



ANNUAL REPORT



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ANNUAL REPORT 2018

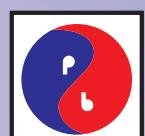


PETROBANGLA

Bangladesh Oil, Gas and Mineral Corporation

Annual Report

2018



PETROBANGLA

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Our Vision

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

- 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.

Father of the Nation, Bangabandhu Sheikh Mujibur Rahman desired to ensure the energy security of independent Bangladesh. He bought five gas fields from Shell Oil at a nominal price on 9th August, 1975. The strong foundation of our energy supply has been established based on these gas fields. In the course of time, under the leadership of Hon'ble Prime Minister Sheikh Hasina with steady economic development, Bangladesh has already been recognized as a role model for developing countries.

I am happy to note that Petrobangla has been putting its best effort in living up to future challenges by taking up hydro-carbon explorations, especially signing of production sharing contracts (PSC) for exploration in the sea. It is also accelerating coal mining to ensure availability of alternative energy source in the country. The importation of LNG helps not only to reduce the present demand-supply gap but also to keep the wheels of the economy going.

It is equally important that the users undertake measures to improve and enhance efficiency of existing and future operations. We need to create awareness

among the consumers of the country for responsible use of energy to ensure energy security.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh

Dr. Tawfiq-e-Elahi Chowdhury, Bir Bikram



Nasrul Hamid MP

State Minister

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

Message

I am delighted to know that Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) is going to publish its Annual Report 2018, encompassing the activities of the organization. I welcome all who are related to publish this time demanding report.

Steady and adequate supply of primary energy is the sine qua non for economic growth and development. For achieving the middle-income status of Bangladesh by 2021, the endeavors made by Petrobangla in exploration, development, production and distribution of natural gas and coal are remarkable. During the last ten years, Petrobangla has been able to increase gas supply by 84% although the steady annual economic growth has generated even more demand for primary energy. In order to explore new gas fields for meeting the rising energy demand, initiatives are underway to implement various work including ramping up of production, transmission and distribution capacities and import of LNG. With the aim of importation of 1,000 MMSCFD LNG, 2 FSUs having the capacity of 500 MMSCFD each have been installed at Moheshkhali and commenced transmission to national gas grid in 19 August, 2018 and 30 April, 2019 respectively and RLNG is being supplied to the national grid from these terminals. As a result, the overall gas supply situation including pressure of gas has been improved across the country. Initiative has been taken to install a land based LNG terminal at Matarbari by 2023-24 having the capacity of 1,000 MMSCFD. Besides Matarbari land based LNG terminal, it has been planned to install more land based LNG terminal based on the demand of gas till 2041. To harness natural

resources from 26 blocks in deep and shallow sea areas, 4 PSCs were signed for 4 blocks and exploration activities are in progress in these blocks. Petrobangla undertook an initiative to conduct 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh in order to attract more investment in offshore oil and gas exploration. A PSC bidding round will be organized as soon as possible synchronizing with the Multi-Client data availability.

Feasibility Study for extension of existing underground mining operation of Barapukuria Coal Mine has already been completed vis a vis feasibility study for an open pit mine in the northern part of this coal field is under process. Feasibility study in the 1st stage on Dighipara coal field proves the prospect of this field and coal reserve has been estimated as 865 million metric tons.

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

I wish every success of this Annual Report 2018.

Joy Bangla, Joy Bangabandhu.

Long Live Bangladesh.


Nasrul Hamid, MP



Message



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

It gives me immense pleasure to know that Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) is going to publish its Annual Report, 2018 encompassing the activities of the organization and its companies for the FY 2017-18. I welcome the endeavour and works related to publish this report.

The government of Bangladesh has a vision to become a middle-income country by 2021 and a developed country by 2041. It is one of the fastest-growing economies in the Asian region. Its GDP is growing at a rate higher than 8% per annum. Reliable supply of energy at affordable price is a precondition for sustainable growth. Present supply of gas including LNG is about 3,250 MMscfd against connected demand of about 3,658 MMscfd which is estimated to be more than twice by 2041. Bangladesh is also committed to ensure UN's one of the sustainable development goals (SDGs) of securing access to affordable, reliable, sustainable and modern energy for everyone by 2030.

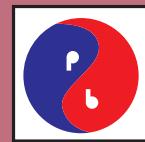
Extensive use of natural gas in power, fertilizer, industry, households has made it the energy of choice of the country. It accounts for about 70% of commercial energy in Bangladesh. It is comparatively cheaper than other conventional sources of energy which we import from abroad. The availability of low cost fuel provides a competitive edge to our industrial products at home and abroad. Natural gas is the prime source of producing chemical fertilizer which is contributing greatly to increase agriculture

productivity. Being a clean fuel, natural gas also contributes much towards environmental conservation of the country.

To meet the demand-supply gap, Petrobangla is implementing a number of projects for enhancing supply and improving transmission capacity of natural gas. It has already installed 2 FSRUs at Moheshkahali for importing 1,000 MMscfd of LNG to ease the demand and supply gap of gas. Initiative has been taken to conduct 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh and a PSC bidding round will be organized as soon as possible synchronizing with the Multi-Client data availability. It is also accelerating extensive coal mining to ensure availability of alternative energy source in the country. It is also engaged in extracting granite which has become popular modern construction material in recent years. It may be noted that Petrobangla is a major contributor to the national exchequer.

I hope that Petrobangla and its companies will continue to play their vital roles keeping in view the ongoing energy needs and be able to achieve the target in the energy sector as envisaged in Vision-2021 and Vision-2041 of the Government and also be able to ensure SDGs Goal 7. I wish Petrobangla every success in its ongoing and future ventures.

(Abu Hena Md. Rahmatul Muneem)



Chairman
Petrobangla

Introduction

Annual Report, 2018 of Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) provides an overview of the key activities, projects and performances of the corporation in the FY 2017-18, together with its future plans and priorities as it moves forward with 13 companies under it striving to achieve an energy system that is environment-friendly, sustainable and affordable.

Petrobangla is the major producer and supplier of fossil fuel in Bangladesh. The energy mix of Bangladesh is changing slowly but indigenous natural gas is still a major part of it. It accounts for about three-quarters of commercial primary energy and more than half of the all primary energy supplies in the country. It is indeed a constant challenge to ensure supply of natural gas resources to fuel the economic growth of the country against the backdrop of sharply rising demand. Petrobangla being on the cusp of non-renewable energy producers is diligently fulfilling its commitment. Bangladesh is heading towards becoming a middle income country within 2021 and undoubtedly Petrobangla is playing a catalytic role in achieving this goal.

Today, domestic natural gas makes a huge contribution to improve our living standards. Had there been no indigenous gas in the country, we would have been compelled to spend an enormous amount of foreign exchange for importing fuel-oil and gas. In such a case, we would also have been wholly dependent on imported oil and gas for our total commercial energy needs.

In the FY 2017-18, Petrobangla and its companies produced 968.7 billion cubic feet (BCF) of natural gas, which was equivalent to 24.2 million metric tons of oil worth 10.37 billion US dollars. Besides, about 4.3 million barrels of condensate was extracted from natural gas this year. A portion of it was fractionated into petrol, diesel and kerosene at the process plants of 3 companies under Petrobangla, and rest of the condensate was sold to Bangladesh Petroleum Corporation (BPC) and private fractionation plants. The lone coal mining company of Petrobangla extracted 9,23,276 metric tons of coal this fiscal year. That is, Petrobangla and the companies under its umbrella provided fuels, around three-quarters of country's total commercial energy supply, worth around 10.80 billion US dollars in aggregate to the energy basket of the country in FY 2017-18.

Since the first discovery of natural gas in Bangladesh in the year 1955, until today, including recent discovery of Bhola North-1 gas field, 27 gas fields have been discovered in this country. Total gas initially in place (GIIP) of 27 gas fields has been estimated to be at 39.8 trillion cubic feet (TCF), out of which estimated total recoverable gas reserve (Proved plus probable) is 27.81 TCF. Up to December, 2018, as much as 16.44 TCF gas was produced, leaving only 11.47 TCF of recoverable gas. Currently 20 gas fields are in production with 112 producing wells. Gas supply in the country increased from 600.86 BCF in FY 2007-08 to 968.7 BCF in FY 2017-18 due to various development programmes undertaken by Petrobangla during this period.



Of this production, grid power consumed the largest share, about 398.64 BCF (40.60%) followed by captive power and industry which consumed 160.53 BCF (16.35%) and 166.56 BCF (16.96%) respectively; fertilizer 42.98 BCF (4.38%), domestic 157.95 BCF (16.09%), CNG 46.20 (4.70%) and commercial and tea-estates together 9.12 BCF (1%) in FY 2017-18.

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, the daughter of the Father of the Nation came to power in 2009. Since then, 4 new gas fields (Sundalpur, Srikail, Rupganj and Bhola North) have been discovered, 22 new gas structures have been delineated; 17 exploration and 49 development wells have been drilled, and workover of 36 wells have been completed. These activities added a gross flow of 1,506 million standard cubic feet per day (MMscfd) with net addition of 1,056 MMscfd due to natural decline in flow of some wells as well as depletion of two gas fields. As a result, gas supply including regasified LNG has risen to 3,250 MMscfd. At the same time, a total of 862 km transmission pipeline 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 is confronting since long, the pace of exploration has been rather slow in the past, leaving large area 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, 38 work-over wells and 6 development wells during 2016 to 2021. Other than this, BAPEX has been conducting

3,000 line-kilometer of 2D seismic survey from 2017 to 2019 in the onshore.

In order to reduce overwhelming dependence on natural gas and diversify the sources of energy supply, Petrobangla developed the first coal mine of the country at Barapukuria. At present, Barapukuria Coal Mine is producing approximately 4,000-4,500 metric tons of coal daily. About 9,23,276 metric tons of coal was produced in the FY 2017-18. The coal extracted from this mine is mainly used to fuel the only coal fired 525 MW power plant of the country located in Barapukuria. Feasibility Study for extension of existing underground mining operation of Barapukuria Coal Mine has already been completed and development phase for extension of southern and northern side of the basin is scheduled to begin in 2019 and expected to commence production 1.6 million metric tons of coal yearly from January, 2024. Feasibility study for an open pit mine in the northern part of Barapukuria coal field is under process. Feasibility study in the 1st stage on Dighipara coal field proves the prospect of this field and coal reserve has been estimated as 865 million metric tons. In the 2nd stage, feasibility study for development of an underground coal mine at Dighipara with a target production of 3 million tons/year is underway.

Apart from these, Maddhapara Granite Mining Company Limited in Dinajpur - the only company of its kind in the country - extracts granite from earthbed which is used mostly as construction material. Initiative has been taken to conduct a feasibility study to expand the operation of the existing mine. In the FY 2017-18, a total 7,59,333.22 metric tons of granite were produced from Maddhapara Mine and 6,48,088.56 metric tons was sold. Considering the rise in demand, Petrobangla has undertaken a feasibility study for expansion of the granite mine. The manufacturing of Ceramic Tiles (Wall Tiles, Roof Tiles, Facing, Pavement) by using stone dust; and manufacturing of Granite Polish Block, Mosaic Block, and Gem Stone are in progress to diversify the use of granite.

To get rid of the country from perennial 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. Considering the demand to be 4,396 MMscfd in 2025, LNG import target has been fixed at 2,396 MMscfd which amounts to nearly 18 million ton per annum. With a view to facilitate the Government to attain the targets of Vision 2021, SDGs 2030, and Vision 2041, measures have been taken to accomplish all necessary functions relating to LNG including installation of floating and land based terminals. In the mean time, 2 floating storage and re-gasification unit (FSRU) have been installed at Moheshkhali for supplying 500 MMscfd of regasified LNG (RLNG) each. The first ever FSRU (by EEBL) was commissioned in 19 August, 2018 and the second FSRU (by Summit) in 30 April, 2019 and RLNG is being supplied to the national grid from these 2 terminals. In accordance with the sales purchase agreements (SPA), Ras Laffan Liquefied Natural Gas Company Limited (3), Qatar and Oman Trading International (OTI), Oman have been supplying LNG to these terminals. Besides, feasibility study has been completed to install a land based LNG terminal at Kutubdia, Cox's Bazar and Paira, Patuakhali. Due to some constraints in those places, Matarbari of Cox's Bazar has been selected as an alternative site for construction of a land based LNG terminal having a capacity of handling 7.5 MTPA of LNG equivalents to 1,000 MMscfd of gas. Initial activities such as feasibility study, land acquisition etc. have been started for installation of this terminal.

On the other hand, exploration in the offshore is also gathering momentum. Initial exploration activities are in progress in blocks SS-04 and SS-09. In the 1st phase ONGC Videsh Ltd. (OVL) completed 3,008 lkm of 2D marine seismic survey data acquisition. In the 2nd phase OVL carried out 2,520 lkm 2D OBC survey. On the basis of interpretation of the seismic data, OVL has identified 3 drillable prospects in 2 blocks. The drilling of the first well will commence very soon in Block SS-04. The 2 other wells will be drilled by February, 2021. The Government has approved extension of the initial exploration period of PSC Block SS-04 and SS-09 up to 16 February, 2021 to facilitate the above drilling.

The GOB has given the highest emphasis on rapid industrialization and modernization of

the country. Implementation of this program requires increased supply of commercial energy. Accordingly, under a PSC signed for deep sea block DS-12, POSCO DAEWOO Corporation initially carried out 3,580 lkm 2D seismic survey. Five Leads have been identified in this block, among the 5 Leads 2 (two) Leads are very potential. POSCO DAEWOO Corporation is planning to conduct 1,000 Sq. kms of 3D Seismic Survey in this block by December, 2019.

Bangladesh's maritime victory over Myanmar and India have opened the door to immense possibilities for the nation. In order to attract more investment in offshore oil and gas exploration, Petrobangla undertook an initiative to conduct 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh. Government has recently approved TGS-Schlumberger JV as the highest qualified bidder for conducting 2D Multi-Client survey and accordingly Petrobangla has sent a letter of award to them. Petrobangla is hoping to sign an agreement with TGS-Schlumberger JV soon. Simultaneously, as a fast-track programme the Model PSC 2019 has been approved by the Government. A PSC bidding round will be organized as soon as possible synchronizing with the Multi-Client data availability.

During FY 2017-18, Petrobangla group contributed to national exchequer an amount to the tune of Tk. 1,57,226.0 million and saved a considerable amount of foreign exchange by substituting import of fuel.

Petrobangla is duty-bound to continue its all-out efforts for maximizing the supply of fossil fuels in the country. And Petrobangla is diligently trying to fulfill its obligation towards the nation. With continued investment in exploration and production, the significant economic benefits this country reaps from natural gas and coal will flow for a long time to come.

