an online system. The company has already established e-tendering procedure for inviting bids.



Jalalabad Gas Transmission and Distribution System Limited (JGTDSL)

The natural gas was first discovered in Sylhet during mid-fifties and its commercial use began during early sixties with the supply of gas to the Chhatak Cement Factory and Fenchuganj Fertilizer Factory in the sacred soil of Hazrat Shahjalal (R). The activities of Jalalabad gas was initially started as a project in 1977. Thereafter, Jalalabad Gas Transmission and Distribution System Limited (JGTDSL) was formed under Companies Act on 1 December, 1986 with an authorized capital of Tk. 1,500.00 million through infrastructure development of gas transmission and distribution system under the management of Petrobangla with the responsibility of distribution and marketing natural gas to all categories of customers in its franchise area of Sylhet, Sunamganj, Moulvibazar and Habiganj district under Sylhet Division.

The Company possessed a total of 3,830.72 km gas network comprising of 466.72 km transmission, 1,336.77 km distribution, 1,224.72 km feeder mains and service lines and 802.50 km other (customer financing) pipelines. During the FY 2019-20, the company constructed 7.99 km pipelines including 0.29 km feeder mains and service lines and 7.71 km others. The company provided 17 new connections which included 1 power, 5 captive power and 10 industrial & 1 tea garden connections. The cumulative gas connection stood at 2,23,660 as on 31 December, 2020 which includes 17 power, 1 fertilizer, 110 industrial, 120 captive power, 1,343 commercial, 98 tea-estate 59 CNG and 2,21,912 domestic (Burner) connections.

During the FY 2019-20, the gas sales of the company was about 133.302 BCF of which power plants consumed 90.965 BCF (68.24%) and others 42.337 BCF (31.76%). During the year, the company earned Tk. 28,228.90 million as revenue which included sales revenue of Tk. 26,195.80 million and other income of Tk. 2,033.10 million, Tk. 2,502.20 million as net profit before tax and Tk. 1,688.90 million after tax. The company paid Tk. 1,413.40 million to the national exchequer.

JGTDSL has been conducting drives against gas pilferage and illegal activities regularly. During the FY 2019-20, gas connection of 2,038 numbers of different categories of customers i.e. 2 industrial, 2 tea estate, 96 commercial and 1,938 domestic customers have been disconnected due to non-payment of gas bills amounting to TK. 177.36 million. Of which, gas connection of 2 industrial, 1 tea estate, 66 commercial and 1,763 domestic customers i.e. a total of 1,832 numbers of connections of the customers have been reinstated by realizing Tk. 140.81 million.

JGTDSL already started online gas bill collection through VISA/Master card, bKash, Rocket, Surecash, gpay, Robicash, Ok wallet and on real time with several bank by which a customer can pay their gas bills at any time without appearing any bank by using mobile internet.

All tenders of the company related to civil construction and civil maintenance works are being completed through the national e-Government Procurement (e-GP) portal for ensuring wide participation and establishing equal rights of all bidders and maintaining procurement skill, transparency and accountability. Under supervision of the Cabinet Division and assistance of the access to information (a2i) program of the Prime Minister's Office for creating digital Bangladesh, e-filing activities have been fully launched in JGTDSL and nearly 95% official work of the company are being done through e-filing. Besides, the activities of annual performance agreement (APA), innovation, national integrity strategy (NIS) etc. are being implemented in the company satisfactorily.



Pashchimanchal Gas Company Limited (PGCL)

Pashchimanchal Gas Company Limited (PGCL) is the 4th gas marketing company under Petrobangla set-up with the objective of distributing gas in the north-west region of the country. The company commenced its business on 23 April, 2000. During the FY 2019-20, a total of 7.27 km of pipeline of various diameters was constructed and by the end of June, 2020 the company encompassed a network of 1,649.37 km pipeline.

At the end of FY 2019-20, the company provided gas connection to 1,29,348 customers including 26 new gas connections (20 industrial, 5 captive power and 1 CNG) to new customers. During this fiscal year a total of 60.40 BCF of gas was sold by the company as against 45.16 BCF gas in the previous year. The company earned Tk. 11,868.90 million revenue from sales during FY 2019-20 and earned Tk. 1,372.60 million as net profit before tax. The company paid Tk. 688.00 million to the national exchequer during this fiscal year.

The company is always putting its best efforts for achieving its desired goals. Meanwhile the company has extended its gas network facilities in Sirajganj, Baghabari, Bera, Santhia, Shahjampur, Pabna, Ishwardi (including Ishwardi EPZ), Bogura, Rajshahi and other important areas for carrying the benefits of gas facility on the doorstep of the masses.

PGCL has been conducting drives against gas pilferage and illegal activities regularly. A total of 729 nos. gas connections have been disconnected for illegal gas consumption and gas bill default in FY 2019-20 where 704 domestic, 23 commercial, 1 captive and 1 CNG connections are included. On the other hand, by recovering the arrear gas bills amounting to Tk. 10.00 million and the penalty amounting to Tk. 1.64 million, a total of 679 nos. customers have been provided gas reconnection.

DPP for supplying the natural gas through pipeline at Rangpur Division covering Rangpur, Nilphamari, Pirganj town and its adjoining areas has already been approved by the Executive Committee of the National Economic Council (ECNEC) on 22 June, 2021. Besides, a PDPP for installation of prepaid gas meters for PGCL franchise is under consideration of Planning Commission for its final approval.

All tenders of the company related to procurement of goods and services are being completed through the national e-Government procurement (e-GP) portal for ensuring wide participation and establishing equal rights of all bidders and maintaining procurement skill, transparency and accountability. Under supervision of the Cabinet Division and assistance of the access to information (a2i) programme of the Prime Minister's Office for creating digital Bangladesh, e-filing activities have been fully launched in PGCL. Payment of gas bills through online has already been implemented in the company. Information pertaining to up-dated status regarding payment of gas bill has been provided to the customer through SMS. Besides, customer services are also going on uninterruptedly through hotline nos. 16514 (from any mobile) or 096130-16514 (from any BTCL connection).

Under the Government performance management system, an annual performance agreement (APA) was signed between Petrobangla and PGCL for the FY 2019-20. PGCL has achieved 100% of its targets set in the fields of gas sales, procurement of gas equipment, construction of gas pipelines, disconnection of illegal and defaulter customers, installation of EVC meter, human resources development, implementation of APA efficiently, implementation of e-filing system, implementation of innovative ideas/small improvement project (SIP) and updating the list of tangible and intangible assets.



Karnaphuli Gas Distribution Company Limited (KGDCL)

Karnaphuli Gas Distribution Company Limited (KGDCL) was formed on 8 February, 2010, with greater Chattogram and Chattogram Hill tracts area which were under erstwhile BGSF franchise, pursuant to a government decision to rationalize and improve the services of the companies under Petrobangla. The commercial activities of the company commenced on 1 July, 2010.

Gas sales by KGDCL during the FY 2019-20 stood at about 115.52 BCF. The company earned Tk. 33,921.90 million as sales revenue and Tk. 5,656.10 million as net profit before tax. The company paid Tk. 3,962.70 million to the national exchequer during this year. The company purchased 114.28 BCF gas and sold 115.52 BCF gas this year. As a result, the system gain of the company stood at 1.24 BCF i.e. 1.08%. The cumulative gas connection stood at 6,01,970 as on December, 2020 which includes 5 power, 4 fertilizer, 1,121 industrial, 195 captive power, 2,849 commercial, 2 tea-gardens, 70 CNG and 5,97,724 domestic connections.

The online bill payment system has been launched in KGDCL from July, 2017 with the aim of simplifying the gas bill payment system. The company's customers of all classes are currently paying their gas bills online through various branches of 19 banks in Chattogram. KGDCL's non-metered residential customers can pay gas bills through Rocket, Nexus Pay, Visa Card, MasterCard. Bills are also being collected from residential customers through various mobile financial services (Sure Cash, Telecash, MyCash) and Grameenphone's "Bill-Pay" system. The web-based customer portal (billing.kgdcl.gov.bd) has been further customized to make it easier for KGDCL customers to know their billing updates. The company is now performing official work to a large extent through the e-nothi system. The company is publishing its activities through the website in order to improve customer service and easy access to information.

In order to prevent misuse and effective use of natural gas, a project of Tk. 1,486.50 million jointly financed by Bangladesh Government (GoB), Japan International Cooperation Agency (JICA) and KGDCL to install 60,000 nos. of pre-paid gas meters in domestic gas connections in Chattogram city has already been completed within the timeline of 30 June 2019. Pre-paid customers currently purchase gas volumes through NFC cards from 12 point of sales (POS) stations and use the gas by recharging the pre-paid meters installed in the customer's yard. Another project has been implemented for the up-gradation of KGDCL gas distribution network, estimating cost of Tk. 3,396.80 million by KGDCL's own fund. Under this project, pipeline has been constructed to receive imported LNG in KGDCL system and to supply gas to Mirasharai Economic Zone, Chattogram. To protect existing pipeline from corrosion in KGDCL franchise areas, properly monitoring, necessary maintenance and development works are continuing.

KGDCL has been conducting drives against gas pilferage and illegal activities regularly. During FY 2019-20, a total of 11,165 nos. of illegal gas connections were disconnected and earned Tk. 157.10 million as revenue from unauthorized and unscrupulous customers.



Modern Lab, Faujdarhat, Chattogram of KGDCL



Sundarban Gas Company Limited (SGCL)

The Sundarban Gas Company Limited (SGCL) was formed on 23 November, 2009 with the objective of supplying natural gas to the south-western region of the country which includes Khulna Division, Barishal Division and greater Faridpur district. The main responsibilities of the company are to construct distribution pipelines, provide gas connections and post connection services under its franchise area.

Presently, the company is continuing supply of natural gas and providing post connection service to VERL 34.5 MW rental power plant (RPP), Aggreko 95 MW RPP, Bhola 225 MW CCPP (BPDB), 2 captive, 2 commercial, 5 industrial, 26 metered domestic connections and 2,346 non-metered domestic customers in the island district Bhola. In addition, gas is being supplied to gas based 410 MW combined cycle power plant (CCPP) at Bheramara, Kushtia. During the FY 2019-20, around 32.97 BCF gas has been supplied to this power plant and 0.79 BCF gas to other non-bulk customers. On an average 90 MMscfd gas is being supplied to the different customers in SGCL franchise area.

With a view to supplying 38 MMscfd of gas to NutanBidyut (BD) Limited (NBBL)'s 220 MW CCPP (IPP) at Borhanuddin, Bhola, a gas supply agreement (GSA) between SGCL and NBBL was signed on 28 August, 2017. To supply gas to the power plant, a contract between SGCL and M/s. Tormene Americana SA-JVCA was signed on 15 January, 2020 to construct 12" x 7 km x 1000 psig pipeline from Shahbazpur Gas Field, Bhola to the said 220 MW CCPP including one regulating and metering station (RMS) of 48 MMscfd capacity and due to the global COVID-19 pandemic, duration of the contract has been extended from 28 February to 28 July, 2021. Since the permanent pipeline and RMS construction are being delayed and since it is necessary to generate electricity on an emergency basis, temporary RMS and pipeline have been constructed and gas is being supplied from 13 September, 2020 at the rate of about 30 MMscfd.

Besides, construction work of an overhead condensate tank with a capacity of 25,000 liters in the RMS area of the 34.5 MW RPP for centrally store the condensate collected at RMS of three power plants and Bhola DRS located in Bhola area under this company has been completed successfully.

On the other hand, construction of 24" x 9.2127 km and 20" x 1.8553 km gas pipelines have already been completed for supplying gas to the Rupsha 800 MW CCPP. Besides, an agreement was signed on 28 November, 2019 for constructing the proposed Rupsha 800 MW CCPP and RMS. It may also be mentioned that, the RMS of Khulna 225 MW CCPP has already been constructed with the funding of North West Power Generation Company Limited (NWPGL). According to NWPGL, it will be possible to receive 35 MMscfd of gas for the power plant by August, 2021 by commissioning the RMS, GBC, and GT which have already started. It is expected that, the commissioning of the first unit of Rupsha 800 MW CCPP will be completed in February, 2023 and the commissioning of the second unit will be completed in August, 2023.

During the FY 2019-20, the company earned a total revenue of Tk. 4,890.52 million out of which Tk. 4,423.439 million from sales of 33.75 BCF gas and rest Tk. 467.08 million from other operating income. In this year, company's net profit before tax and after tax stood at Tk. 805.08 million and Tk. 543.43 million respectively and paid Tk. 296.34 million to the national exchequer.

SGCL has already joined the national e-Government procurement (e-GP) portal. The company is issuing certificates of "Amount Of Outstanding Gas Bill"/"No Arrears" to all categories of customers to avoid customer harassment and to ensure the amount of arrears at the end of every calendar year. Customer service is being improved by keeping online billing activities. During the FY 2019-20, the gas connections of 21 domestic customers were disconnected due to various reasons.



Rupantarita Prakritik Gas Company Limited (RPGCL)

Rupantarita Prakritik Gas Company Limited (RPGCL) started its activity as a company of Petrobangla from 1 January, 1987. RPGCL is vested with the responsibilities of promoting compressed natural gas (CNG), building a transport infrastructure in the country based on CNG, and production and distribution of LPG, petrol and diesel obtained from NGL. On an average 3.0 BCF of CNG is being used every month from 602 CNG stations, which is 3.63% of the total gas consumption of the country.

The Government has decided to import liquefied natural gas (LNG) to meet the ever increasing demand of natural gas against a backdrop of its shortage. As per government decision, all activities related to LNG have been vested to RPGCL. Two terminal use agreements (TUA) were signed with Excelerate Energy Bangladesh Limited (EEBL) and Summit LNG Terminal Co. (Pvt.) Ltd. to install 2 FSRUs at Moheshkhali approximately 90 kilometers south of Chattogram for supplying 500 MMscfd of LNG each. After installation of the FSRU by EEBL, the pre-commissioning and commissioning started on 12 August, 2018 and RLNG supply to our national grid started commercially from 19 August, 2018. Total LNG import with this terminal was 12,025,744.00 cubic metres and total RLNG supply to our national grid was 7,183.66 million standard cubic metres up to 31 December, 2020. After set-up of the other FSRU by Summit, commissioning took place on 29 April, 2019 and RLNG supply to the national grid started commercially from 30 April, 2019. Total LNG import with this terminal was 7,953,799.00 cubic metres and total RLNG supply to our national grid was 4,759.55 million standard cubic metres up to 31 December, 2020.



Ship to Ship (STS) LNG Transfer Operation

In addition, selection of a terminal developer to install a land-based LNG terminal of a capacity of 1,000 MMscfd at Matarbari, Cox's Bazar is under process. Acquisition of 111.72 acres of land at Matarbari is in progress. Besides, finalisation of a gas supply agreement (GSA) between Indian Oil Corporation Ltd. (IOCL) and Petrobangla is in progress for importing RLNG through cross-border pipelines by the end of 2022.



Summit LNG Terminal at Moheshkhali

To import LNG from Qatar Gas, a sale and purchase agreement (SPA) was signed on 25 September, 2017 with RasLaffan Liquefied Natural Gas Company Limited (3), a Qatar based Government agency, to ensure the supply of 1.8 - 2.5 MTPA LNG for 15 years. A total volume of 13.106 million cubic metres (5.770 million ton) of LNG was imported from Qatar through 94 cargoes from inception to 31 December, 2020. Another SPA was signed with Oman Trading International Ltd. (present name: OQT), an Oman based Government agency, on 6 May, 2018 for supplying 1.0-1.5 MTPA LNG for 10 years. A total volume of 6.725 million cubic metres (2.968 million ton) of LNG was imported from OQT through 46 cargoes from inception to 31 December, 2020. Additionally, a master sale and purchase agreement (MSPA) was signed with 14 nos. suppliers/traders to purchase LNG from the spot market. First cargo from Spot Market was imported on 25 September, 2020.

In the FY 2019-20, the company earned Tk. 2,926.17 million as revenue before payment of VAT from sales of CNG, LPG, MS and other heads. The company earned an amount of Tk. 1,000.15 million as net profit before tax and made a payment of Tk. 890.65 million to the national exchequer.

With a view to enhancing the speed of work and augmenting efficiency, the introduction of smart card payment system's and automatic vehicle identification (AVA) systems in CNG filling stations. The website of the company has linked to the national web portal, tender functions are being completed through e-GP. Since October 2017, the company has been communicating with other offices and agencies and disposing of files using an e-filing system through a live server.



Barapukuria Coal Mining Company Limited (BCMCL)

Barapukuria Coal Mine is the first and only coal mine in Bangladesh. In 1985, Geological Survey of Bangladesh (GSB) discovered high quality bituminous coal spread over an area of 6.68 sq. km at a depth of 118-509 metres in Barapukuria. China National Machinery Import and Export Corporation (CMC) developed this underground mine having a capacity of 1.0 million metric tons of coal per year. The Barapukuria coal is very environmentally friendly, very low in sulphur content (0.53%) and very high in heat generation capacity (11,040 btu/lb).