I hope this issue of Annual Report will be of interest to a wide variety of readers as a reference document.



(Md. Ruhul Amin)



Board of Directors (Incumbent)



Md. Ruhul Amin
Chairman
Petrobangla
Chairman of the Board



Fawzia Zafreen, ndc
Additional Secretary
Planning Division
Director of the Board



Md. Mostafa Kamal
Director (Admin)
Petrobangla
Director of the Board



Nazmul Ahsan
Joint Secretary (Development)
representing EMRD
Director of the Board



Md. Harun-Or Rashid
Director (Finance)
Petrobangla
Director of the Board



Md. Ayub Khan Chowdhury
Director (Planning)
Petrobangla
Director of the Board



Md. Rezaul Islam Khan
Director (Production Sharing
Contract)
Petrobangla
Director of the Board



Engr. Md. Kamruzzaman
Director (Operation & Mines)
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	Shafiqul 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 - 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 of Ordinance no. LXX of 1974, Oil and Gas Development Corporation was abolished and all its assets and liabilities

were vested in Petrobangla. On 13 November, 1976, by promulgation of the Ordinance no. 88, 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. 21 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 XI of February, 1989.



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;
- 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

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

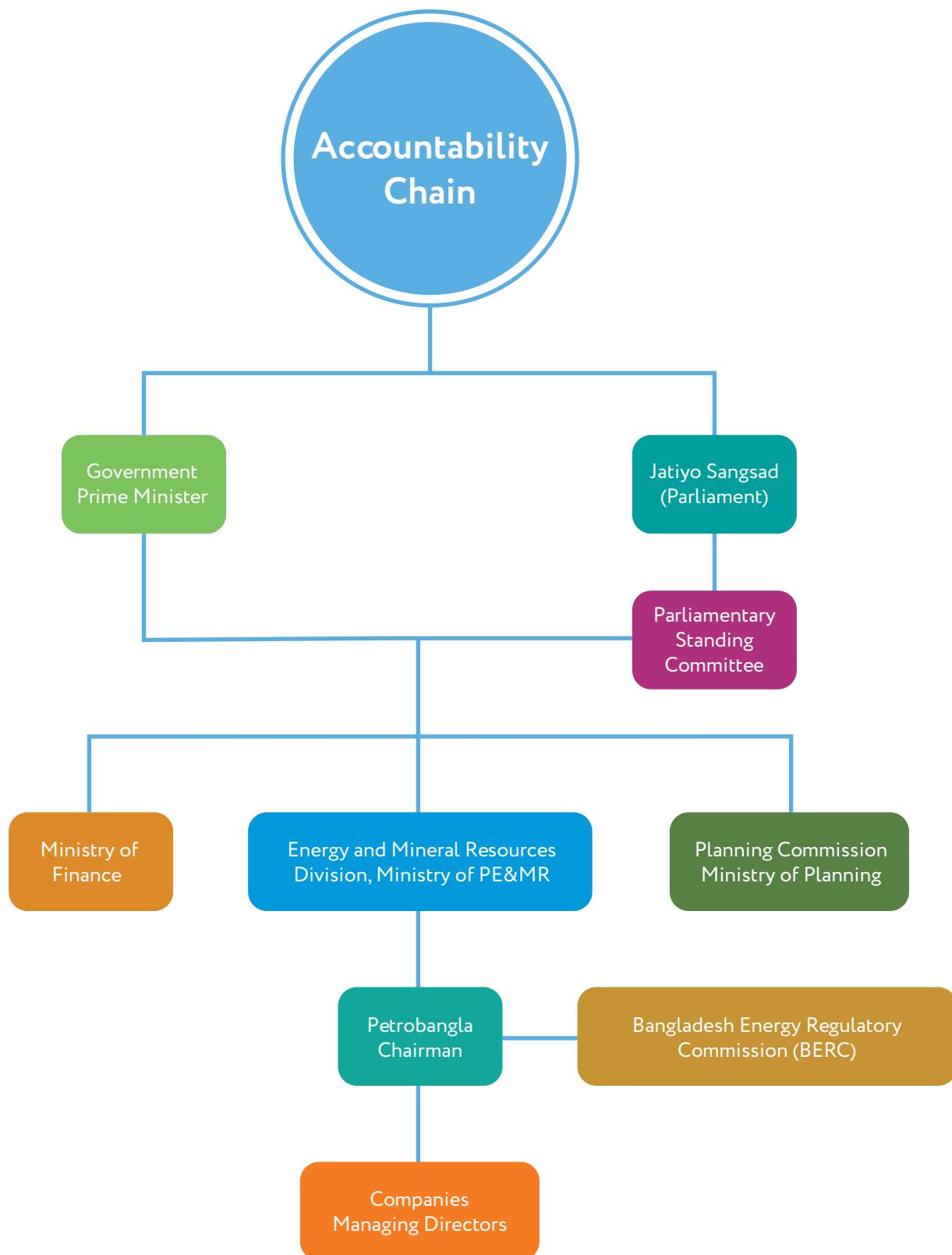


Hon'ble Prime Minister Sheikh Hasina visited Petrobangla stall at Power & Energy Fair 2018 along with State Minister for Power, Energy and Mineral Resources Nasrul Hamid, MP, Senior Secretary for Energy and Mineral Resources Division Abu Hena Md. Rahmatul Muneem and the then Petrobangla Chairman Abul Mansur Md. Faizullah ndc.

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

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 is reviewed and examined by the Public Accounts Committee and the Parliamentary Standing Committee on Power, Energy and Mineral Resources.





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 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 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 Lalmaj 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 Bakhrambad. 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 gas field Kutubdia in 1977. This phase of PSC ended in relinquishment of the



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

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 remains 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, Sriail and Sundalpur.

In 1981 Shell Oil Company (Shell) was awarded the Chattogram Hill Tracts for petroleum exploration under PSC. Shell conducted geological and seismic survey 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 some bids. However, the ensuing maritime boundary dispute in most of the blocks created a stalemate. In this backdrop, 2 blocks were negotiated with Conoco Phillips and a PSC for 2 blocks were signed in 2011. Conoco Phillips completed the initial seismic survey in the blocks. They relinquished



these blocks in 2014 without drilling any exploratory well.

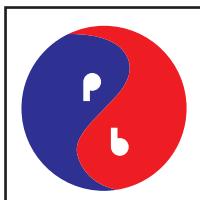
After the resolution of the maritime boundary dispute with Myanmar by virtue of the judgment awarded on 14 March, 2012 by International Tribunal For The Law of The Sea (ITLOS), the deep water blocks on the eastern part were rearranged. This is a widely acclaimed achievement of the government led by Hon`ble 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, 3 shallow water PSCs have been signed with ONGC Videsh, Oil India & BAPEX for blocks SS-04 and SS-09 and 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 in March, 2017. According to the signed PSC for blocks SS-04, SS-09 & SS-11, 4 offshore drillings are mandatory in these 3 blocks within the first Quarter of 2019. Block SS-04 and SS-09 Operator ONGC Videsh Limited has finalized 3 drilling locations already. The first well Kanchan-1 will be spudded very soon and the rest 2 wells will be drilled by February, 2021. To accomplish the above drilling programs the Government has approved the extension of the initial exploration period of the said 2 blocks by 2 years which will end on 16 February, 2021. Similarly the initial exploration period of Block SS-11 PSC has also been extended for 2 years to drill one well by March, 2021. 2D seismic survey result of deepwater block DS-12 is also enthusiastic. First phase of the initial exploration period of Block DS-12 has been extended for 9 months for further reinterpretation of the acquired data and accordingly 3D seismic survey will be carried out tentatively in December, 2019. 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, 2018 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 Bangura Gas Field operated by Kris Energy.

Even though exploration history of oil and gas in Bangladesh goes back almost a century, exploration density could not be enhanced as much 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 2018. As of December, 2018 out of 27 gas fields discovered, 21 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 a 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 field season 2017-18, 90 lkm geological survey has been completed by geological survey party at Hararganj structure of Moulvibazar district. By conducting survey over 17 charas/sections of this structure 54 rock samples, one gas sample and one water sample have been collected. Geological report along with detailed geological map of the Hararganj structure has been prepared on the basis of collected information and data and laboratory analysis result of collected rock samples. Moreover,

during the field season 2018-19, geological survey party has moved to Borolekha upazilla, Moulvibazar district to conduct geological survey in Patharia structure with a target to complete 70 lkm survey. Geological survey party has been completed 20 lkm survey and collected 17 rock samples so far for further analysis till 31 December, 2018.

In this Fiscal Year, well proposal of Srikail East-1 exploratory well, Salda North-1 exploratory well and Tabgi-1 exploratory wells have been prepared on the basis of available 3D seismic data and geological information of neighboring wells with approval of the G & G committee of BAPEX. Besides, analyzing 2D seismic data and other geological data of Zakiganj prospect, well proposal of Zakiganj-1 exploratory well has been prepared. Well proposal of Madarganj-1 exploratory well has also been prepared on the basis of the available information of the area. Moreover, the well locations of Zakiganj exploratory well-1 and Tabgi exploratory well-1 have been marked in the field. In addition, based on available 3D data revised well proposal of Begumganj-4 exploratory cum appraisal well is also ongoing with approval of G & G Committee.

Interpretation of available 3D seismic data and drilling data of Bhola area has been done to point out more locations for prospective development wells in Bhola North gas field and Shahbazpur gas field. As a result, well locations of Illisha-1 exploratory well and Bhola North-2 development well have also been marked in field during this year. Well proposals of Illisha-1 exploratory well, Bhola North-2 appraisal cum development well are ongoing with approval of G & G Committee.

Interpreting the available 2D seismic data of Dupitila area and gathered geological data from neighboring wells, a geological evaluation report has been prepared and close-grid seismic survey has been recommended. Seismic interpretation is going on by analyzing recently acquired 2D



seismic data on blocks-3B, 6B & 7 and Savar-Singair and Sariatpur prospects are being evaluated. Evaluation of Batchia prospect has been completed analyzing existing seismic data and geological data. The recent study recommended a close-grid seismic survey in the area. Review process of seismic data along with drilling data of Salda North -1 exploratory well, Kasba-1 exploratory well and Semutang South-1 exploratory well is in progress.

discovered gas bearing zones in Shahbazpur East-1 exploratory well have been considered as an extension of prime zone (zone-3) of Shahbazpur gas field with a strong indication of huge gas reserve. Quality control were monitored during cased hole wireline logging in Begumganj-3 workover well. After evaluating the log data of Begumganj-3, new zones were identified and the well was prepared for production after successful perforation and DST. As a result of such successful operations

about 65-70 MMscfd gas was added to the national grid. Moreover, about 7 MMscfd gas is being produced from Shahzadpur-Sundalpur gas field. Monitoring of the wireline logging operations in different sections of Salda North-1 exploratory well under Rupkalpa-1 drilling project and Kasba-1 exploratory well under Rupkalpa-3 drilling project were done. During the FY 2017-18, quality control of open hole reservoir description tool (RDT) and cased hole wireline logging services in Semutang South -1 exploratory well under Rupkalpa-2 has been also monitored. Furthermore,

geological consultancy was provided to BGFCL and SGFL. During the FY under consideration, reserve estimation of new gas sand discovered in Rashidpur-9 well of SGFL, reserve re-evaluation for Shahzadpur-Sundalpur and Shahbazpur gas fields and reserve estimation of Bhola North gas field are worthy to mention.

During the FY 2017-18, mudlogging service has been provided to 1,306m in Kasba-1 exploratory well under Rupkalpa-3 drilling project until the hired mudlogging service



Core-Analysis at Laboratory of BAPEX

Quality control of open hole, reservoir description tool (RDT) and cased hole wireline logging data collected for Shahbazpur East-1 and Bhola North-1 exploratory wells through field supervision have been done. Prospective hydrocarbon bearing zones were identified and perforated prior to conducting DST both manually and with the help of industry leading petrophysical Techlog software. Interpretation of log data and evaluation of prospective commercial gas productivity from the aforementioned wells were also done. After geological analysis, the

arrived on the site. Mudlogging services were monitored in Kasba-1, Salda North-1 and Semutang South-1 exploratory wells. Geological technical orders (GTO) of Mobarakpur South-East-1, Kasba-1, Salda North-1, Semutang South-1, Srikail East-1, Srikail North-1, Madarganj-1, Tabgi-1, Illisha-1 and Bhola North- 2 have been prepared. Preparation of GTO of Zakiganj-1 is in progress.

Following the directives of Petrobangla and Energy and Mineral Resources Division and request from local administration, 12 gas and one oil seepage areas in different places of 13 districts were investigated. Investigation reports were prepared and sent to the proper authorities after laboratory analysis of the samples.

2D Seismic Survey : The work programmes for carrying out 3,600 lkm of 2D seismic survey have been approved the authority. Areas to over are Khulna and Bagerhat as well as Dhaka, Manikganj, Kishorganj, Narayanganj, Cumilla, Fraridpur, Gopalganj, Shariatpur, Madaripur, Narail, Netrokona, Tangail, Gazipur, Jamalpur, Sherpur, Mymensing and Bogura, of the exploration blocks 2B, 3B, 6A, 6B, 8, 9 and 11 and Barishal, Sylhet, Habiganj, Moulvibazar, Bramhanbaria, Sunamganj, Narsingdi, Feni, Chattogram and Khagrachari of exploration blocks 10, 12, 13, 14 and 15. Seismic data have already been collected from the target 3600 lkm. About 8-9 prospective leads/ prospects have been identified and well proposals have been recommended. Under the 2D seismic survey over exploration blocks 3B, 6B and 7 project of Bapex, a total of about 2,226 lkm 2D seismic data have been acquired by hired international seismic survey contractor during the field season 2017-18 in Dhaka, Gazipur, Narayanganj, Munsiganj, Manikganj, Tangail, Rajbari, Fraridpur, Shariatpur, Madaripur, Gopalganj, Barishal, Pirojpur, Jhalokathi, Patuakhali, Barguna, Bhola and Bagerhat areas under exploration blocks 3B, 6B and 7. After thorough investigation 20 potential seismic lead have been identified

which demand extensive exploration activities to keep up the growing demand of natural gas for the fast growing economic development of the country.