Panoramic view of BCMCL

To ensure proper implementation of the project, Barapukuria Coal Mining Company Limited (BCMCL) was established on August 4, 1998. For maintaining uninterrupted production of coal from the mine, a Management, Production and Maintenance Contract was signed with the consortium of Xuzhou Coal Mining Group Corporation Limited (XMC) and CMC on 4 June, 2005 for a period of 71 months with a contract price of US\$ 82.30 million. The company went into commercial production on 10 September, 2005. The contract was completed on 10 August, 2011.

On expiration of the first M&P contract, the second "Management, Production, Maintenance & Provisioning Services (MPM&P)" contract was signed on 6 August, 2011 with the successful bidder consortium of XMC-

CMC. This MPM&P contract commenced on 11 August, 2011 and completed on 10 August, 2017. To continue uninterrupted production from the mine, the third MPM&P contract (MPM&P Contract-2017) for a period of 48 months was signed on 8 July, 2017 and came into effect on 11 August, 2017 and will continue up to 10 August, 2021.

In the FY 2019-20, total coal production was achieved by 8,11,137.63 metric tons and the commercial production rate was 3,000-3,500 metric tons/day. During the FY, the company earned Tk. 8,907.69 million from sale of coal and Tk. 746.63 million from other sources comprising a total amount of Tk. 9,654.32 million. During this period, Tk. 6,939.36 million was spent as cost of operation and expenditure against other heads. In this fiscal year, the net profit stood at Tk. 1,894.47 million following deduction of Tk. 882.36 million was provisioned for income tax, which was Tk. 542.25 Million in the previous fiscal year. In addition to this, the actual revenue expenditure was Tk. 6,153.65 million in the fiscal year under consideration against an allocated budget of Tk. 6,665.80 million which is Tk. 512.15 million or 7.68% less than the allocated budget. During the FY 2019-20, the company deposited Tk. 4,216.60 million to the Government exchequer.



Transportation of Coal through conveyor belt at BCMCL

Mentionable, till December, 2020, a total of 12.01 million metric tons of coal has been produced from the commencement of commercial production.

Subsidence monitoring activities are conducted by BCMCL on a regular basis in the FY 2019-20. There is a joint schedule program by BCMCL and Chinese XMC/CMC consortium for surface subsidence monitoring (three times in a month). The e-filing system was introduced in the company from 20 March, 2017. In the fiscal year, 94.95% success has been achieved against the target set in the annual performance agreement (APA).



Maddhapara Granite Mining Company Limited (MGMCL)

The Geological Survey of Bangladesh (GSB) discovered the deposits of hard rock at a depth of 136 meter at Maddhapara, Parbatipur of Dinajpur district in 1974. Later, a contract between Petrobangla and Korea South South Corporation (NAMNAM) of DPR Korea was signed on 27 March, 1994 for development of Maddhapara Hard Rock Mining Project and accordingly NAMNAM had undertaken the physical works of the project from September, 1994. Maddhapara Granite Mining Company Limited (MGMCL) was formed under Petrobangla on 4 August, 1998 to operate the hard rock mine at Maddhapara. Commercial production was started on 25 May, 2007, but the production was limited to about 600-800 metric tons per day in single shift operation.

Granite mining in Bangladesh is of great importance, as there is hardly any other source of construction aggregate. It is set to produce about 1.65 million metric tons of granite per year. In order to continue full range of target production (5,500 metric tons/day) from Maddhapara Granite Mine and development of underground roadways and stopes, a contract was signed between Maddhapara Granite Mining Company Limited (MGMCL) and Germania-Trest Consortium (GTC) on 2 September, 2013 for management and operation of the mine having contract price of US\$ 171.86 million. According to the contract, the contractor would develop at least 12 new stopes and produce 9.20 million metric tons of rock over a period of 6 years. Under the commencement of new management contract, the contractor has extracted 3.76 million metric tons of granite rock and completed development of 6 nos. of new stopes within the contract period. After the expiration of contract period a side letter agreement was signed between MGMCL and the Germania-Trest Consortium (GTC) on 29 July, 2020. According to the side letter agreement, the contractor will develop 2 new stopes with 1.10 million metric tons of granite rock production and will hand over 1.18 million metric tons of granite rock reserves in the underground stopes to MGMCL at the end of the extended one year contract period.

In the FY 2019-20, a total of 8,23,959.10 metric tons of granite was produced and 8,64,906.52 metric tons was sold. The company earned Tk. 2,078.14 million from the sale of granite and made a net profit of Tk. 224.00 million and made a payment of Tk. 220.64 million to the national exchequer.

In July to December, 2020, a total of 4,66,000 metric tons of granite was produced and 6,29,000 metric tons was sold and the company earned Tk. 1,498.32 million during this time. Mentionable, since inception of the company, a total of 6.40 million metric tons of granite has been produced as of 31 December, 2020.

At present, the annual demand of stone in the country is about 10 million metric tons as construction material. Large amount of stone is being imported from abroad to meet this demand. The existing Maddhapara mine has an annual production capacity of 1.65 million metric tons. In order to determine the possibility of increasing production of granite rock and preparation of granite slabs through expansion of the mining zone/area of Maddhapara mine, a feasibility study project titled "Feasibility Study for Granite Slab Preparation and Enhancement of Stone Production by Expansion of Maddhapara Mine (1st Revised)" was undertaken by MGMCL financed by Petrobangla. The project was completed within the time frame and the project completion report (PCR) was submitted on 19 January, 2020. According to the PCR, it will be possible to develop a new mine with a capacity of 3.30 million metric tons per year/11,000 metric tons per day with taking up new projects in the study area (2.25 sq. km).



Mining Operation in progress at MGMCL

Development Programmes for the Fiscal Year 2019-20

The annual development programme of Petrobangla for the FY 2019-20 had a total allocation of Tk. 11,488.6 million, which includes Tk. 4,884.5 million as project aid. The programme consists of 7 projects of which 6 are foreign-aided and 1 is GoB funded. In addition, there are 7 projects financed by the corporation/companies itself (self financing) involving total allocation of Tk. 6,933.0 million, where cash foreign exchange (CFE) involvement is Tk. 4,135.7 million and local currency is Tk. 2,797.3 million. Furthermore, there are 8 projects under gas development fund (GDF) in the same fiscal year with a total allocation of Tk. 2,277.9 million, where CFE involvement is Tk. 614.7 million and local currency is Tk. 1,663.2 million. List of ongoing projects stating estimated total project cost, execution period and source of finance are as follows :



A. Ongoing Projects (foreign aided) : FY 2019-20
(Taka in Million)

No.	Name of the project	Project Period	Executing Agency	Estimated Cost (PA)	Development Partners
1	Natural Gas Efficiency Project (Installation of Wellhead Compressors at Titas Gas Field Location-C and Narshingdi Gas Field)	July'14- June'22	BGFCL	7250.0 (6387.0)	JICA
2	Natural Gas Efficiency Project (Dhanua- Elenga and West Bank of Bangabandhu Bridge - Nalka Gas Transmission Pipeline) (30" x 52 km and 24" x 14 km)	July'14- June'21	GTCL	8285.1 (4241.1)	JICA
3	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for TGTDCCL)	Jan.'15- Dec.'20	TGTDCCL	4989.4 (4406.2)	JICA
4	Installation of Wellhead Compressure at Location-A of Titas Gas Field	July'16- Dec.'20	BGFCL	9100.0 (7530.0)	ADB
5	Construction of Chattogram-Feni-Bakhrabad Gas Transmission Parallel Pipeline Project	July'16- Dec.'20	GTCL	24794.1 (7348.9)	ADB
6	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for KGDCL)	July'14- Oct.'19	KGDCL	2224.8 (1563.2)	JICA
Sub-Total (foreign-aided)				56643.4 (31476.4)	

B. Ongoing Projects (GoB funded) : FY 2019-20
(Taka in Million)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
1	Construction of Bogura-Rangpur-Syedpur Gas Transmission Pipeline Project	Oct.'18- June'21	GTCL	13785.5 (0.00)
Sub-Total (GoB)				13785.5 (0.00)

C. Ongoing Projects (self financing) : FY 2019-20
(Taka in Million)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
1	Installation of 3,000 barrels/day capacity Catalytic Reforming Unit (CRU) at Rashidpur Condensate Fractionation Plant (RCFP) to Convert Petrol into Octane (2nd Revised)	March'12-June'20	SGFL	4979.8 (3698.7)
2	Feasibility Study for Development of Dighipara Coal Field, Dinajpur	Jan.'17-March'20	BCMCL	1876.6 (1255.5)
3	Construction of Gas Pipeline for Mirsarai Economic Zone and KGDCL Gas Distribution Network Upgradation Projects	May'17-Dec.'19	KGDCL	3986.2 (1894.7)
4	Construction of Moheshkhali-Anowara Gas Transmission Parallel Pipeline Project	July'16-June'20	GTCL	13147.2 (5117.8)
5	Feasibility Study for Granite Slab Preparation and Enhancement of Stone Production by Expansion of Maddhapara Mine	Nov.'17-Aug.'19	MGMCL	481.2 (365.7)
6	Construction of Anowara-Fouzderhat Gas Transmission Pipeline Project	Apr.'16 - March'20	GTCL	7390.6 (1721.3)
7	Construction of Maheshkhali-Zero Point (Kaladiar Char)-CTMS (Dhalghat Char) Gas Transmission Parallel Pipeline Project	Oct.'18 - June'20	GTCL	3274.0 (2246.7)
Sub-Total (self financing)				35135.6 (16300.5)

D. Ongoing Projects (under GDF): FY 2019-20
(Taka in Million)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
1	3-D Seismic Project of BAPEx	Dec.'12-Nov.'19	BAPEx	2477.0 (1134.6)
2	Drilling of Well no. Sylhet-9 (Appraisal/Development Well)	Dec.'13 - June'20	SGFL	1712.7 (533.0)
3	RUPKALPO-1 Drilling Project : 2 Exploratory Wells (Srikail East-1 and Salda North-1)	July'16-June'20	BAPEx	1620.9 (1023.7)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
4	RUPKALPO-2 Drilling Project : 2 Exploratory Wells (Semutang South-1 and Jakiganj-1)	July'16-June'20	BAPEX	2201.8 (1412.4)
5	RUPKALPO-3 Drilling Project : 2 Exploratory Wells (Kasba-1 and Madarganj-1)	July'16-Dec.'19	BAPEX	2162.1 (1423.9)
6	RUPKALPO-5 Drilling Project : 2 Exploratory Wells (Srikail North-1 and Mobarokpur South East-1), 1 Development Well (Begumgonj-4) and 1 Workover (Begumgonj-3)	Apr.'17-June'19	BAPEX	1632.9 (1091.1)
7	RUPKALPO-9 Drilling Project : 2-D Seismic	Apr.'17-June'21	BAPEX	1058.0 (491.9)
8	Workover of 7 Wells at Titas, Habiganj, Narsingdi and Bakhrabad Gas Field	Jan.'17-June'21	BGFCL	3443.5 (757.0)
Sub-Total (GDF)				16308.9 (7867.7)
Grand Total (foreign-aided + GoB + self financing + GDF)				121873.4 (55644.6)

Source : Planning & Monitoring Division, Petrobangla.



RMS at Borhanuddin of SGCL

Future Programmes

Energy is the driving force for the development of the country. The role of energy is important for the entire economic development such as poverty reduction and the overall development of the country. By achieving the impressive economic growth for the country, it is possible to improve the living standard of huge population through proper utilization of the limited resources. It may be mentioned here that present energy crisis has become acute due to the absence of proper initiatives for the last 7 years until 2009 in the energy sector. As a result, the GDP growth of the country has been hampered in the industry and other production sectors including the power sector. To overcome the stagnant situation, the present Government has been putting its best efforts for ensuring energy supply to accelerate economic development. To achieve this goal short-term, mid-term and long-term plans have been taken for gas and coal extraction, development and production. Furthermore, to ensure the energy supply, 2 FSRUs having the capacity of 500 MMscfd each have been installed at Moheshkahali for regasifying imported LNG and commenced transmission to the national gas grid from August, 2018 and April, 2019 respectively. Initiatives have also been taken for the development of coal fields in line with coal policy being finalized.

In view of the above perspective, following strategies have been taken up for the oil, natural gas and mineral development under the Petrobangla umbrella:

- Adoption of time-based action plan for discovering new gas fields and development of the producing gas fields;
- Make BAPEX more effective in exploring oil and gas through acquiring new rigs and its ancillaries;
- Importing liquefied natural gas (LNG) to compensate increasing gas demand;
- Support Government in finalizing National Energy Policy and Coal Policy to create opportunity for using energy from multiple sources;
- Increasing financial capacity of BAPEX by forming Gas Development Fund; and
- Putting efforts to ensure proper pricing of gas to conserve energy and improve the financial operations of the gas sector.

Sector wise gas demand forecast (2020-2023)

Unit: BCF

Sector	2020-21	2021-22	2022-23	2023-24
Power	2,197	2,210	2,266	2,279
Captive Power	480	432	389	350
Fertilizer	316	316	316	316
Industry	925	1,044	1,169	1,299
Commercial and Tea	38	38	38	38
Domestic	425	425	457	490
CNG	139	145	152	159
Total	4,520	4,610	4,787	4,931

Source : Production & Marketing Division, Petrobangla

Plan for Production Augmentation

National exploration and production (E&P) companies (BAPEX, BGFCL and SGFL) and international oil companies (IOCs) working in Bangladesh have planned a gas production augmentation programme during the awkward COVID-19 pandemic. The programme includes exploration drilling, appraisal cum development drilling and work-over on the onshore areas of Bangladesh. It is expected that, after successful completion, the programme will yield an additional amount of gas of 487 MMscfd through work-over and new drilling in FY 2024-25. Meanwhile, the IOCs have delayed their exploration activities in offshore areas (both shallow and deep) due to global COVID-19 pandemic. The IOCs planned to drill 3 exploration wells in the offshore areas during this period. The following table shows the summary of the activities for production augmentation.

Table: Year-wise Drilling and Work-over Programmes

FY	Exploration wells	Development wells	Work-over wells	Total wells
2020-21	-	-	2	2
2021-22	-	3	7	10
2022-23	3	2	3	8
2023-24	3	2	6	11
2024-25	6	2	4	12
Total	12	9	22	43

Source: BGFCL, SGFL, BAPEX and PSC Directorate.



CMS at Soydabad of PGCL

Natural Gas of Bangladesh

Chemical Composition, Specific Gravity and Calorific Value

No.	Gas Fields	Water Content (Lb/MMscf)	Chemical Composition of Natural Gas (Volume Percent)						Specific Gravity	Gross Calorific (Btu/cft)	Hydrogen Sulphide		
			Methane	Ethane	Propane	Iso-Butane	N-Butane	High Comp.				N2	CO2
1	Sylhet	1.200	95.349	2.542	0.974	0.247	0.296	0.165	0.247	0.180	0.5896	1056.878	Nil
2	Chhatak	n/a	97.900	1.800	0.200	-	-	-	-	-	0.5500	1005.710	Nil
3	Rashidpur	1.200	98.489	0.802	0.148	0.053	0.028	0.046	0.338	0.096	0.5637	1017.234	Nil
4	Kailashtilla	0.700	96.217	2.588	0.674	0.098	0.075	0.019	0.310	0.018	0.5773	1042.726	Nil
5	Titas	4.500	96.587	1.900	0.406	0.099	0.060	0.166	0.343	0.440	0.5790	1032.000	Nil
6	Habiganj	4.200	97.650	1.543	0.006	0.000	0.000	0.002	0.790	0.008	0.5648	1014.000	Nil
7	Bakhrabad	4.800	93.700	3.790	0.834	0.246	0.116	0.233	0.495	0.585	0.5989	1057.000	Nil
8	Semutang	n/a	96.079	2.499	0.415	0.103	0.056	0.096	0.209	0.542	0.5818	1037.080	Nil
9	Begumganj	n/a	95.460	3.190	0.640	0.170	0.040	-	-	0.300	0.5800	1045.610	Nil
10	Kutubdia	n/a	95.720	2.870	0.670	-	0.310	-	0.360	0.070	0.5900	1041.660	Nil
11	Beanibazar	4.400	93.536	3.499	1.324	0.309	0.274	0.603	0.354	0.099	0.6089	1086.418	Nil
12	Feni	n/a	95.710	3.290	0.650	0.150	0.050	-	-	0.150	0.5800	1049.840	Nil
13	Kamta	n/a	95.360	3.570	0.470	0.090	-	-	-	0.510	0.5700	1043.130	Nil
14	Fenchuganj	n/a	97.264	1.452	0.135	0.036	0.012	0.070	0.212	0.819	0.5743	1018.390	Nil
15	Jalalabad	n/a	95.986	2.509	0.433	0.300	0.066	0.375	0.254	0.075	0.5885	1056.066	n/a
16	Narsingdi	4.200	95.264	2.702	0.593	0.172	0.096	0.233	0.351	0.589	0.5893	1044.000	Nil
17	Meghna	4.400	95.185	3.050	0.667	0.169	0.096	0.209	0.390	0.234	0.5878	1050.000	Nil
18	Shahbazpur	n/a	94.553	3.555	0.569	0.159	0.058	0.062	0.201	0.842	0.5913	1044.570	Nil
19	Sangu	n/a	94.510	3.170	0.610	0.190	0.070	0.410	0.440	0.600	0.5900	1058.000	n/a
20	Saldanadi	n/a	96.959	1.781	0.324	0.079	0.048	0.095	0.129	0.583	0.5770	1029.860	Nil
21	Bibiyana	n/a	94.880	2.442	0.873	0.280	0.253	0.926	0.195	0.153	0.6107	1060.000	Nil
22	Bangura	2.110	95.482	2.564	0.661	0.146	0.146	0.194	0.309	0.664	0.5884	1049.200	Nil
23	Moulavibazar	n/a	98.198	1.002	0.160	0.042	0.022	0.087	0.356	0.131	0.5673	1020.220	Nil
24	Shahjadpur Sundalpur	n/a	98.349	0.908	0.070	0.001	0.004	0.003	0.558	0.106	0.5634	1013.520	Nil
25	Srikail	n/a	95.928	2.452	0.527	0.135	0.078	0.134	0.130	0.616	0.5847	1041.050	Nil