3D Seismic Survey : With a view to meeting the growing gas demand of the country and demarcate new well locations in the discovered gas fields or hydrocarbon prolific structures, a project titled "3D Seismic Project of BAPEX" at an estimated cost of Tk. 2,477.00 million with gas development fund (GDF) finance has been approved by the Energy and Mineral Resources Division for the time period from December, 2012 to November, 2019. A work plan has been undertaken to acquire 3D seismic data over 2,700 sq. kms area of Sunetra, Srikail, Sundalpur-Begumganj, Shahbazpur, Narsingdi, Mubarakpur, Rupganj, Fenchuganj and Semutang gas fields or structures. Data from a total of 500 sq. kms area has been collected during 2017-18 field season that includes 300 sq. kms of Fenchuganj gas field and 200 sq.kms of Rupganj gas field. 3D Seismic survey over 2,450 sq. kms area have been accomplished under this project so far. 3D seismic data interpretation of Fenchuganj gas field and data processing of Rupganj gas field area is in progress

Drilling

Shahbazpur East-1 well : Under the Rupkalpa-4 drilling project and an agreement concluded between BAPEX and Gazprom, the drilling operation of Shahbazpur East-1 well started on 21 August, 2017 and completed on 18 October, 2017. About 25 MMscfd of gas is ready to be supplied to the national grid.

Bhola North-1 well : Under the Rupkalpa-4 drilling project and an agreement concluded between BAPEX and Gazprom, the drilling operation of Bhola North-1 well started on 9 December, 2017 and completed on 23 January, 2018. About 30 MMscfd of gas is ready to be supplied to the national grid.



Seismic survey activities of BAPEX

Salda North-1 well : Under the Rupkalpa-1 drilling project, the drilling operation of Salda North-1 well started on 11 May, 2018 using ZJ70DBS Rig. The drilling ended up at 2,815 meter depth.

Kasba-1 well : Under the Rupkalpa-3 drilling project, the drilling operation of Kasba-1 well started on 27 April, 2018 using ZJ50DBS Rig. The drilling ended up at 2,335 meter depth.

Workover

Shahbazpur-1 well : Under the Rupkalpa-4 drilling project, the workover operation of Shahbazpur-1 well started on 10 January, 2018 using IPS Card Garder Denver rig and completed on 26 May, 2018. About 25 MMscfd of gas are to be produced from here to add to the national grid.

Begumganj-3 well : Under the Rupkalpa-5 project the workover operation of Begumganj-3 well started on 13 March, 2018 using IDECO rig and completed on 23 June,

2018. About 14 MMscfd of gas are being produced from here to add to the national grid.

Habiganj-1 well : Under the agreement concluded between BAPEX and BGFL, the workover operation of Habiganj-1 well started 7 May, 2018 using ZJ40DBT rig and completed on 31 June, 2018. About 15 MMscfd of gas are being produced from here to add to the national grid.

Titas-15 well : Under the agreement concluded between BAPEX and BGFL, the workover operation of Titas # 15 well started on 19 November, 2017 using IDECO rig and completed on 6 December, 2017 on completing the well. About 15 MMscfd of gas are being produced from here to add to the national grid.

Kailashtila-1 well : After commissioning of the newly bought XJ650T workover rig the workover operation of Kailashtila-1 well is being carried out.

Production

In the FY 2017-18, total 968.7 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 36.08% of total gas produced during FY 2017-18. BAPEX was assigned with production activities in 2000. It produced 35.59 BCF gas in FY 2017-18. Total production of these 3 national companies stood 385.13 BCF which was 39.76% of total production of gas during FY 2017-18. The remaining 583.55 BCF gas was produced by IOCs (Chevron and Tullow), which was 60.24% of total production of gas during 2017-18.

Compared to the previous year, Chevron produced 0.96% higher while Tullow, SGFL and BAPEX produced 4.57%, 6.91% and 3.02% lower amount of gas respectively, in FY 2017-18 BGFCL maintained their production almost at the same level of the previous year. The total production in FY 2017-18 stood at 968.7 BCF, averaging about 2,654 MMscfd. Out of this, BGFCL produced 301.77 BCF, SGFL 47.77 BCF, BAPEX 35.59 BCF, Chevron 550.62 BCF and Tullow 32.93 BCF. The major gas producing fields of the companies under Petrobangla are : Titas Gas Field contributing 20.15%, Habiganj 8.25%, Kailashtila 2.37% and Rashidpur 2.02%, whereas major producing fields under IOCs are : Bibiyana contributing 46.08%, Jalalabad 9.49%, Moulvibazar 1.28% and Bangura 3.40%.

At the end of FY 2017-18, 20 gas fields were in production with 110 flowing wells. Out of these fields, 5 were operated by BGFCL, 4 by SGFL, 7 by BAPEX, 3 by Chevron and 1 by Tullow.

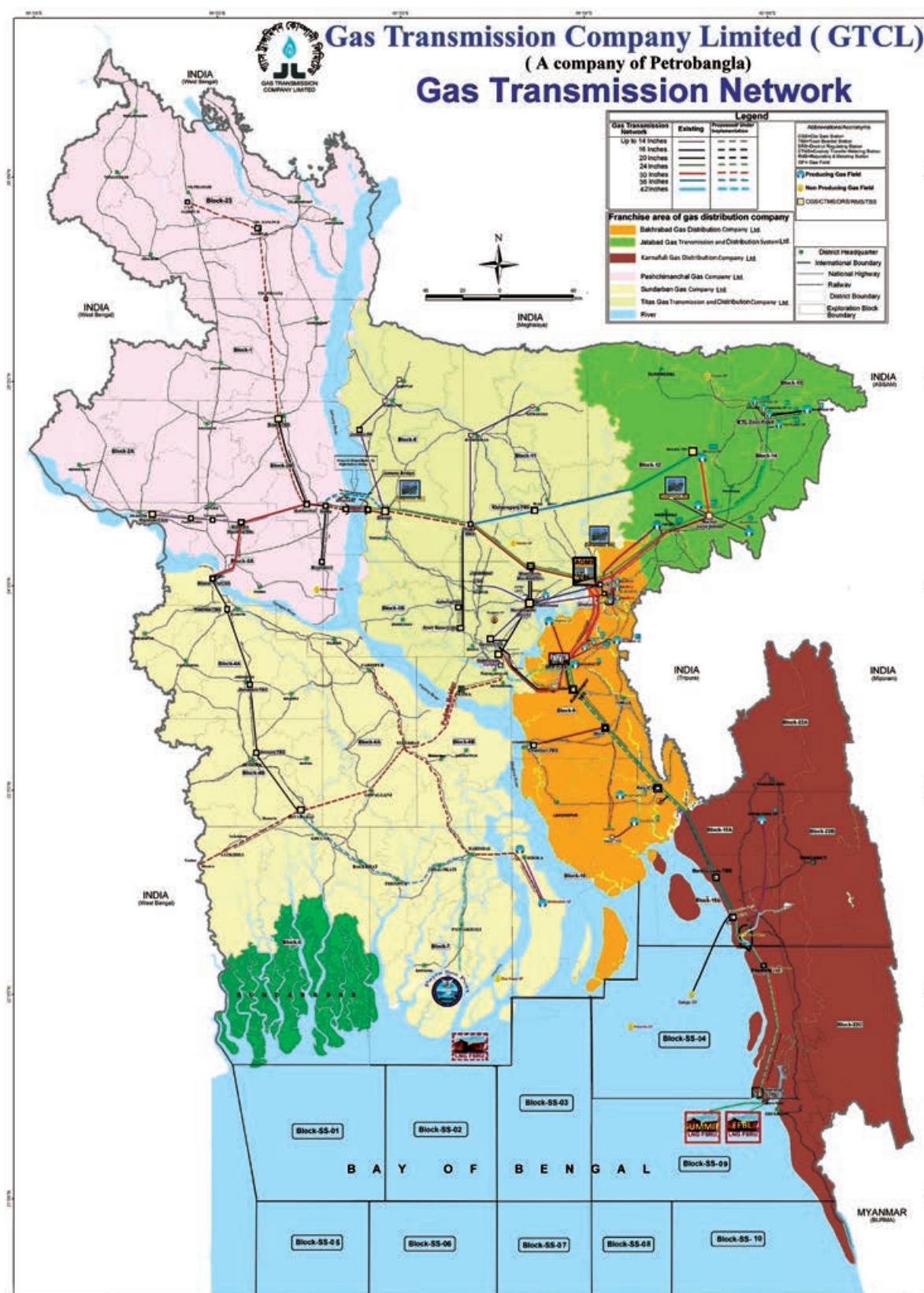
During the period from July to December 2018, Chevron and Tullow produced 286.55 BCF and 15.78 BCF gas respectively while local companies produced 194.25 BCF gas, making total of 496.58 BCF. In the same period, 31.45 BCF imported RLNG was fed into the national gas grid.

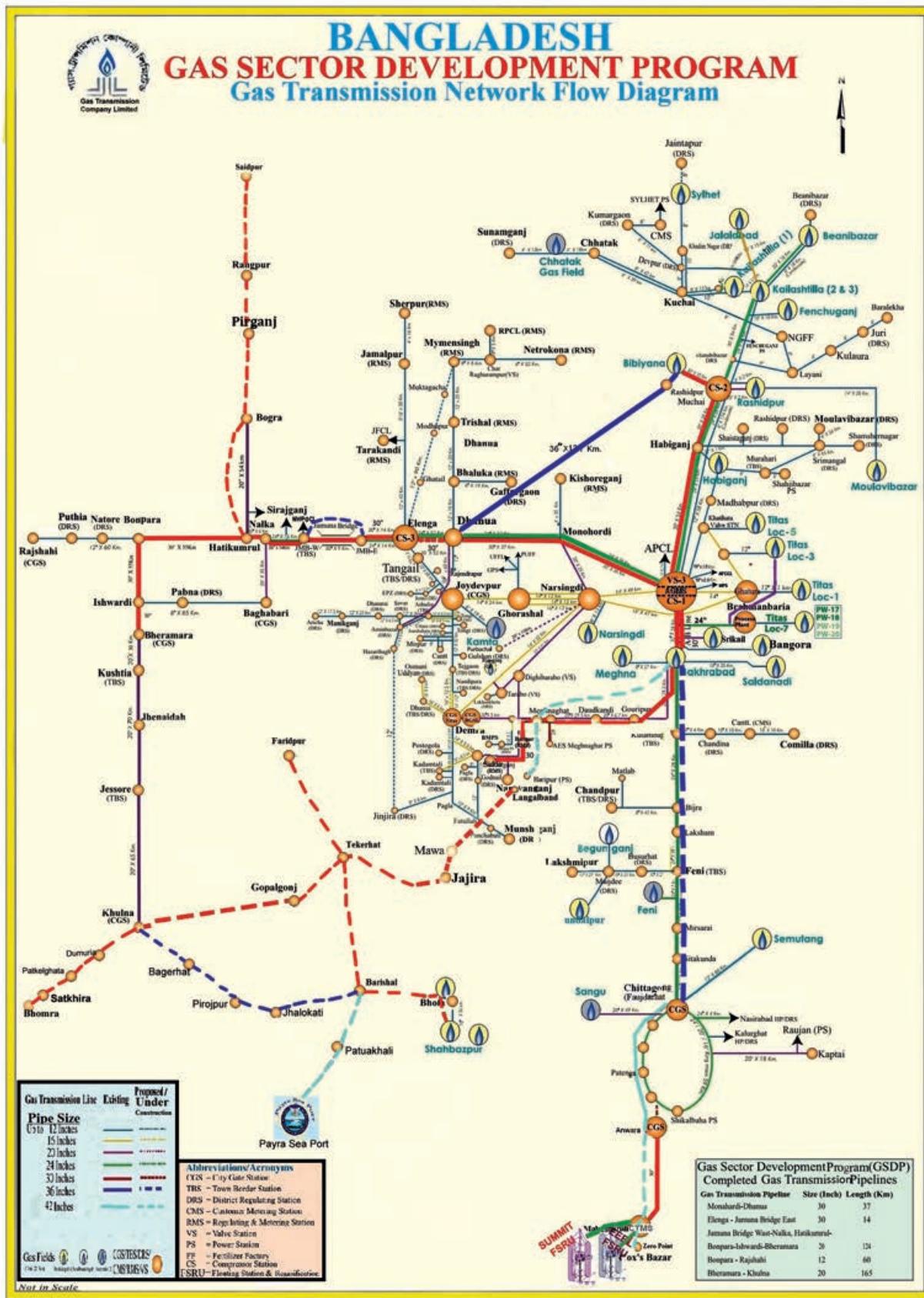
Transmission

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. GTCL has undertaken a number of gas transmission pipeline construction projects to ensure the transmission capacity; these include Moheshkhali-Anowara 30" x 91 km gas transmission pipeline, Anowara-Fouzdarhat 42" x 30 km gas transmission pipeline, Moheshkhali-Anowara 42" x 79 km gas transmission parallel pipeline, Moheshkhali Zero Point (Kaladia Chor) - CTMS (Dholghat Para) 42" x 7 km gas transmission pipeline, Bakhrabad-Feni-Chattogram 36" x 181 km gas transmission parallel pipeline, Monohordi-Dhanua and Elenga-East Bank of Jamuna Bridge 30" x 51 km gas transmission pipeline, Dhanua-Elenga and Bangabandhu Bridge West Bank-Nalka 30" x 67.2 km gas transmission pipeline, Hatikumrul-Ishwardi-Bheramara 30" x 87 km gas transmission pipeline, Bonpara-Rajshahi 12" x 53 km gas transmission pipeline, Bogura-Rangpur-Saidpur 30" x 150 km gas transmission pipeline, Bheramara-Khulna 20" x 165 km gas transmission pipeline, Bakhrabad-Siddhirganj 30" x 60 km gas transmission pipeline, gas transmission capacity expansion- Ashuganj-Bakhrabad 30" x 61 km gas transmission pipeline, 24" x 7.5 km gas transmission pipeline from Titas location no. 7 to A-B pipeline, Bibiyana-Dhanua 36" x 137 km gas transmission pipeline, installation of compressor stations at Ashuganj and Elenga by GTCL and expansion of existing supervisory control and data acquisition (SCADA) system of national gas grid under GTCL to enhance the gas transmission capacity. Among them, construction of 30" x 51 km Monohordi-Dhanua and Elenga-East Bank of Bangabandhu Bridge gas transmission



Gas Transmission Company Limited (GTCL)
(A company of Petrobangla)
Gas Transmission Network







pipeline, Hatikumrul-Ishwardi-Bheramara 30" x 87 km gas transmission pipeline, Bonpara-Rajshahi 12" x 53 km gas transmission pipeline, Bibiyana-Dhanua 36" x 137 km gas transmission pipeline, 24" x 7.5 km gas transmission pipeline from Titas location no. 7 to A-B Pipeline, Bheramara-Khulna 20" x 165 km gas transmission pipeline, gas transmission capacity expansion- Ashuganj-Bakhrabad 30" x 61 km gas transmission pipeline, Bakhrabad-Siddhirganj 30" x 60 km gas transmission pipeline, construction of 10" x 7.70 km interconnection gas transmission pipeline from Titas Gas Field (Location C-B-A) to Titas-A-B Pipeline Project, Sarail-Khatihata and Malihata-Khatihata 20" x 3.5 Km gas transmission pipeline Project, Moheshkhali-Anowara 30" x 91 km gas transmission pipeline, Anowara-Fouzdarhat 42" x 30 km gas transmission pipeline, installation of compressor stations at Ashuganj and Elenga by GTCL 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) have already been completed.