Natural Gas Tariff in Bangladesh

(As in December, 2020)

Taka/MCF

Effective From	Power	Fertilizer	Industry	Commercial	Tea estate	Cap. Power	CNG feed gas	Brick field (seasonal)	Domestic		
									Metered	Single Burner	Double Burner
29.07.1968	1.20	1.20	2.52	6.00	-	-	-	-	6.00	6.00	10.00
28.06.1969	1.60	1.60	2.92	6.40	-	-	-	-	6.40	6.30	10.50
19.06.1974	3.72	3.72	7.20	12.00	-	-	-	-	12.00	15.00	28.00
01.12.1977	5.00	5.00	9.00	13.00	-	-	-	-	13.00	16.00	30.00
02.06.1979	6.25	6.25	16.00	17.00	-	-	-	-	16.00	20.00	36.00
07.06.1980	7.75	7.75	18.00	19.00	-	-	-	-	18.00	22.00	40.00
07.06.1981	9.30	9.30	27.75	28.00	-	-	-	-	20.00	25.00	45.00
01.07.1982	10.50	10.50	31.00	31.00	-	-	-	-	27.00	35.00	65.00
30.06.1983	11.50	11.50	36.00	36.00	-	-	-	-	34.00	45.00	80.00
27.06.1984	13.05	13.05	36.00	45.20	-	-	-	51.00	34.00	45.00	80.00
30.06.1985	15.66	15.66	43.20	54.24	-	-	-	61.20	40.80	60.00	100.00
28.06.1986	19.09	19.09	52.14	65.39	-	-	-	78.30	44.88	66.00	110.00
18.06.1987	24.82	24.82	52.14	85.00	72.30	-	-	78.30	56.10	80.00	130.00
01.07.1988	28.54	28.54	59.96	97.75	83.15	-	-	90.05	56.10	92.00	150.00
01.07.1989	33.00	28.54	70.00	110.00	83.15	-	-	-	65.00	100.00	170.00
01.07.1990	37.95	32.82	80.42	126.50	95.62	-	-	-	74.75	115.00	195.00
01.07.1991	39.08	33.98	85.23	134.22	100.62	-	-	106.19	74.75	115.00	195.00
01.05.1992	43.05	37.39	93.74	134.22	110.16	-	43.05	116.67	82.12	126.00	215.00
01.03.1994	47.57	41.34	103.07	147.53	113.26	-	-	128.28	82.12	160.00	250.00
01.12.1998	54.65	47.57	118.93	169.90	130.26	86.37	-	147.25	94.86	185.00	290.00
01.09.2000	62.86	54.65	136.77	195.39	149.80	99.11	-	169.33	109.02	210.00	330.00
01.01.2002	65.98	57.48	143.57	205.30	157.16	104.21	-	177.83	114.40	275.00	350.00
01.09.2002	70.00	60.00	140.00	220.00	140.00	100.00	-	220.00	120.00	325.00	375.00
15.02.2003	-	-	-	-	-	-	70.00	-	-	-	-
01.07.2004	72.45	62.15	145.20	228.50	145.20	-	-	228.50	126.10	340.00	390.00
01.09.2004	-	-	-	-	-	103.50	-	-	-	-	-
01.01.2005	73.91	63.41	148.13	233.12	148.13	105.59	-	233.00	130.00	350.00	400.00
25.04.2008	-	-	-	-	-	-	282.30	-	-	-	-
01.08.2009	79.82	72.92	165.91	268.09	165.91	118.26	-	-	146.25	400.00	450.00
12.05.2011	-	-	-	-	-	-	509.70	-	-	-	-
19.09.2011	-	-	-	-	-	-	651.29	-	-	-	-
01.09.2015	-	-	190.86	321.68	182.64	236.73	764.55	-	198.22	600.00	650.00
01.03.2017	84.67	74.76	205.01	402.10	196.24	254.29	849.50	-	257.68	750.00	800.00
01.06.2017	89.48	76.74	219.74	482.52	210.11	272.41	906.14	-	317.15	900.00	950.00
01.08.2017	89.48	76.74	219.74	482.52	210.11	272.41	906.14	-	257.68	750.00	800.00
18.09.2018	89.48	76.74	219.74	482.52	210.11	272.41	906.14	-	257.68	750.00	800.00
01.07.2019	126.00	126.00	302.99	*651.28 **482.52	302.99	392.18	991.08	-	356.80	925.00	975.00

*Hotel & restaurant, **Small & cottage industry

Source : Accounts Division, Petrobangla.

Gas Fields in Production and Supply Scenario

(As in December, 2020)

Gas in MMscfd, Condensate in BBL

Company	Gas Field	Total Wells (No.)	No of Producing Wells	Production Capacity (MMscfd)	Production	
					Gas	Condensate
1. BGFCL	Titas	27	24	473	419	356
	Bakhrabad	10	6	41	41	41
	Habiganj	11	8	188	185	17
	Narsingdi	2	2	25	25	38
	Meghna	1	1	8	8	19
	Sub-Total		51	41	735	678
2. SGFL	Sylhet	8	1	4	4	15
	Kailashtila #1 (Silicagel)	4	1	7	6	37
	Kailashtila #2 (MSTE)	3	2	61	49	442
	Rashidpur	11	5	53	48	48
	Beanibazar	2	1	8	8	132
	Sub-Total		28	10	133	115
3. BAPEX	Saldanodi	4	2	1	6	1
	Fenchuganj	5	2	10	4	1
	Shahbazpur	5	4	68	46	5
	Semutung	6	1	0	1	0
	Sundalpur	2	1	6	7	0
	Srikail	4	4	35	31	86
	Begumganj	3	1	36	5	2
	Rupganj	1	0	0	0	0
	Sub-Total		30	15	156	100
Sub-Total (1+2+3)		109	66	1024	893	1240
4. IOCs						
CHEVRON	Jalalabad	9	6	280	199	918
	Moulvibazar	9	4	60	15	3
	Bibiyana	26	26	1220	1215	8037
TULLOW	Bangora	6	5	88	90	271
Sub-Total		50	41	1648	1519	9229
	Indigenous	159	107	2672	2412	10469
5. RPGCL	R-LNG	0	0	1000	555	0
Sub-Total		0	0	1000	555	0
Grand Total (1+2+3+4+5):		159	107	3672	2967	10469

Source : Production & Marketing Division, Petrobangla.