Running projects are :

- › Dhanua-Elenga and Bangabandhu Bridge West Bank-Nalka 30" x 67.2 km gas transmission pipeline.
- › Bakhrabad-Feni-Chattogram 36" x 181 km gas transmission parallel pipeline.
- › Moheshkhali-Anowara 42" x 79 km gas transmission parallel pipeline.
- › Construction of 30" x 6.15 km Padma river crossing gas transmission pipeline.
- › Construction of Moheshkali Zero Point (Kaladia Chor)- CTMS (Dholghat Para) 42" x 7 km gas transmission pipeline.
- › 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 138.86 km pipelines of various sizes and grades were completed during the year 2017-18; these included 112.63 km transmission pipeline, 0.01 km distribution pipelines, 9.86 km feeder main and service lines and 16.36 km others (customer financing) pipelines. As on June, 2018 the gas pipeline network encompassed about 24,193.13 km comprising of about 2,841.57 km transmission lines, 2,380.72 km distribution lines, 235.20 km lateral lines, 16,704.93 km feeder main and service lines and the rest 2,030.71 km other (customer financing) lines.

As in December, 2018 the pipeline network increased to about 24,239.25 km, which included about 2,871.57 km transmission lines, 2,380.73 km distribution lines, 235.74 km lateral lines, 16,706.40 km feeder main and service lines and the rest 2,044.81 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 (TGTDL), (2) Bakhrabad Gas Distribution Company Limited (BGDCL), (3) Jalalabad Gas Transmission and Distribution System Limited (JGDSL), (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 this financial year was about 981.98 BCF, of which TGTDCL, being the largest shared about 61%, followed by BGDCL 13%, KGDCL 8.5%, JGDSL 12.2%, PGCL 2.1% and SGCL 2.8%. Gas sector catered to 4.227 million customers under various categories as in June, 2018 which raised to 4.3 million at the end of December, 2018. Most of these customers are of domestic category.

Condensate and Natural Gas Liquids (NGL)

Some of the gas fields located in north-eastern part of Bangladesh contain high concentration of liquid hydrocarbon. Production of value added finished petroleum products from this liquid hydrocarbon or condensate is becoming a growing activity. With the introduction of 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 fractionating condensate 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 2017-18, a total of 510,018 barrels of condensate was produced by SGFL, BGFCL and BAPEX and 3,812,899 barrels by IOCs as a by-product of gas. During the same period, SGFL extracted 155,484 barrels of NGL from the gas processed in its Mole-Sieve Turbo Expander plant at Kailashtila. On the other hand, a total of 860,748 barrels of petrol, 353,383 barrels of diesel and 79,799 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 co-ordinate 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. Approximately 3.95 BCF of CNG is used every month from 599 CNG stations, which is about 5% of the total gas consumption in the country. Consequently, the Government has been able to save about Tk. 12,290.0 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 5,517 metric tons of LPG by processing NGL in its fractionation plants at Kailashtila in Sylhet in 2017-18.

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 quantity of LNG. 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 19 August, 2018 and RLNG is being supplied to the national gas grid from this FSRU. The second FSRU (by Summit) expected to be commissioned by April, 2019. In addition,



feasibility study has been completed to install land based LNG terminal in Kutubdia, Cox's Bazar and Paira, Patuakhali. Due to

sales purchase agreements (SPA) have been signed with Ras Laffan Liquefied Natural Gas Company Limited (3) of RasGas, Qatar



Signing ceremony of LNG SPA between Petrobangla and OTI

some constraints in those places, Matarbari has been selected as alternative site for construction of a land based LNG terminal having a capacity of handling 7.5 MTPA of

and with Oman Trading International (OTI), Oman for supplying LNG to these terminals. Construction of 30" transmission pipeline from Moheshkhali to Anowara in Chattogram



LNG FSRU at Moheshkhali

LNG equivalents to 1,000 MMscfd of gas. Initial activities such as feasibility study, land acquisition etc. have been started for installation of this terminal. Two long terms

and another 42" gas transmission pipeline from Anowara to Fauzdarhat have been completed to evacuate RLNG/Gas after fulfilling the demand of Chattogram region.

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 from which commercial production have been going on. The country's only granite mining company "Maddhapara Granite Mining Company Ltd." at Dinajpur has been extracting granite which is used mostly as construction material.

Coal

Energy is the lifeblood of today's economy - it is the most potential foundation of economic growth for a country and constitutes one of the vital infrastructural inputs in socio-economic development. Energy demand has grown leaps and bound to attend the higher economic growth. At present natural gas is the main indigenous energy source of Bangladesh that accounts 54% of the total electricity generation. But depletion of natural gas gives the uncertainty of sustainable supply of naturally occurring fuel. 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. Increased use of coal for electricity generation would release natural gas for alternative use. Five coal fields have been discovered so far in the north-western part of Bangladesh. These are Khalaspir coal field in Rangpur, Barapukuria, Phulbari and Dighipara coal fields in Dinajpur and Jamalganj coal field



Water treatment plant of BCMCL

in Joypurhat/Naogaon. The total estimated reserve of these 5 coal fields is 3.565 billion



Coal conveyor belt of BCMCL



metric tons. But a recent study suggested that the reserve of Jamalganj basin is about 5.45 billion metric tons. If this reserve is confirmed by further exploration, then total coal reserve of our country would be 7.96 billion metric tons.

Out of these 5 coal fields, Petrobangla has developed the first and only coal mine of the country at Barapukuria. Commercial production started from September, 2005 with a capacity of 1 million metric ton per annum and up to December, 2018, total 10.48 million metric tons of coal was produced from this coal mine. At present daily production is approximately 3000-3500 metric tons. In the FY 2017-18, total 0.92 million metric tons of coal has been produced.



Underground mining operation at BCMCL

Presently entire amount of produced coal are being used to operate the 525 MW coal fired Barapukuria thermal power plant. According to power system master plan (PSMP) 2016, the demand of coal by 2030 would be 50 million tons/year approximately. To enhance the present production of Barapukuria Coal Mine, a project named "Feasibility Study for

extension of existing underground mining operation of Barapukuria Coal Mine towards the Southern and the Northern side of the basin without interruption of the present production" had been undertaken. This project is now completed by submitting the report. Development phase for underground mining operation of extension of southern and northern side of the basin is scheduled to begin in 2019 and expected to commence production 1.6 million tons of coal yearly from January, 2024. Feasibility study for an open pit mine in the northern part of Barapukuria coal field is under process.

Petrobangla conducted a feasibility study in the 1st stage on Dighipara coal field which proves the prospect of this coal field and coal reserve

has been estimated as 865 million metric tons. In the 2nd stage, a project named "Techno-Economic Feasibility Study of Coal Deposit at Dighipara, Dinajpur" has been undertaken to develop an underground coal mine at Dighipara with a target production of 3 million tons/year. Feasibility study of the project will be completed by March, 2020.

Petrobangla has carried out a feasibility study project during the year 2015-16 for extracting coal bed methane (CBM)

from Jamalganj coal field. The study was concluded non economic viability of CBM extraction from this field. But the study recommended that the coal of Jamalganj coal field should be explored in details for extracting eventually. This study suggested that the coal is extractable by underground mining especially in the north-western 15

sq km area of Jamalganj basin where the upper coal seams occur at a comparatively shallower depth (600-800m). The economic viability or reserve has not been assessed but the reserve is expected to be 5.45 billion metric ton. Petrobangla has a plan to conduct further comprehensive feasibility study with a view to developing an underground mine in the north western part, comparatively at 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, for ex. Jamalganj coal field, Khalaspur coal field and Phulbari

Presently, the government has been putting efforts to finalize a coal policy wherein the strategies and rules of coal extraction will be spelled out. It is expected that the upcoming coal policy will be helpful for exploration and exploitation of domestic coal fields.

Granite

Maddhupara 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 2017-18, a total 7,59,333.22 metric tons



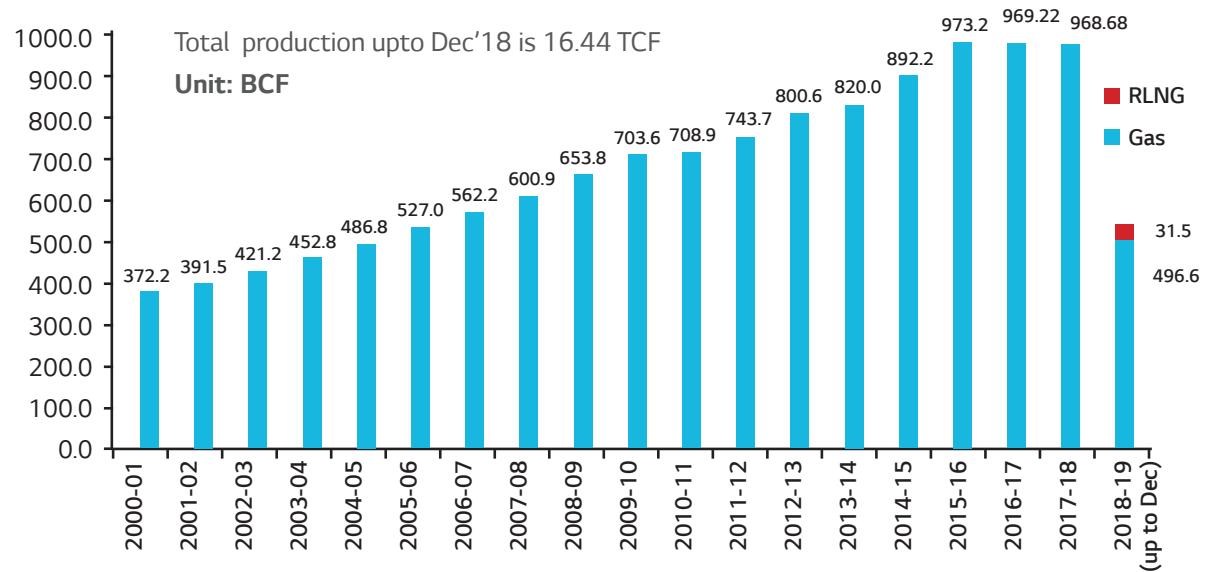
Underground drilling at MGMCL

coal field. Development of coal fields can be augmented by engaging foreign and local investors. However to get rid of the present energy crisis the development/production of indigenous coal resources need to be augmented on a priority basis.

of granite was extracted from the mine and 6,48,088.56 metric tons was sold.



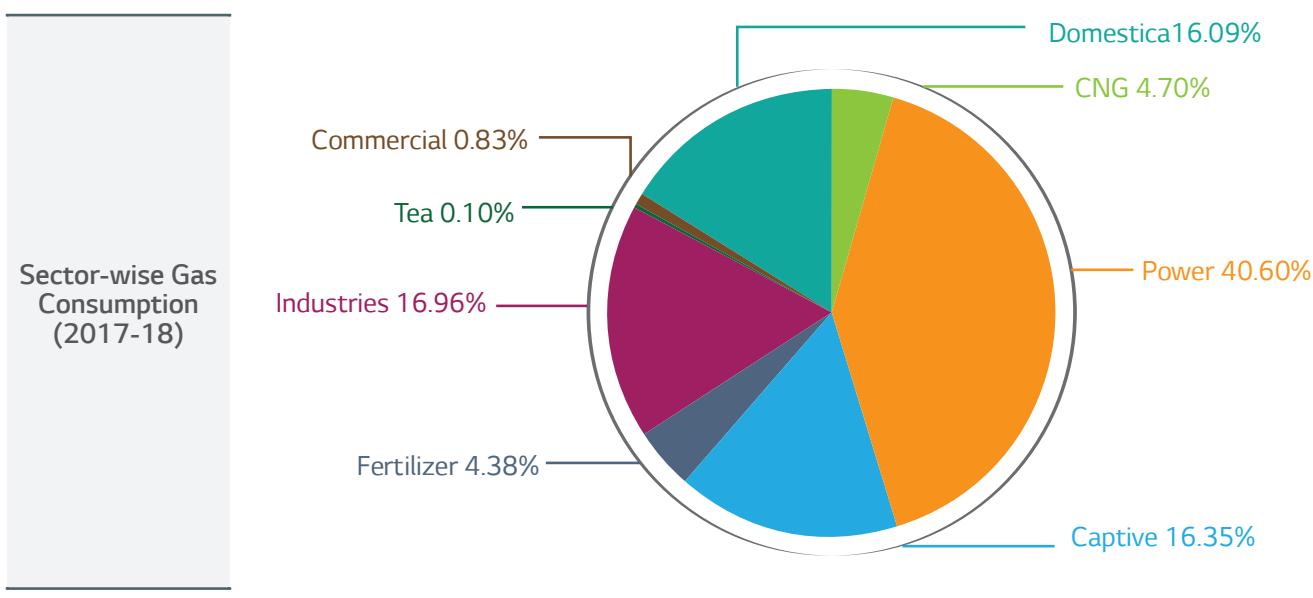
Gas Production in Bangladesh



Marketing

By the end of 2017-18 financial year, total sales was 981.98 BCF, of which power sector (Grid + Non-Grid) consumed the largest part amounting to 398.64 BCF followed by fertilizer sector 42.98 BCF, captive power 160.53 BCF, industry 166.56 BCF, domestic sector 157.95 BCF, and other non-bulk

sectors 55.31 BCF. As in December, 2018 gas sector catered to more than 4.3 million customers of various categories. Most of this customers fall under domestic category; however, power sector remained the largest consumer.