Growth Trajectory of Customer

Year	TGTDCL	BGDCL	JGTDSL	PGCL	KGDCL	SGCL	TOTAL
1989-1990	330698	59937	32355	-	-	-	422990
1990-1991	346473	68129	34968	-	-	-	449570
1991-1992	364403	75028	37844	-	-	-	477275
1992-1993	386226	87741	40556	-	-	-	514523
1993-1994	414833	100402	43247	-	-	-	558482
1994-1995	453922	112118	47285	-	-	-	613325
1995-1996	493261	124159	51819	-	-	-	669239
1996-1997	541767	140443	56918	-	-	-	739128
1997-1998	588231	156294	61886	-	-	-	806411
1998-1999	636415	175525	65966	-	-	-	877906
1999-2000	684401	195374	70428	100	-	-	950203
2000-2001	769000	214000	67000	1000	-	-	1051000
2001-2002	833979	243887	72555	1558	-	-	1151979
2002-2003	907946	271526	76923	3957	-	-	1259798
2003-2004	979195	298060	83997	5714	-	-	1366412
2004-2005	1041732	325089	90506	7684	-	-	1465013
2005-2006	1110175	355958	98511	19254	-	-	1583898
2006-2007	1239900	395508	107467	28898	-	-	1771773
2007-2008	1350187	433887	117142	38607	-	-	1939823
2008-2009	1458743	466355	127053	49522	-	-	2101673
2009-2010	1556560	510954	137523	58405	-	-	2263442
2010-2011	1563290	190596	149725	59086	369703	-	2332400
2011-2012	1563307	206213	162615	59171	369703	-	2361009
2012-2013	1565801	207938	177974	59725	369703	-	2381141
2013-2014	1722712	318435	192943	96492	472602	-	2803184
2014-2015	1897316	399540	209489	119483	533273	-	3159101
2015-2016	2023005	489519	223784	128893	602074	3082	3470357
2016-2017	2734546	492678	223715	128589	602074	3073	4184675
2017-2018	2777343	491647	223668	128290	602085	4370	4227403
2018-2019	2865907	491453	223673	128220	602189	6947	4318389
2019-2020	2874848	490824	223663	128265	602245	8914	4328759
Up to Dec., 20	2875284	490602	223647	127365	602309	8860	4328067

Source : Production & Marketing Division, Petrobangla.



Natural Gas Reserve of Bangladesh

(As of 31 December, 2020)

Figure in BCF

SL. No.	Fields	Year of Discovery	Reserve Estimated By		GIIP	Recoverable Reserve			Cumulative Production (Dec, 2020)	Remaining Reserve w.r.t 2P (1 st Jan, 2021)
			Company	Year		Proved (1P)	Proved + Probable (2P)	Proved + Probable + Possible (3P)		
A. Producing										
1	Titas	1962	RPS Energy	2009	8148.9	5384.0	6367.0	6517.0	4930.46	1436.54
2	Habiganj	1963	RPS Energy	2009	3684.0	2647.0	2647.0	3096.0	2574.05	72.95
3	Bakhrabad	1969	RPS Energy	2009	1701.0	1052.9	1231.5	1339.0	855.17	376.36
4	Kailashtilla	1962	RPS Energy	2009	3610.0	2390.0	2760.0	2760.0	733.68	2026.32
5	Rashidpur	1960	RPS Energy	2009	3650.0	1060.0	2433.0	3113.0	659.48	1773.52
6	Sylhet/Haripur	1955	RPS Energy	2009	370.0	256.5	318.9	332.0	217.95	100.95
7	Meghna	1990	Gustavson	2010	122.1	101.0	101.00	-	76.89	24.11
8	Narshingdi	1990	RPS Energy	2009	369.0	218.0	276.8	299.0	220.06	56.74
9	Beani Bazar	1981	RPS Energy	2009	230.7	150.0	203.0	203.0	108.34	94.66
10	Fenchuganj	1988	RPS Energy	2009	553.0	229.0	381.0	498.0	162.70	218.30
11	Shaldanadi	1996	RPS Energy	2009	379.9	79.0	279.0	327.0	94.01	184.99
12	Shahbazpur*	1995	Petrobangla	2011	918.1	-	642.7	0.0	90.95	551.73
13	Semutang	1969	RPS Energy	2009	653.8	151.0	317.7	375.1	13.51	304.19
14	Sundalpur Shahzadpur	2011	BAPEX	2012	62.2	25.0	35.1	43.5	17.38	17.72
15	Srikail	2012	BAPEX	2012	240.0	96.0	161.0	161.0	103.10	57.90
16	Begumganj	1977	BAPEX	2014	100.0	14.0	70.0	0.0	5.56	64.44
17	Jalalabad**	1989	D & M	1999	1491.0	1429.3	1429.3	-	1429.26	-
18	Moulavi Bazar	1997	Unocal	2003	1053.0	405.0	428.0	812.0	332.96	95.04
19	Bibiyana	1998	D & M	2008	8350.0	4415.0	5755.4	7084.0	4528.73	1226.70
20	Bangura	2004	Tullow	2011	1198.0	379.0	714.0	941.0	488.97	225.027
Sub-total A:					36884.7	20481.7	26551.4	27900.6	17643.22	8908.17
B. Non-Producing										
21	Kutubdia	1977	HCU	2003	65.0	45.5	45.50	45.5	0.00	45.50
22	Bhola North1	2018	BAPEX	2018	621.9	-	435.32	-	-	435.32
Sub-total B:					686.9	45.5	480.8	45.5	0.00	480.82
C. Production Suspended										
23	Rupganj	2014	BAPEX	2014	48.0	-	33.60	-	0.68	32.92
24	Chattak***	1959	HCU	2000	1039.0	265.0	474.0	727.0	26.46	447.54
25	Kamta	1981	Niko/Bapex	2000	71.8	50.3	50.3	50.3	21.1	29.20
26	Feni	1981	Niko/Bapex	2000	185.2	125.0	125.0	175.0	62.4	62.60
27	Sangu****	1996	Cairn/Shell	2010	899.6	544.4	577.8	638.7	487.91	89.85
Sub-total C:					2243.6	984.7	1260.7	1591.0	598.5	662.11
Grand Total (A+B+C) in BCF					39815.2	21511.9	28292.88	29537.1	18241.77	10051.11
Grand Total (A+B+C) in TCF					39.8	21.5	28.29	29.54	18.24	10.05

Note: * 2P Reserve of Shabazpur gas field including Shabazpur East-1 re-estimated by BAPEX is 642.7 Bcf.

** The cumulative production of Jalalabad gas field have been shown as 2P reserve. Reserve re-evaluation of Jalalabad gas field is under way.

*** Reserve of Chattak Gas Field is under re-evaluation due to excessive seepage caused by the two consecutive blowouts in 2005.

**** Production from Sangu gas field suspended since 1st October, 2013

Major Gas Transmission Pipelines and Flow Capacity

Company	Name of the Line and Route	Diameter (Inch)	Length (Km)	Oper. Pres. (Psig)	Max. Flow Capacity (MMscfd)
GTCL	1. North - South	24	175.00	1000	400
	2. Ashuganj - Bakhrabad 1	30	58.50	1000	400
	3. Bangabandu Bridge	30	9.00	1000	450
	4. Elenga - Nalka	24	28.50	1000	250
	5. Nalka - Baghabari	20	38.50	1000	250
	6. Beanibazar - Kailashtila	20	18.00	1000	200
	7. Ashuganj - Habiganj	30	54.00	1000	500
	8. Rashidpur - Habiganj	30	28.00	1000	500
	9. Nalka - Hatikumrul	30	6.00	1000	400
	10. Hatikumrul - Bogura	20	54.00	1000	250
	11. Monohardi - Dhanua & Elenga - Bangabandu Bridge east	30	51.00	1000	400
	12. Bakhrabad - Demra	20	68.72	960	250
	13. Bakhrabad - Chattogram	24	174.65	960	300
	14. Ashuganj - Elenga	24	124.00	1000	350
	15. Ashuganj - VS3	20	3.50	1000	200
	16. Ashuganj - Monohardi	30	37.00	1000	450
	17. Dhaka Clean Fuel (GTCL Part)	20	60.00	1000	280
	18. Bonpara - Rajshahi	12	53.00	1000	150
	19. Hatikumrul - Bheramara	30	84.00	1000	400
	20. Titas Gas Field (Location-G) - AB pipeline	24	8.00	1000	250
	21. Srikail Gas Field (Location 2) - AB pipeline	20	1.50	1000	250
	22. Bibiyana - Dhanua	36	137.00	1000	600
	23. Bakhrabad - Siddhirganj	30	60.00	1000	450
	24. Titas Gas Field (Location-C, B & A) to AB pipeline	10	7.70	1000	150
	25. Ashuganj - Bakhrabad 2	30	61.00	1000	450
	26. Bheramara - Khulna	20	163.03	1000	250
	27. Titas Gas Field well no. 23,24 (Sorail) to Khatihata and well no. 25,26 (Malihata) to Khatihata	20	3.30	1000	250
	28. Moheshkhali - Anowara	30	91.00	1000	450
	29. Anowara - Fouzdarhat	42	30.00	1000	1200
	30. Jamuna West Bank - Nalka	30	15.00	1000	400
	31. Moheshkhali (Zero point) - CTMS	42	7.00	1000	1200
	32. Moheshkhali CTMS - Anowara parallel pipeline	42	79.00	1000	1200
	33. Chattogram - Feni - Bakhrabad	36	181.00	1000	800