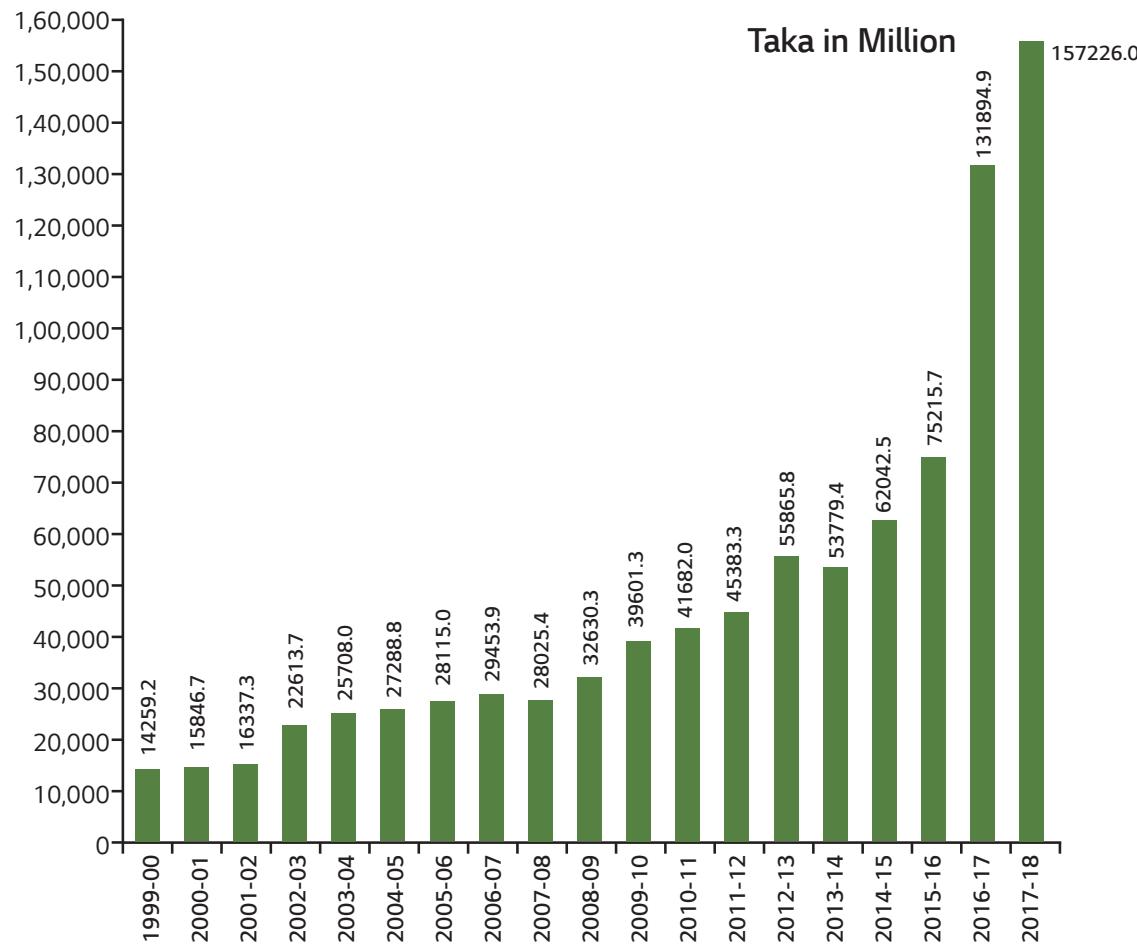
Financial

The gross income in the FY 2017-18 by Petrobangla and its 13 companies from sales of gas, gas derived liquids, coal and granite stood at Tk. 4,01,458.73 million. After paying supplementary duty (SD) and VAT, net income was Tk. 3,09,286.42 million. Gross expenses,

Innovation Programme

Petrobangla is focusing to achieve digital Bangladesh as the promises of Bangladesh Government Vision-2021. The role of Petrobangla is very important to graduate Bangladesh from least developed country (LDC) category. Petrobangla has taken some

Payment to National Exchequer



comprising of Tk. 92,172.31 million as SD and VAT along with Tk. 3,09,516.43 million as cost of sales, amounted to Tk. 4,01,688.74 million. After paying income tax, net profit/(loss) stood at Tk. (474.10) million. And after paying dividend of Tk. 9,156.29 million, net profit/(loss) turned out to be Tk. (9,630.39) million.

innovative action plans to accelerate the speed of work, ensure better services, accountability, transparency and easy access to its stakeholder. These are (a) mobile apps to take the meter reading of the metered customer of gas sector by distribution companies of Petrobangla; (b) CNG auto billing and digital payment system by RPGCL; (c) fast customer service mobile apps by JGDSL. Petrobangla



promotes 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 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 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		Total Gas consumption (MMscfd)	Nationwide projection		Carbon Emission reduction (Ton/year)
	Possible Annual Gas savings (MMscf)	Savings to Consumption Ratio of Gas		Potential Gas savings (MMscfd)	%	
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

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 2014-15. APA between Energy and Mineral Resources Division (EMRD) and Petrobangla and individually between Petrobangla and its companies are being signed in the beginning of every FY. Regarding APA in the FY 2017-18, Petrobangla's achievement was 97.20%. In the FY 2018-19, APA was signed between EMRD and Petrobangla on 12 June, 2018 while between Petrobangla and its companies on 11 June, 2018. 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 right



Signing of APA between Petrobangla and its companies



to information (RTI) Act, Petrobangla has specifically designated an officer. Besides, Petrobangla has taken initiatives to make its employees well acquaintance with the provisions of the Act, Rules and Regulations.

National Integrity Strategy

As per government's decision and to implement national integrity strategy at the corporation level, time bound action plan for the FY 2018-19 has been prepared on 9 July, 2018. A committee has been formed to implement national integrity strategy in the corporation. Time bound action plan report of 1st quarter was sent to EMRD on 10 October, 2018. An officer has been appointed as focal point for implementation of national integrity strategy. Major portion of the time bound action plan has already been implemented.

Information Technology

Petrobangla and its companies has been established video-conferencing system for direct communication to save time and labor. Interactive boards have also been setup in the board room and conference room of Petrobangla for digital presentation, touch mode activity and high resolution video showing. The internet bandwidth has been increased at Petrocentre for LAN and Wi-Fi network connection to ensure internet based activities like e-Nothi system and e-Government procurement (e-GP) portal. Petrobangla maintains an updated website which is both in English and Bangla version. 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 stakeholder.

Human Resources Development

As a part of the continuing efforts to upgrade its manpower resources to meet the changing need 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 gas industry, introduction of private venture as sole or joint collaboration, taxation regime, tariff mechanism and overall reinvigoration of the sector, regular and frequent participations are ensured by the widest possible selection of personnel in various training, workshops and seminars.

During the FY 2017-18, Petrobangla group arranged foreign training of different durations and disciplines for 607 personnel, while 24 participants were sent for attending seminars/conferences, 7 for attending workshops, 38 for attending meetings, 89 for inspections and 7 for study tours. During the same period, local training was imparted to 455 personnel, while 52 were sent for attending seminars/conferences, 48 in workshops, 23 in meetings, 15 in conventions and 3 in lectures held in the country.



Opening of Annual Sports-2018 of Petrobangla

Grievance Redress System

Grievance redress system (GRS) provides a way to reduce risk for 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 and Mineral Resources Division and Petrobangla have signed an annual performance agreement (APA), which includes grievance redress system. An officer has been appointed as focal point for implementation of grievance redress system in Petrobangla. Activities of Petrobangla and its subsidiaries 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.



Seminar on National Energy Security Day 2018



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 have now been 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 has been relinquished in mid 2017 by Santos.
- › Oakland-Rexwood for blocks 17 and 18 (Offshore); transferred to CFP Total who has relinquished both blocks;
- › United Meridian Corporation (UMC) for block 22 (Onshore); relinquished;

1997 Bidding Round

4 blocks were awarded as follows :

- › Tullow/Chevron/Texaco/BAPEX for block 9 (Onshore); Discovered Bangura Gas Field and 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. Conoco Phillips conducted total 5,750 lkm of 2D seismic survey in 2012 and 2013. After interpretation, ConocoPhillips identified few prospects. However, ConocoPhillips relinquished the blocks considering their investment 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 have been 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 Bid :

Three proposals were received for blocks DS-12, 16 and 21 Jointly from ConocoPhillips & Statoil. However, no PSC was signed for any deep sea block under this bidding round as they asked to improve the terms and condition of the Model PSC.

distribution line at a lower regulated pressure.

Bangura : The Bangura field started producing in 2006, peaking at 120 MMscfd in 2010 and thereafter declining to 80 MMscfd in November, 2018 from 4 wells. Two development wells were planned to drill to sustain the rate of production. In December, 2016 one well has been drilled successfully. The drilling of another development well has been deferred to 2019 work program. However, successful well intervention program held in November, 2018 has augmented the field's production by 20 MMscfd. The Bangura field is now producing at around 100 MMscfd.

Operating Fields under PSC in 2017-18

Currently, 4 gas fields are being operated by IOCs under PSC. Of them 3 fields, namely Bibiyana, Jalalabad and Moulvibazar gas fields are being operated by Chevron and Bangura gas field by Tullow/KrisEnergy.

Bibiyana : Bibiyana field is now the largest supplier of gas to the national grid, delivering around 1,200 MMscfd gas and 9,500 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 programs and activities such as thin bed analysis, infill drilling, plant pressure optimization and compression projects are forecasted to execute in future.

Jalalabad : Currently Jalalabad gas field is producing around 240 MMscfd gas and 1,200 bbl/day condensate from 8 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 25 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

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 2017-2018 was around 588 BCF. Since the beginning of PSC operations in Bangladesh in the 1970s, a total of 28 exploration wells have been 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 1 exploratory well in block SS-04 very soon. OVL will drill 2 offshore exploratory wells in block SS-09 and SS-04 by February, 2021. In block SS-11 Santos conducted 3,050 lkm of 2D seismic survey in 2015. Later they conducted 305 sq. km. 3D seismic survey in May, 2017. Interpretation and integration of the 3D data sets have been completed. By March, 2021 Santos will drill 1 exploratory well in block SS-11.

The GOB has given the highest emphasis on

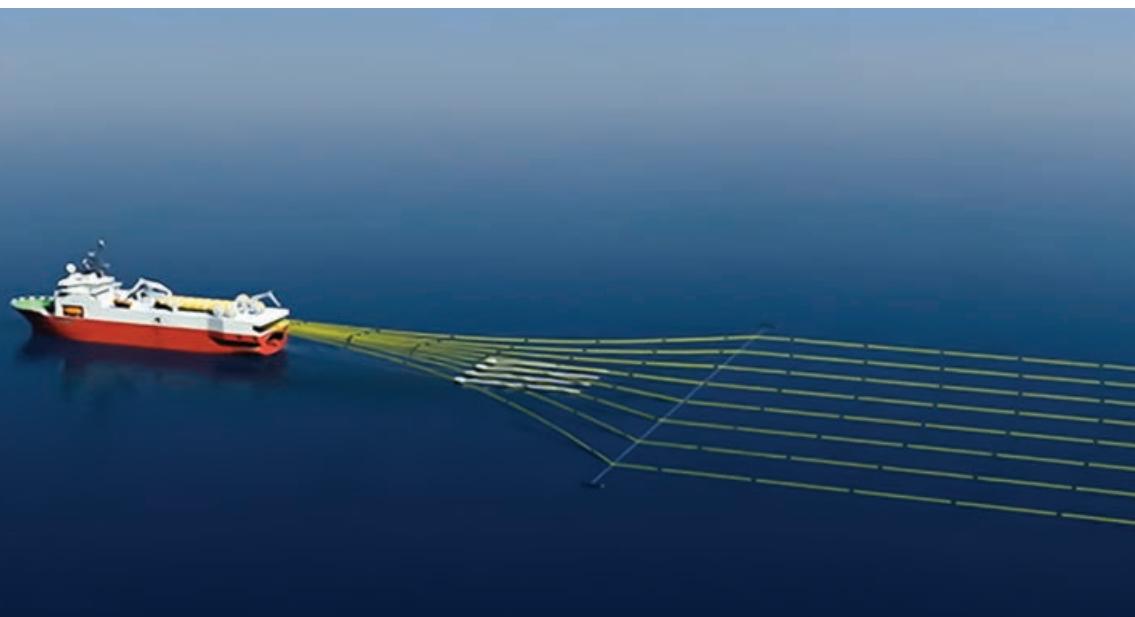


rapid industrialization and modernization of the country. Implementation of this program requires increased supply of commercial energy. Accordingly, under "Quick Enhancement of Electricity and Energy Supply (Special Provisions) Act, 2010", a PSC was signed for deep sea block DS-12 with POSCO DAEWOO Corporation in March, 2017. Initially POSCO DAEWOO Corporation carried out 3,560 lkm 2D seismic survey. Five Leads have been identified in this block, among the 5 Leads 2 (two) Leads are very potential. POSCO DAEWOO Corporation is planning to conduct 1,000 sq. kms of 3D Seismic Survey in this block by December, 2019.

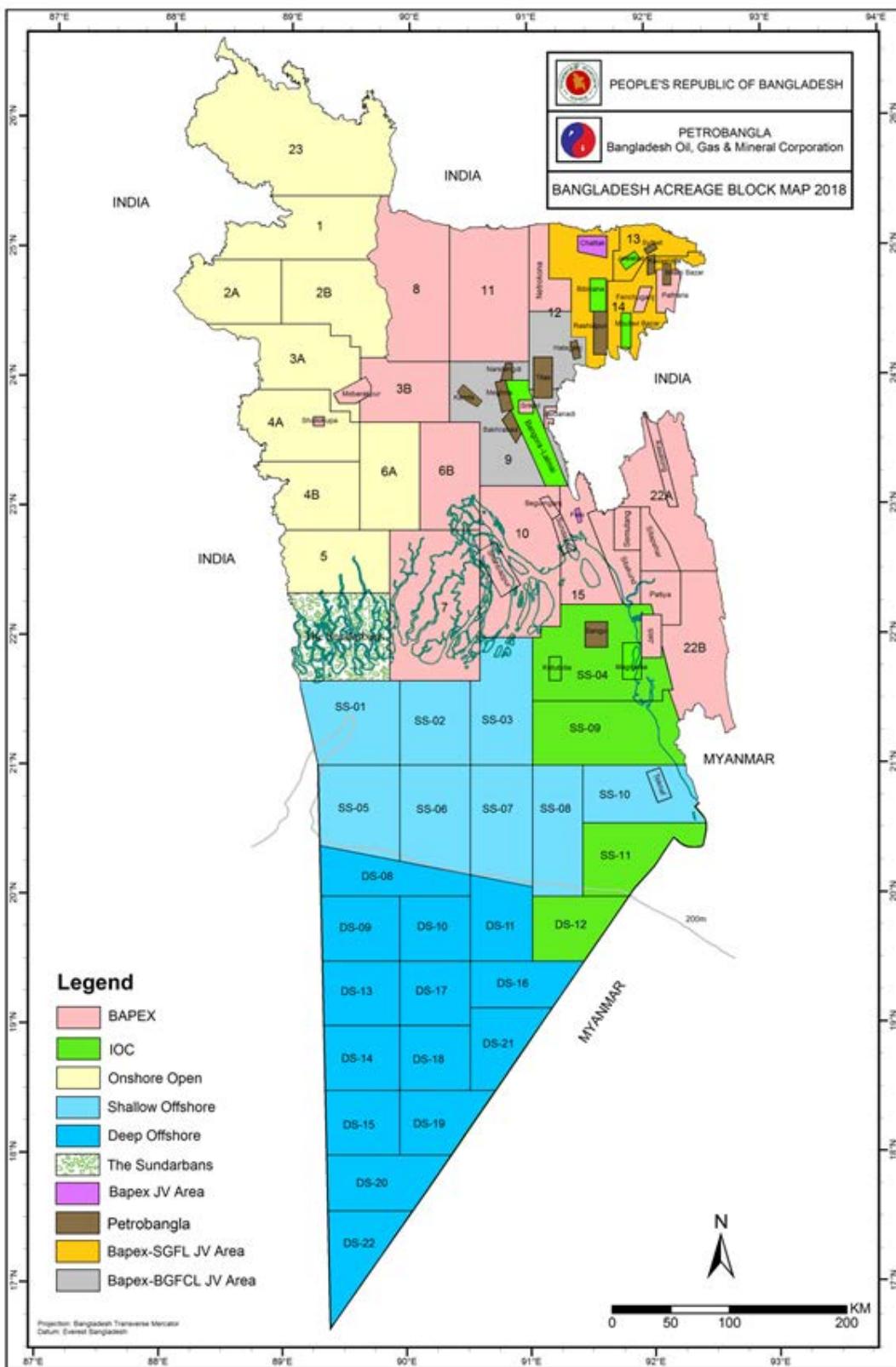
Blue economy

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 waters altogether comprising territorial sea and an exclusive economic zone extending out to 200 nautical miles (370 km). Our neighbors are already exploiting their subsea energy resources with rich dividends. High investments are required for deep sea

exploration and production and countries successful in attracting foreign investments for offshore exploration have been quick to recognize, address and accommodate this issue in their model PSC offerings. We have to make it attractive for IOCs to explore in our waters. Only intensive offshore exploration activity can enable Bangladesh to tap the huge reservoirs of riches trapped beneath our seas. Under the blue economy activities of the government, Peterobangla is implementing 6 programmes, out of which 2 programmes are incorporated as fast-track of the government. One of the programmes is up gradation of existing Model PSC 2012 which has already been upgraded and split into "Onshore Model PSC 2019" and "Offshore Model PSC 2019". New bid round will be announced upon approval of the authority. The other programme is to undertake 2D Non-Exclusive Multi-Client Seismic Survey in the offshore area of Bangladesh. The objective of the 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. Bids have been invited, received and evaluated. Government approval is now awaiting for signing the contract with successful bidder.



Bangladesh Block Map, 2018

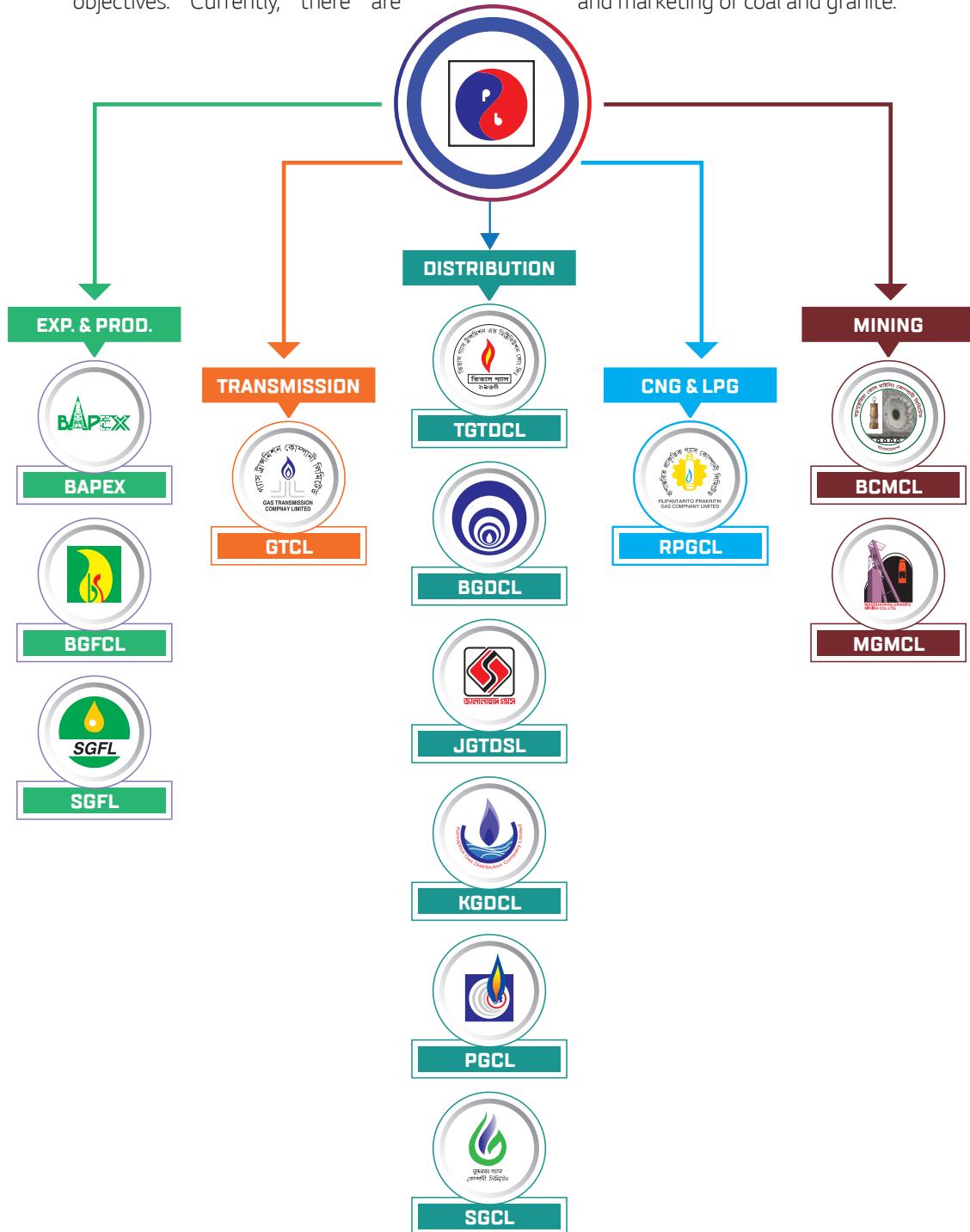




Companies of Petrobangla

Over the years, the activities of Petrobangla has 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 (Toilo Sandhani) till 1974 and continued under Exploration Directorate of BOGMC (Petrobangla) for the next 15 years, after which, 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 now producing and supplying about 120 MMscfd of gas to the national grid from its 7 gas fields, namely Saldanadi, Fenchuganj, Shahbazpur, Semutang, Sundalpur, Begumganj and Srikail. Fiscal year 2017-18 was a successful one for BAPEX. With a view to attaining the goal of 'Vision 2021', the Government has already approved 10 different projects titled as 'Rupkalpa' for BAPEX to be implemented under the "Speedy Supply of Power and Energy (Special Provision) Act 2010". Under the drilling project of Rupkalpa-4 and a drilling contractor agreement between BAPEX and Gazprom EP International B.V, the drilling operation of Shahbazpur East-1 well

was successfully completed on 31 October 2017. On the basis of geological evaluation, DST in 2 zones was conducted and after DST, 25-30 MMscfd gas flow has been confirmed. Under the same project and agreement, according to the location and design given by BAPEX, the drilling operation of Bhola North-1 exploratory well was successfully completed on 11 January 2018. Gas flow of 25-30 MMscfd has been confirmed at 2 different zones by DST operations. The Hon'ble Prime Minister declared Bhola North-1 as the 27th gas field of the country. As per primary analysis, the estimated reserve of this gas field is 600 BCF. The Hon'ble Prime Minister has assented on drilling of additional 2 exploratory wells (Togbi-1 and Ilisha-1) and 1 appraisal/development well at Bhola North gas field.

BAPEX has drilled 11 exploratory wells, out of which 7 gas fields have been discovered. Since its inception, BAPEX has successfully completed workover operations of 36 wells, drilling of 11 exploration wells and 21 development wells. Experience of exploring oil and gas gathered over a period of 29 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 Kris-Energy Bangladesh Ltd. for shallow-sea block SS-11. The Government of Bangladesh has nominated BAPEX as stakeholder carrying 10 percent interests for these blocks. An exploration well named Kanchon-1 will be drilling in block SS-4 in the upcoming dry season. On the



other hand Santos Sangu Fields Limited has a plan to conduct 3D seismic survey in the shallow sea block SS-11. As a stake owner, BAPEX monitors the activities taking place in those blocks. BAPEX, as 10% participatory partner with Tullow Bangladesh (Krisenergy) and Niko Resources Limited in PSC block-9 monitors the operations of Bangora gas fields. At present about 83 MMscfd of gas is being produced from Bangura gas fields.

During the FY 2017-18, total income of BAPEX stood at Tk. 2,647.50 million, of which Tk. 1,214.60 million (excluding SD and VAT) earned from sales of natural gas and condensate of own gas fields, Tk. 534.80 million received from different gas marketing companies of Petrobangla as "BAPEX Margin" on gas sales and Tk. 898.10 million earned from PSC Block-9, interest income and income from other sources. Against this income, total expenditure stood at Tk. 3,651.00 million during the year. The net loss after tax of the company stood at Tk. 1,020.10 million. During the FY, the revenue reserve stood at Tk. (1,597.80) million after prior year's adjustment costs of Tk. (84.50) million and accumulated revenue of Tk. (493.20) million. The Company paid Tk. 2,260.10 million to the government exchequer during FY 2017-18.

Considering its overall activities, for BAPEX, 2017-18 fiscal was a year of making efforts for achieving success overcoming the setbacks. 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 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 : 55
- › Drilling of development wells : 31 and workover: 22
- › Possible enhancement of gas production: Additional 943 (BAPEX 812) MMscfd

On-going Projects during FY 2017-18 are:

Shahbazpur-Sundalpur (Sundalpur-2) appraisal/development well drilling project; 2D seismic survey project; 2D seismic survey over exploration block 3B, 6B and 7; 3D seismic survey project; Rupkalpa-1 drilling project: 3 exploratory wells (Hararganj-1, Srikail East-1, and Salda North-1) and 2 development wells (Srikail North-2 and Kasba-2); Rupkalpa-2 drilling project: 4 exploratory wells (Zakiganj-1, Semutang South-1, Batchia-1 and Saldanadi East-1); Rupkalpa-3 drilling project: 4 exploratory wells (Kasba-1, Madarganj-1, Jamalpur-1 and Sailokupa-1); Rupkalpa-4 drilling project: 2 exploratory wells (Shahbazpur East-1, Bhola North-1) and 2 workover (Shabazpur-1 and 2); Rupkalpa-5 drilling project: 2 exploratory wells (Srikail North-1, Mubarakpur South East-1); 1 appraisal cum development well (Begumganj-4) and 1 workover (Begumganj-3); Rupkalpa-9: 2D seismic project; Rupkalpa-10 procurement project: Procurement of 1 drilling and 1 workover rig with supporting equipment for BAPEX.



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 farsighted 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).

Presently, BGFCL owns 6 gas fields - Titas, Habiganj, Bakhrabad, Narsingdi, Meghna and Kamta. This company continued gas production from 5 gas fields out of its 6 fields in the FY 2017-18. At present, daily on an average 815 million cubic feet gas is being supplied to the national grid from 43 wells of 5 producing fields. BGFCL shares about 30% of country's total gas production. During 2017-18 FY, 301.77 BCF of gas and 192,476 barrels of condensate, extracted as by-product from the gas, were produced by the company. There are 2 fractionation plants at Titas Gas Field and 1 at Bakhrabad Gas Field. The produced condensate from Titas, Habiganj and Narsingdi Gas Fields of BGFCL, Bangura of Tallow, Rupgonj and Srikail of BAPEX are fractionated into MS (Petrol) and HSD (Diesel) in 2 fractionation plants of Titas Gas Field. The produced condensate from Bakhrabad and Meghna Gas Field of

BGFCL and Bangura Gas Field of Tallow and Saldanadi, Srikail and Semutang Gas Field of BAPEX are fractionated into MS (Petrol) and HSD (Diesel) in the fractionation plant of Bakhrabad Field. The products, MS and HSD are delivered to Padma Oil Company Limited and Meghna Petroleum Limited regularly for marketing.

According to the available data, total recoverable gas reserve of 6 fields under the company is about 12.252 TCF, out of which 8.030 TCF or about 65.54 percent was recovered till 30 June, 2018.

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 with the financing of gas development fund (GDF) and financial assistance of JICA and ADB.

Wellhead pressures of producing wells at Titas Location-C and Narsingdi Gas Fields have been declining gradually and hence to supply gas from the wells maintaining national grid line pressure, a project with the financial assistance of JICA has been undertaken for installation of wellhead compressors at these 2 fields. Under the project contract was signed between BGFCL and the consulting firm for procurement of consultancy services. With the help of consultants international re-bidding document has been prepared for engagement of engineering, procurement and construction (EPC) contractor and tender was invited on 27 February, 2018. Bids were received on 21 May, 2018. The evaluation report has been approved by BGFCL board and JICA. The notification of award (NOA) has been issued to the technically responsive and financially lowest bidder and the bidder has already sent the Letter of Acceptance



to BGCL. Draft contract has been initiated between BGCL and the bidder. The initiated draft contract has been approved by BGCL board and sent to JICA for approval.

The draft revised DPP of above project has been approved by BGCL board and sent to the Ministry through Petrobangla for further processing of RDPP for approval.

Another project with the financial assistance of ADB has been undertaken for installation of wellhead compressors at Location-A of Titas Gas Field. Under the project contract has already been signed between BGCL and the consulting firm for consultancy services. Engagement of EPC contractor for installation of compressors is under process.

Besides, another project with the financing of gas development fund (GDF) has been undertaken for workover of 7 wells at Titas, Habiganj, Narsingdi and Bakhrabad Gas Fields. Under the project workover of one well i.e. Habiganj well no. 1 has been completed

and 15 million cubic feet of gas per day is being supplied from this well to the national grid since 5 August, 2018. Bakhrabad well no. 1 will be worked over next under the project. Workover contractor BAPEX has been mobilizing rig and ancillary equipment to Bakhrabad Gas Field and mobilization of rig equipment is expected to be completed by January, 2019. Workover of other 5 wells under the project will be carried out successively.

The company earned gross revenue of Tk. 35,024.3 million and a pre-tax profit of Tk. 798.6 million during the FY 2017-18. The company also paid Tk. 32,419.2 million to the national exchequer in the form of SD, VAT, DSL, Dividend and Income Tax during the year.

In the company, e-tendering has already been introduced under e-response system, web mail is being used for official communications through company's own web site and necessary steps along with training program have been taken to introduce e-filing.



Process Plant of Titas Gas Field under BGCL



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 12 wells (1 at Sylhet, 4 at Kailashtila, 5 at Rashidpur and 2 at Beanibazar) are presently on stream which produce an average of 131 MMscfd. The produced gas is supplied to Jalalabad, Bakhrabad, Pashchimanchal and Karnaphuli gas distribution companies franchised areas. SGFL shares about 5% of country's total gas production. In the FY 2017-18, SGFL produced 47.77 BCF of gas and 284,798.21 barrels of condensate and 155,484.22 barrels of natural gas liquids (NGL) from its own fields. The company also produced 943,136.77 barrels of finished petroleum products - petrol, diesel and kerosene-by fractionating condensate from its own fields and Bibiyana Gas Field operated by Chevron.

The company has been implementing various development projects with the objective of diversifying its activities and enhancing company's revenue income. The ongoing projects include: (i) Installation of a 4000-bbl/day capacity condensate fractionation plant (CFP) at Rashidpur; (ii) Installation of a 3000-bbl/day catalytic reforming unit (CRU) at Rashidpur to convert Petrol into Octane, (iii) 3-D Seismic Data and Report Review, (iv) Drilling of well no. Sylhet-9 and (v) Work-over of 3 wells under Sylhet Gas Fields Limited.

During the FY 2017-18, the company earned an amount of Tk. 4,603.9 million from the sales of 47.69 BCF of gas and Tk. 10,890.07 million from the sales of 1,253,079.30 barrels of finished liquid petroleum products such as petrol, diesel, kerosene, NGL and condensate. Company earned pre-tax profit to the tune of Tk. 4,178.6 million during the year and paid Tk. 5,311.5 million as supplementary duty and VAT, Tk. 1,241.4 million as income tax, Tk. 1,500.0 million as dividend and Tk. 67.5 million as DSL. The total contribution by the company to the Government exchequer in the financial year stood at Tk. 8,120.4 million which was 52.41% 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 6 years up to FY 2017-18 and was rewarded by the National Board of Revenue. In the company, e-tendering has already been introduced and necessary steps along with training program have been taken to introduce e-filling.



Kailastila Gas Field of SGFL



GAS TRANSMISSION
COMPANY LIMITED

Gas Transmission Company Limited (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.

access improvement project (NGAIP), (ii) Construction of 30" x 60 km Bakhrabad-Siddhiraj gas transmission pipeline project, (iii) Rehabilitation 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), (iv) Construction of 30" x 66 km Dhanua-Elenga and West Bank of Bangabandhu Bridge-Nalka gas transmission pipeline project, (v) Construction of 30" x 91 km Moheshkhali-Anowara gas transmission pipeline project, (vi) Construction of 42" x 30 km Anowara-Fouzdarhat gas transmission pipeline project (vii) 42" x 79 km Moheshkhali-Anowara gas transmission parallel pipeline project, (viii) 30" x 181 km Chattogram-Feni-Bakhrabad gas transmission pipeline project, (ix) Construction of 42" x 7 km Moheshkhali zero point (Kaladier Char) - (Dhalghat Para) CTMS gas transmission pipeline project and (x) Construction of 30" x 150 km Bogura-Rangpur-Syedpur gas transmission pipeline project.

Up-coming projects are: (i) Construction of 42" x 67 km Kutumbapur-Meghnaghat-Haripur gas transmission pipeline, (ii) Construction of 36" x 70 km Satkhira (Bhomra) - Khulna gas transmission pipeline, (iii) Installation of existing Jalalabad-Kailashtila gas transmission and condensate pipeline in alternate route which are located inside the Sylhet Cantonment, (iv) Installation of existing 24" x 8.2 km and 30" x 13.5 km pipeline from Elenga to East Bank of Jamuna Multipurpose Bridge and 24" x 8 km pipeline from West Bank of Jamuna Multipurpose Bridge to Nalka in alternate route, (v) Construction of 30" x 118 km Khulna-Gopalgonj-Banga gas transmission pipeline, (vi) Construction of 30" x 72 km Langalband-Mawa and Jajira-Banga gas transmission pipeline, (vii) Construction of 36" x 12 km 2nd Bangabandhu Bridge



LNG Evacuation
CTMS, Cox's Bazar of
GTCL

During the FY 2017-18, GTCL transmitted in total 773.47 BCF of gas, 0.37% higher than the previous year, delivering 521.97 BCF, 89.14 BCF, 75.83 BCF, 56.16 BCF, 18.61 BCF and 11.77 BCF to franchise areas of Titas, Bakhrabad, Karnaphuli, Jalalabad, Paschimanchal and Sundarban gas distribution companies respectively. The Company transported a total of 2,126,144 barrels of condensate through its 175 km long north-south condensate pipeline during the year, which was 3.27% higher than the previous year.

Ongoing projects in the year 2018 were :
(i) Installation of compressor stations at Ashuganj and Elenga under natural gas

(Railway) Section gas transmission pipeline, (viii) Construction of 24" x 120 km Bhanga-Faridpur Sadar and Bhanga-Madaripur-Barishal gas transmission pipeline, (ix) Construction of 24" x 60 km Bhola-Barishal gas transmission pipeline, (x) Construction of 24" x 120 km Khulna-Bagerhat-Pirojpur-Jhalokathi-Barishal gas transmission pipeline and (xi) Construction of 36" x 90 km Payra-Jhalokathi gas transmission pipeline.

LNG and transmission pipeline

With the object of reducing present gap between demand and supply of gas in the country, the Government has taken initiatives to import considerable quantity of liquefied natural gas (LNG). In this regard, one FSRU having the capacity of 500 MMscfd has been installed at Moheshkhali in Cox's Bazar and commenced transmission to national gas grid in 19 August, 2018. Another FSRU of a same capacity is being developed at Moheshkhali and is expected to be commissioned by April, 2019. For evacuating imported LNG, GTCL has already constructed 30" x 91 km transmission pipeline from Moheshkhali to Anowara, Chattogram with a view to transporting regasified LNG to Chattogram existing ring main pipeline of KGDCL and to deliver surplus gas to the upstream transmission pipeline. Besides, construction of 42" x 30 km gas transmission pipeline from Anowara to Fouzdarhat, construction of parallel 42" x 79 km transmission pipeline from Moheshkhali to Anowara, construction of 42" x 7 km transmission pipeline from Moheshkhali zero point to Moheshkhali CTMS and construction of 36 " x 181 km Chattogram-Feni-Bakhrabad transmission pipeline are in progress including preparatory works for installation of gas transmission networks in the south and southwestern region of the country.

The company earned an amount of Tk. 6,153.3 million as revenue and Tk. 2,232.1 million as pre-tax profit and contributed an amount of Tk. 5,035.1 million to Government Exchequer during the FY 2017-18.

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 and assistance of the access to information (a2i) program of the Prime Minister's Office for creating digital Bangladesh, the company's e-filemanagement has been 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 related to procurement of goods and services are being completed through the national e-Government procurement (e-GP) portal for ensuring wide participations and establishing equal rights of all bidders and maintaining procurement skill, transparency and accountability.



Construction Work of Dhanua-Nalka Pipeline Project of GTCL



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.

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 Tk 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 share holders 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, Netrakona and Kishoreganj.

Gas Leakage detection,
measurement and
repair work under
CDM project of
TGTDCL



Presently, total length of pipeline owned by the company is 13,074.78 km including 18.37 km built during the FY 2017-18. The total number of customers of the company was 2,734,534 as on 30 June, 2017 which rose to 2,783,134 in June, 2018. Bulk customers of the company include 3 fertilizer plants, 8 government and 36 private power stations. The company hogs about 61% of natural gas market share in Bangladesh.

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



Prepaid gas meter and card of TGTCL

During FY 2017-18, total 598.75 BCF of gas was sold and a sales revenue of Tk. 1,40,375.5 million was earned and the total revenue was Tk. 1,41,899.3 million including meter rent and surcharge. Compared to previous year's revenue of Tk. 1,25,510.5 million, the growth rate in revenue income for the year under review was 13.06% higher. During FY 2017-18 a sum of Tk. 1,36,950.0 million was realized against the revenue income of Tk. 1,41,899.3 million, which was Tk. 4,949.3 million less than the receivable. The company earned a net profit before tax and a net profit after tax of Tk. 4,562.0 million and Tk. 3,389.9 million respectively. The company paid Tk. 5,584.7 million to the Government exchequer during FY 2017-18. During the year the earnings per share (EPS) was Tk. 3.43.

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.

The company has launched a dedicated call center to serve customers. A project is being implemented for installation of 2,00,000 prepaid meter for the domestic customers of Dhaka metropolitan area. 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. During the FY 2017-18, 613 km illegal gas distribution line has been removed and around 2,53,000 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 was 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 pipeline of different categories constructed by the company up to 30 June, 2018 was 3,890.42 km. The cumulative gas connection stood at 4,91,647 as on 30 June, 2018 which includes 19 power, 1 fertilizer, 165 industrial, 76 captive power, 2,139 commercial, 89 CNG and 4,89,158 domestic (Burner) connections.

During the FY 2017-18, BGDCL sold 126.13 BCF gas to its customers, of which power plants consumed 91.68 BCF (72.69%). The company earned Tk. 21,402.85 million as sales revenue, net profit before tax stood at Tk. 2,178.55 million and paid Tk. 1,643.40 million to the national exchequer. The company purchased 119.58 BCF gas and sold 126.13 BCF gas this year. As a result, the system gain of the company stood at 6.55 BCF i.e 5.47%.

In order to mitigate the problem arising from the low pressure situation of gas, the

construction of 8" x 19.40 km transmission line and 8" x 2.23 km lateral line from Bizra off-take to Cumilla EPZ has been completed with BGDCL's own finance. Besides, in order to mitigate the problem arising from the low pressure situation of gas in Ashuganj Fertilizer and Chemical Company Limited (AFCCL), the construction of 10" x 1.03 km gas pipeline from Ashuganj Gas Manifold Station to AFCCL has been completed with the finance of AFCCL during the FY 2017-18.

During the year, under the loan agreement signed between BGDCL and GTCL an amount of Tk. 572.70 million and Tk. 1,562.50 million were paid to GTCL as loan in terms of 12 years repayment period including 2 years grace period for the implementation of "Construction of Anowara-Fouzdarhat Gas Transmission Pipeline Project" and "Construction of Moheskhali-Anowara Gas Transmission Parallel Pipeline Project" respectively.

During the FY 2017-18, the gas connections of 940 nos. of different categories of customers were disconnected due to non-payment of gas bills and illegal use of gas while 4 nos. of CNG filling stations were disconnected for theft of gas through illegal interference to the meter. Besides, 170 km of illegal pipeline of different diameters has 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 in the counter of bank through online system. The company has already established e-tendering procedure for inviting bid.



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 consisting of Sylhet Division.

The company possessed a total of 3,818.90 km gas network comprising of 466.55 km transmission, 1,336.71 km distribution, 1,221.32 km feeder mains and service lines and 794.32 km other (customer financing) pipelines. During the FY 2017-18, the company constructed 0.29 km pipelines including 0.006 km distribution, 0.274 km feeder mains and service lines and 0.01 km others. During the year, the company provided 9 new connections which included 1 power, 1 captive power, 1 CNG, 1 tea estate, 3 industry and 2 commercial connections. The cumulative gas connection stood at 2,23,668 as on 30 June, 2018 which includes 16 power, 1 fertilizer, 107 industrial, 111 captive power, 1,679 commercial, 57 CNG and 2,21,697 domestic (Burner) connections.

During the FY 2017-18, the gas sales of the company was about 120.21 BCF of which power plants consumed 78.75 BCF (65.51%) and others 41.46 BCF. During the year, the company earned Tk. 20,987.8 million as revenue, Tk. 1,848.6 million as net profit before tax and

Tk. 1,201.6 million after tax. The company paid Tk. 1,184.2 million to the national exchequer.

During the year, the company has been able to keep the system loss within the limit of 'zero' percent through the efficient management and proper maintenance of pipeline & equipments and different efforts are being continued to keep the system loss under control.

During the year, gas connection of 2,011 nos. of different categories of customers i.e. 1 captive power, 1 CNG, 106 commercial and 1,903 domestic customers have been disconnected due to non-payment of gas bills amounting to Tk. 48.32 million. Of which, gas connection of 1 captive power, 1 CNG, 46 commercial and 1,528 domestic customers i.e. a total of 1,576 nos. of connections of the customers have been reinstated by realizing Tk. 41.98 million.

Online billing system has been introduced in JGTDSL for all categories of customers. Now customer can pay gas bill from anywhere through online facilitated banks and mobile apps. In addition, the company has established e-tendering procedure for inviting bid. The company also launched a hot line number (16511) for disposing of any accidental information instantly received from the customer and a total no. of 355 calls have been received from the customers up to 31 December, 2018 and satisfactory services have been provided to these customers.

With a view to supplying 20 MMscfd gas to industrial customers of BEZA (Bangladesh Economic Zones Authority), the company has implemented a project titled "Gas Supply to Srihotto Economic Zone, Sherpur, Moulvibazar" at a cost of Tk. 378.2 million with the duration from March, 2016 to February, 2019. JGTDSL is now in a position to supply gas to industrial customers of Srihotto Economic Zone.



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 2017-18, a total of 2.22 km of pipeline of various diameters has been constructed and by the end of June, 2018 the company encompassed a network of 1,635.04 km pipeline.

At the end of FY 2017-18, the company provided gas connection to 1,29,310 customers including 4 new gas connections (3 industry and 1 power) to new customers. During this fiscal year a total of 20.44 BCF of gas was sold by the company as against of 32.17 BCF gas in the previous year. The company earned Tk. 5,517.8 million revenue from sales during FY 2017-18 and earned Tk. 663.8 million as net profit before tax. The company paid Tk. 532.2 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, Shahjadpur, Pabna, Ishwardi (including Ishwardi EPZ), Bogura, Rajshahi and other important areas for carrying the benefits of gas facility on the doorstep of the masses.

In accordance with the gas sales agreement (GSA) PGCL has completed customer metering station (CMS), hook-up pipeline construction, testing and commissioning works for supplying gas to the 225 MW combined cycle power plant (dual fuel, 3rd unit) in the power hub area at Sоядабад, Sirajganj financed by the North-West Power Generation Company Ltd. (NWPGL). It will be possible to supply 35 MMscfd of gas from the commercial operation date (COD). Besides, pipeline and RMS commissioning has

been completed for supplying gas to Sirajganj 413.792 MW IPP dual fuel (gas/HSD) combined cycle power plant (4th unit) at a rate of 73 MMscfd in the power hub area at Sоядабад, Sirajganj funded by the Sembcorp North-West Power Company Ltd. (SNWPL).