Under construction 1500 million cubic feet capacity metering station at Moheshkhali Zero Point of GTCL

Company	Name of the Line and Route	Diameter (Inch)	Length (Km)	Oper. Pres. (Psig)	Max. Flow Capacity (MMscfd)	
TGTDCCL	34. Titas - Dhaka	14	81.80	1000	175	
	35. Titas - Narshingdi	16	46.31	1000	265	
	36. Narshingdi - Joydevpur	14	37.51	1000	220	
	37. Narshingdi - Ghorasal	14	10.30	1000	220	
	38. Habiganj - Ashuganj	12	57.75	1000	85	
	39. Monohardi - Narshingdi	20	24.50	1000	300	
	40. Monohardi - Kishorganj	4	35.00	1000	6	
	41. Ashuganj V.S. # 3 - ZFCL	10	4.00	1000	95	
	42. Elenga - Tarakandi	12	42.41	1000	80	
	43. Dhonua - Mymensingh	12	56.70	1000	55	
	44. Tarakandi - Jamalpur	8/6	21.00	1000	25	
	45. Mymensingh - Netrokona	8/6	40.00	1000	60	
	KGDCL	46. Chattogram Ring Main	24/20/16	57.00	350	330
		47. KPM Spur	8	18.00	350	18
48. Chattogram - Rauzan		20	18.00	350	150	
49. Semutang - Chattogram		10	56.00	960	70	
50. Haripur - NGFF		-	43.00	1000	62	
51. Kailashtila - Kuchai		8	13.00	1000	62	
JGTDSL	52. Kuchai - Chatak	6	39.00	1000	36	
	53. Devpur - Kumargaon	6	11.00	1000	36	
	54. Habiganj - Shahji Bazar	8	2.00	1000	53	
	55. Shahji Bazar - Shamsheer Nagar	6	65.00	1000	11	
	56. Srimongal - Moulvibazar	6	26.00	1000	11	
	57. Chatak - Tengratila	4	19.00	1000	10	
	58. Tengratila - Sunamganj	4	13.00	1000	10	



TBS at Meghnaghat of TGTDCCL

Category-wise Annual Gas Sales

(FY 1990-91 to FY 2019-20)

Gas volume in billion cubic feet (BCF)

Year	Production & Imported		Bulk Sales			Non Bulk Sales					Total Sales	UFG	Total Production		
	Gas Production	R-LNG	Total	Power	Fertilizer	Sub. Total	Industry	Domestic	Commercial	Tea/CNG				Brick Field	Sub Total
1990-91	172.8		172.8	82.6	54.2	136.8	13.2	10.5	2.9	0.7	0.0	27.3	164.1	8.7	172.8
1991-92	188.5		188.5	88.1	61.6	149.7	13.4	11.6	2.9	0.7	0.2	28.8	178.3	10.2	188.5
1992-93	211.0		211.0	93.3	69.2	162.5	15.2	13.5	2.4	0.7	0.2	32.0	194.3	16.7	211.0
1993-94	223.8		223.8	97.3	74.5	171.8	20.3	15.4	2.9	0.7	1.1	40.4	211.0	12.8	223.8
1994-95	247.4		247.4	107.4	80.5	187.9	24.2	18.9	2.9	0.6	1.1	47.7	234.5	12.9	247.4
1995-96	265.5		265.5	110.9	91.0	201.9	27.3	20.7	3.0	0.7	1.0	52.7	253.6	11.9	265.5
1996-97	261.0		261.0	110.8	77.8	188.6	28.6	22.8	4.5	0.7	0.5	57.1	245.3	15.7	261.0
1997-98	282.0		282.0	123.6	80.1	203.7	32.3	24.9	4.6	0.7	0.4	62.9	266.2	15.8	282.0
1998-99	307.5		307.5	140.8	82.7	223.5	35.8	27.0	4.7	0.7	0.4	68.6	291.8	15.7	307.5
1999-00	332.4		332.4	147.6	83.3	230.9	41.5	29.6	3.9	0.6	0.4	76.0	306.5	25.9	332.4
2000-01	372.2		372.2	175.3	88.4	263.7	48.0	31.9	4.1	0.7	0.5	85.1	348.3	23.9	372.2
2001-02	391.5		391.5	190.0	78.8	268.8	53.6	36.7	4.3	0.7	0.5	95.8	364.1	27.4	391.5
2002-03	421.2		421.2	190.5	95.9	286.4	63.8	44.8	4.6	0.9	0.1	114.6	400.5	20.7	421.2
2003-04	452.8		452.8	*231.4	92.8	324.2	46.5	49.2	4.8	2.7	0.1	103.3	427.5	25.3	452.8
2004-05	486.8		486.8	*248.9	94.0	342.9	51.7	52.5	4.9	4.4	0.0	113.5	456.3	30.5	486.8
2005-06	527.0		527.0	*273.3	89.09	362.39	63.3	56.7	3.3	7.6	0.0	130.9	493.3	33.7	527.0
2006-07	562.2		562.2	*314.6	62.5	377.1	77.5	63.3	5.7	12.8	0.0	159.3	536.2	26.0	562.2
2007-08	600.9		600.9	*314.5	78.7	393.2	92.2	69.0	6.6	23.6	0.0	191.4	584.6	16.3	600.9
2008-09	653.8		653.8	*351.0	74.9	425.9	104.4	73.8	7.5	31.7	0.0	217.4	643.2	10.6	653.8
2009-10	703.6		703.6	*395.8	64.7	460.5	118.8	82.7	8.1	40.1	0.0	249.7	710.2	(6.6)	703.6
2010-11	708.9		708.9	*395.0	62.8	457.8	121.5	87.4	8.5	39.3	0.0	256.7	714.5	(5.6)	708.9
2011-12	743.7		743.7	*427.9	58.4	486.3	128.5	89.2	8.6	39.4	0.0	265.7	751.7	(8.0)	743.7
2012-13	800.6		800.6	*462.9	60.0	522.9	135.7	89.7	8.8	41.0	0.0	275.2	798.2	2.4	800.6
2013-14	820.4		820.4	*481.2	53.8	535.0	141.9	101.5	8.9	40.9	0.0	293.2	828.1	(7.7)	820.4
2014-15	892.2		892.2	*504.8	53.8	558.6	147.7	118.2	9.1	43.7	0.0	318.7	877.3	14.9	892.2
2015-16	973.2		973.2	*560.4	52.6	613.0	156.0	141.5	9.0	47.4	0.0	353.9	966.9	5.6	972.5
2016-17	969.2		969.2	*564.1	49.1	613.2	163.1	154.4	8.7	47.0	1.0	374.1	987.3	(19.6)	967.7
2017-18	968.7		968.7	*559.2	43.0	602.2	166.6	158.0	8.2	46.2	0.9	379.8	982.0	(13.9)	968.0
2018-19	961.7		961.7	*608.4	57.7	666.1	164.5	158.9	7.9	43.4	1.0	375.7	1041.8	18.3	1060.1
2019-20	882.6		882.6	*607.5	54.6	662.1	155.7	132.7	6.7	37.2	0	386.9	994.4	91.2	1085.6
Up to (Dec., 20)	450.7		450.7	*296.1	32.1	328.2	89.2	66.0	3.1	17.8	0	176.1	504.3	49.4	553.7

* Including captive power

UFG : Un-accounted for gas (system loss plus pilferage/system gain)

Source : Production & Marketing Division, and MIS Report (December, 2020), Petrobangla.