A DPP prepared for supplying the natural gas through pipeline at Rangpur Division covering Rangpur, Nilphamari, Pirganj town and its adjoining areas has already been placed to Petrobangla for approval. Besides, the company has future plan to construct for supplying the natural gas through pipeline to cover the Government BEZA (Lalpur-Natore, Poba-Rajshahi, Shahjahanpur-Bogura, Kurigram Sadar-Kurigram, Nilphamari Sadar-Nilphamari and Dibiganj-Panchagarh) and Private BEZA (Sirajganj Sadar, Belkuchi-Sirajganj) with total estimated gas demand of 160 MMscfd.

All tender 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 participations 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 PGCL. Payment of gas bill 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).

PGCL is conducting drives against illegal activities and gas pilferage regularly.



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 BGSL 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 2017-18 stood at about 83.68 BCF. The company earned Tk. 24,026.60 million as sales revenue and Tk. 5,194.40 million as net profit before tax. The company paid Tk. 3,390.80 million to the national exchequer during this year. The company purchased 76.28 BCF gas and sold 83.68 BCF gas this year. As a result, the system gain of the company stood at 7.40 BCF i.e 9.70%. The cumulative gas connection stood at 6,02,146 as on December, 2018 which includes 5 power, 4 fertilizer, 1,073 industrial, 179 captive power, 2,831 commercial, 2 tea-garden, 68 CNG and 5,97,984 domestic connections.



CMS at Shikolbaha Power Station

Online gas bill payment system has been introduced in KGDCL for all categories of customers. Now customers can pay gas bill online from any end of the country through different branches of 16 Banks and mobile apps. To facilitate various activities regarding processing new gas connection, reconnection, change of materials/load/meter, entry of meter reading and making of gas use report etc., a customized software has been developed. Besides, a GIS-based digital mapping of gas pipeline network and installation for the city area has already been completed. Remaining network will be digitized soon. This becomes inevitable for smooth operation and maintenance of gas network. To speed up the official works, the company has introduced e-file activities under a2i program of Prime Minister's Office.

A project of Tk. 2,224.80 million financed by Bangladesh Government (GoB), Japan International Cooperation Agency (JICA) and KGDCL to install 60,000 nos. of prepaid gas meters in domestic gas connections in Chattogram city area is in progress. A total of 53,621 nos. of meters have been installed as on December, 2018. Another project titled as 'Construction of gas pipeline for Mirsharai Economic Zone and KGDCL gas distribution network up-gradation' is being implemented at a cost of Tk. 3,986.20 million by KGDCL's own fund. The project aims at upgrading the capacity of company's existing distribution network to facilitate distribution of R-LNG.

KGDCL has been conducting drives against gas pilferage and illegal activities regularly. During FY 2017-18, a total of 8,139 nos. of illegal gas connections were disconnected and earned Tk. 119.60 million as revenue from unauthorized and unscrupulous customers.



সুন্দরবন গ্যাস
কোম্পানি লিমিটেড

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 southwestern 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 RPP, Aggreko 95 MW RPP, Bhola 225 MW CCPP (BPDB), 2 captive, 3 commercial, 3 industrial, 16 metered domestic connections and 3554 non-metered domestic customers in the island district Bhola.



Commissioning Works of Aggreko 95MW RPP RMS, Borhanuddin, Bhola under SGCL

In addition, gas is being supplied to gas based 410 MW combined cycle power plant (CCPP) at Bheramara, Kushtia. During the FY 2017-18 around 26.87 BCF gas has been supplied to this power plant and 0.26 BCF gas to other Non-Bulk Customers. On an average 106 MMscfd gas is being supplied to the different customers in SGCL franchise area.

With a view to supplying natural gas to Nutan Bidyut (BD) Limited (NBBL)'s 220 MW CCPP (IPP) at Borhanuddin, Bhola, an international tender was invited for engaging a turnkey

contractor to construct 12" x 7 km pipeline from Shahbazpur Gas Field, Bhola to the said 220 MW CCPP including one regulating and metering station of 48 MMscfd capacity and the tender evaluation is under process. According to signed gas supply agreement (GSA) between SGCL and NBBL, it is expected to supply 38 MMscfd gas by January, 2020. On the other hand, work order has already been given to the contractor for the construction of 24" x 11 km and 20" x 2.5 km gas pipeline from GTCL's Arongghata CGS, Khulna to the RMS of Rupsha 800 MW CCPP and Khulna 225 MW CCPP, Khalishpur, Khulna respectively with the financing of North West Power Generation Company Limited (NWPGCL) under the joint supervision of NWPGCL and SGCL. In accordance with the work order, the construction of the pipeline will be accomplished by June, 2020. SGCL authority has taken a decision for constructing 10" x 12 km pipeline including one DRS from Arongghata CGS, Khulna to BSCIC, Shiromani, Khulna and 10" x 2 km pipeline including one DRS from GTCL's TBS, Battail, Kushtia to BSCIC, Khustia with its own finance.

During the FY 2017-18, the company earned a total revenue of Tk. 2,632.50 million out of which Tk. 2,470.07 million from sales of 27.13 BCF gas and rest Tk. 162.82 million from other operational income. In this year, company's net profit before tax and after tax stood at Tk. 333.20 million and Tk. 216.58 million respectively and paid Tk. 74.91 million to the national exchequer.

SGCL has already joined national e-Government procurement (e-GP) portal. Certificate regarding gas bill payment status have been sent to all customers to avoid customer harassment and for the confirmation of due bill at the end of every calendar year. During the FY 2017-18, the gas connections of 9 nos. were disconnected due to illegal use of gas.



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

decision, all activities related to LNG have been vested to RPGCL. Steps have been taken to accomplish all necessary functions to import LNG including installation of LNG terminals. Two terminal use agreements (TUA) have been signed with Excelerate Energy Bangladesh Limited (EEBL) and



Ship to Ship LNG transfer activities under RPGCL

LPG, petrol and diesel obtained from NGL. Approximately 3.6 BCF of CNG is being used every month from 600 CNG stations, which is 5% 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

Summit LNG Terminal Co. (Pvt.) Ltd. to install 2 FSRU at Moheshkhali approximately 90 kilometers south of Chattogram for supplying 500 MMscfd of LNG each. EEBL has already installed the FSRU and 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 16,68,181 cubic meter and total RLNG supply to our national grid was 89,17,79,993 cubic meter up to 31 December, 2018. After set-up of the other FSRU by Summit, it is expected that LNG import and regasification will start by April, 2019.

To set up a land based LNG terminal on BOOT basis at Moheshkhali with the regasification capacity of 1,000 MMscfd, a memorandum of understanding (MoU) was signed on 20 November, 2016 with the consortium of China Huanqi Contracting and Engineering Corporation (HQC) and China CAMC Engineering Co. Ltd. and an agreement was signed on 1 August, 2017 with the consortium for conducting feasibility study. According

to the agreement, after completion of the feasibility study, the consortium submitted its final report on 31 January, 2018 and HQC submitted a technical and financial proposal for the project on 29 March, 2018. A period of around 4 years will be required for installing the terminal once the

final contract is signed with the consortium. Besides, to install a land based LNG terminal at Moheshkhali/Payra/any other suitable place with the regasification capacity of 1,000 MMscfd on BOOT Basis, EOI was invited and 5 organizations are short listed. To set up a land based LNG terminal at Matarbari with the regasification capacity of 1,000 MMscfd on BOOT Basis, invitation of EOI is under process.

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) to ensure the supply of 1.8 - 2.5 MTPA LNG on DeliveryExship (DES) basis for 15

years. Qatar Gas has already supplied LNG commissioning cargo to the FSRU installed by EEBL and the total LNG import stood at 16,68,181 cubic meters up to 31 December, 2018. Another SPA was signed with Oman Trading International (OTI) on 6 May, 2018 for supplying LNG and is planning to import 1.5 MTPA in 2019. To import LNG from PERTAMINA, Indonesia on G to G basis, a non-binding MoU was signed on 15 September, 2017 and a letter of intent (LOI) was signed on 28 January, 2018 and finalization of SPA is under process. Besides, to import LNG from the spot market, expression of interest (EOI) was invited and 30 organizations are short listed. Signing of master sale and purchase agreement (MSPA) is under process.



Maintenance of LPG plant of RPGCL

In the FY 2017-18, the company earned Tk. 3,457.60 million as revenue before VAT from sales of CNG, LPG, MS and HSD. The company earned an amount of Tk. 834.29 million as net profit before tax and made a payment of Tk. 1,163.14 million to the national exchequer.

With a view to enhancing the speed of work and augmenting efficiency, innovation activities have been undertaken which includes- introduction of smart card payment system's and automatic vehicle identification (AVI) system in CNG filling station and Digital Display for senior officer's status at Head Office.



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 much environment friendly, very low in sulphur content (0.53%) and very high in heat generation capacity (11,040 btu/lb).



Coal stock yard 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.

In the FY 2017-18, total coal production was achieved by 9,23,276 metric tons from 1210 and 1207 longwall face. The present commercial production rate is 3,000-3,500 metric tons/day. During the FY 2017-18, the company earned Tk. 12,481.80 million from sale of coal and Tk. 515.30 million from other sources comprising a total amount of Tk. 12,997.10 million, which is the highest ever revenue collection. During this period Tk. 8,999.80 million was spent as Cost of operation and expenditure against other heads. In this fiscal year, the net profit stood at Tk. 2,584.00 million following deduction of Tk. 1,413.30 million provisioned for income tax, which was Tk. 3,134.05 million in the previous fiscal year. In addition to this, the actual revenue expenditure was Tk. 7,394.40 million in the fiscal year under consideration against an allocated budget of Tk. 7,794.30 million.



which is Tk. 399.90 million or 5.13% less than the allocated budget. During the FY 2017-18, the company deposited Tk. 4,606.00 million to the government exchequer.

To enhance the present production of Barapukuria coal mine, 2 feasibility study projects have been undertaken. One of the projects of Tk 683.14 million financed by the company itself captioned as "Feasibility Study for extension of existing underground mining operation of Barapukuria Coal Mine towards

There is a joint schedule program by BCMCL and Chinese XMC/CMC consortium for surface subsidence monitoring (three times in a month). The company has already established e-tendering procedure for inviting bid and e-filing system has also been introduced in the company. As per evaluation carried out by "a2i" among 71 big category companies/institutions under various corporations, BCMCL secured 19 place in November, 2018.



Conveyor belt of BCMCL

the Southern and the Northern side of the basin without interruption of the present production" started on 2 March, 2017 and physical works successfully completed on 30 September, 2018. The project completion report (PCR) has been submitted to Petrobangla on 29 November, 2018. Another project titled as "Feasibility Study for Development of Dighipara Coal Field at Dighipara, Dinajpur, Bangladesh" is being implemented with BCMCL's own funding to assess the probability to develop a coal mine with a production capacity of 3 million tons coal per year. To execute the project activities, a contract was signed on 30 May, 2017 for a period of 27 months with a contract price of Tk. 1,674.50 million.



Auxiliary Shaft of BCMCL



Maddhapara Granite Mining Company Limited (MGMCL)



Rock stock yard of MGMCL

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 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 will develop 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 been extracting granite rock and completed development of 6 nos. of new stopes.

In the FY 2017-18, a total 7,59,333.22 metric tons of granite was produced and 6,48,088.56 metric tons was sold. The company earned Tk. 1,478.83 million from the sale of granite and made a payment of Tk. 277.45 million to the national exchequer.

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 proposal for feasibility study/survey (PFS) captioned as "Feasibility Study for Granite Slab Preparation and Enhancement of Stone Production by Expansion of Maddhapara Mine" financed by Petrobangla was approved on 21 December, 2017 and accordingly a contract was signed with the consulting firm BOYD-ME Joint Venture on 7 January, 2018 for a period of 18 months with a contract price of Tk. 462.2 million. Main activities of the project are to carry out 9 km topographic survey, 6.25 lkm 2D seismic survey, construction of core house, drilling of 10 bore holes (8 exploratory and 2 observatory), EIA activities, financial/cost economic analysis and preparation of design project report (basic design for granite rock extraction in the form of slab and production of 33,00,000 metric tons granite rock per annum). As per first amended PFS, the cost of the project is Tk. 481.24 million (foreign currency 365.71 million) during November, 2017 to August, 2019 i.e 22 months. The financial progress of the project was 42.46% and physical progress was 68% as on December, 2018.



Development Programmes for the Fiscal Year 2017-18

The annual development programme of Petrobangla for the FY 2017-18 had a total allocation of Tk. 12,764.80 million, which includes Tk. 4,298.50 million as project aid. The programme consists of 11 projects of which 9 are foreign-aided and 2 are GoB funded. In addition, there are 15 projects financed by the corporation/companies itself (self financing) involving total allocation of Tk. 17,571.80 million, where cash foreign exchange (CFE) involvement is Tk. 7,421.40 million and local currency is Tk. 10,150.40 million. Furthermore, there are 14 projects under gas development fund (GDF) in the same fiscal year with a total allocation of Tk. 9,113.40 million, where CFE involvement is Tk. 6,497.10 million and local currency is Tk. 2,616.30 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 2017-18 (Taka in Million)

No.	Name of the project	Project Period	Executing Agency	Estimated Cost (PA)	Development Partners
1	Installation of Compressor Stations at Ashuganj and Elenga Compressor Project	Jan'06-June'18	GTCL	14305.90 (8871.30)	ADB
2	Bakhrabad-Siddhirganj Gas Transmission Pipeline Project (30" x 60 km)	July'07-Dec'18	GTCL	8497.00 (5743.20)	World Bank
3	Rehabilitation and Expansion of Existing Supervisory Control and Data Acquisition (SCADA) System of National Gas Grid under GTCL (Component-B of Bharamara Combined Cycle Power Plant Development Project)	Jan. '13-Dec'18	GTCL	2940.00 (2402.40)	JICA
4	Natural Gas Efficiency Project (Installation of Wellhead Compressors at Titas Gas Field Location-C and Narshingdi Gas Field)	July'14-June'18	BGFCL	8680.00 (7290.00)	JICA
5	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for KGDCL)	July'14-June'18	KGDCL	2465.60 (1541.90)	JICA
6	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'19	GTCL	9791.80 (5070.20)	JICA
7	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for TGTDCL)	Jan.'15-Dec'18	TGTDCL	7121.00 (4531.10)	JICA
8	Installation of Wellhead Compressors at Location-A of Titas Gas