Payment to National Exchequer

Taka in Million

Year	SD+VAT	DSL	Income Tax	Dividend	CD/VAT	Royalty	Total
1998-99	9116.9	2984.9	1030.6	1500.0	168.0	-	14800.4
1999-00	8618.9	3253.3	1105.1	1150.0	131.9	-	14259.2
2000-01	11049.2	2503.8	1142.1	1058.6	93.0	-	15846.7
2001-02	10541.3	3327.3	917.2	1428.9	122.6	-	16337.3
2002-03	15576.4	3395.9	1456.8	1499.8	684.7	-	22613.7
2003-04	18235.2	3708.9	1620.4	1750.0	393.5	-	25708.0
2004-05	18481.0	3681.1	2530.6	2000.0	596.2	-	27288.8
2005-06	18526.7	3440.0	3597.8	2154.8	383.2	12.5	28115.0
2006-07	18801.5	4145.5	3665.1	2500.0	329.2	12.6	29453.9
2007-08	17900.6	3223.4	6490.5	-	350.1	60.9	28025.4
2008-09	19313.5	3533.0	7507.6	1715.3	554.7	6.3	32630.3
2009-10	20064.7	3331.2	10057.5	3281.6	2211.1	655.3	39601.3
2010-11	21625.5	3209.0	11050.9	4198.4	884.2	714.0	41682.0
2011-12	26668.1	2989.3	9378.9	3875.8	1470.6	1000.6	45383.3
2012-13	23861.6	3350.1	14257.2	8395.8	4596.4	1404.7	55865.8
2013-14	31616.0	2856.3	11854.2	4460.8	1443.0	1549.1	53779.4
2014-15	37498.6	2392.3	9471.7	11009.0	1425.4	245.5	62042.5
2015-16	48432.4	3269.4	15523.8	6900.9	744.2	345.2	75215.9
2016-17	93498.2	7589.7	20206.5	9089.1	1258.9	252.4	131894.9
2017-18	121934.7	4435.2	19440.0	8435.8	2306.7	673.7	157226.0
2018-19	79089.0	4435.2	19424.0	8063.9	3516.5	326.1	114854.7
2019-20	23253.9	6392.8	18655.2	8548.6	3210.7	714.2	60775.4

Source: Accounts Division, Petrobangla

Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2020

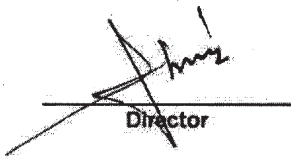
Particulars	2019-2020 BDT	2018-2019 BDT
Income		
Sales proceeds from IOC gas and condensate	70,887,509,227	76,263,864,315
Sales Proceeds of LNG	148,864,742,326	71,507,769,610
Other operating Income from LNG operation	2,057,801,211	4,170,623,703
Petrobangla Charge	1,554,262,600	1,322,736,976
Transport fare recovery	623,529	773,885
Miscellaneous income	3,347,533	38,635
	223,368,286,427	153,265,807,124
Expenditure		
Cost of sales of gas and condensate	78,440,354,795	80,802,463,198
Cost of LNG Cargo and Re-gasification	175,029,862,214	118,125,245,779
Personnel expense	1,022,853,921	959,340,193
Professional services	3,911,755	8,398,836
Promotional expense	5,787,025	5,665,536
Power expense	8,338,542	6,392,063
Communication expense	652,810	1,447,143
Transport expense	30,401,519	36,813,315
Occupancy expense	33,463,054	55,576,428
Administrative expense	5,455,668	4,871,299
Depreciation	32,511,901	34,970,357
Miscellaneous expense	5,423,390	5,533,181
Sub-Total Expenditure	254,619,016,595	200,046,717,328
Petrobangla actual cost recovery	(180,000,000)	(314,448,000)
Total Expenditure	254,439,016,595	199,732,269,328
Operating profit/(loss)	(31,070,730,168)	(46,466,462,204)
Subsidy received form govt for LNG Operation	35,000,000,000	25,000,000,000
Fund transfer to govt.	(10,000,000,000)	-
Operating Profit/Loss after subsidy	(6,070,730,168)	(21,466,462,203)
Non-operating income		
Finance income/(expenses)	5,082,069,163	4,263,285,596
Rental income	38,020,123	18,756,949
Other Non-Operating Income of PSC	1,950,801,439	587,761,571
Total Non-Operating Income	7,070,890,725	4,869,804,116
Profit/(Loss) before Tax	1,000,160,557	(16,596,658,087)

Income tax expenses

Current Tax	(1,400,415,771)	(953,465,361)
Deferred tax income/(Expense)	8,726,935	6,566,116
Net surplus/(deficit)	(391,528,278)	(17,543,557,332)

Appropriation account

Un-appropriated surplus brought forward	(85,784,993,583)	(107,156,242,331)
Prior year's adjustment	(377,584,992)	(17,105,036)
Prior year adjustments Accumulated Dep. on SPMC Project	1,885,955	-
Prior year adjustments of LNG	(2,588,970,655)	-
Prior year's adjustment for PSC	8,956,926,384	1,987,389,614
Fund Transfer from SFSF to IOC SD/VAT Payment	-	36,944,521,502
Net profit/(loss) after Tax for the year	(391,528,278)	(17,543,557,332)
	(80,184,265,170)	(85,784,993,583)



Director



Director

Signed in terms of our separate report of even date annexed.



Khan Wahab Shafique Rahman & Co.
Chartered Accountants



M. J. Abedin & Co.
Chartered Accountants

Place: Dhaka

DVC: 2202090527AS518918



Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Financial Position

As at 30 June 2020

Particulars	2019-2020 BDT	2018-2019 BDT
Assets		
Non-current assets		
Property, plant and equipment	300,236,901	324,219,918
Minor capital project (capital work-in-progress)	5,983,309	3,436,809
Assets held under SPMC project	-	26,041,845
	306,220,210	353,698,572
Investments		
Investment in Subsidiaries	4,196,580	4,196,580
Investment in FD accounts	71,116,736,109	114,441,495,419
Investment in shares	18,482,000	18,482,000
	71,139,414,689	114,464,173,999
Current assets		
Group current account	16,063,426,991	18,611,642,645
Accounts receivable	79,037,201,326	61,299,177,870
Advances, deposits and prepayments	1,753,870,294	2,977,548,480
Loans to employees	415,343,637	382,656,945
Current Tax Assets	7,141,648,353	6,483,075
Cash and cash equivalents	104,281,727,706	86,701,493,614
	208,693,218,307	169,979,002,629
Total assets	280,138,853,206	284,796,875,200
Equity and liabilities		
Capital and reserves		
Paid-up capital	1,500,000	1,500,000
Capital reserve	1,324,172,884	1,324,172,884
Revenue reserve	62,409,666,732	56,434,896,890
	63,735,339,615	57,760,569,774
Funds for specific use		
Gas development fund	46,886,947,160	64,853,921,984
Energy security fund	18,766,960,888	42,477,716,902
Other funds	1,710,685,239	20,316,674,316
	67,364,593,287	127,648,313,202

Long-term liabilities

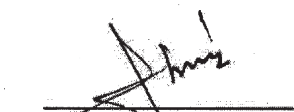
Long-term borrowings	39,275,956	39,275,956
Other long-term liabilities	125,961,514	118,247,870
Deferred tax liabilities	57,431,369	66,158,304
	222,668,839	223,682,130


Current liabilities

Accounts payables	148,803,193,904	99,127,665,130
Deferred income	-	26,041,845
Accruals and provisions	13,057,560	10,603,120
	148,816,251,464	99,164,310,095
Total equity and liabilities	280,138,853,206	284,796,875,200

Off Balance Sheet Item (LNG)

Letter of Credit Contingent liability	-	6,116,040,610
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Director


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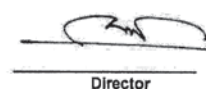


Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Cash Flows For the year ended 30 June 2020

Particulars	2019-2020 BDT	2018-2019 BDT
A. Cash Flows from operating activities		
Operating profit/(loss)	(6,070,730,168)	(21,466,462,203)
Adjustment for non-cash item:		
Depreciation	32,511,901	35,065,607
Changes in working capital:		
Increase/Decrease in Accounts receivables	(17,738,023,456)	(27,109,964,794)
Increase/Decrease in Advances, deposits and prepayments	1,223,678,186	(1,683,756,202)
Increase/Decrease in Loans and advances to employees	(32,686,692)	(29,302,352)
Increase/Decrease in Accounts Payable	49,675,528,774	52,195,393,056
Increase/Decrease in Accruals and provisions	2,454,440	464,367
Increase/Decrease Other long-term liabilities	7,713,644	2,147,957
Income tax paid	(8,535,581,049)	(959,948,436)
Net cash used in operating activities (A)	18,564,865,580	983,637,001
B. Cash flows from investing activities		
Acquisition of property, plant and equipment	(9,189,430)	(7,060,345)
Investment in FDR	43,324,759,310	(15,458,904,290)
Non-operating income	7,070,890,725	4,876,370,232
Net cash provided by investing activities (B)	50,386,460,606	(10,589,594,403)
C. Cash flows from financing activities		
Revenue reserves	6,364,412,166	20,875,913,878
Fund for specific use	(60,283,719,915)	(9,312,366,819)
Group current account	2,548,215,654	(2,259,821,105)
Net cash provided by financing activities (C)	(51,371,092,095)	9,303,725,954
D. Net changes in cash and cash equivalents (A+B+C)	17,580,234,091	(302,231,448)
E. Opening cash and cash equivalents	86,701,493,614	87,003,725,062
F. Closing cash and cash equivalents	104,281,727,706	86,701,493,614


Director


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PETROBANGLA

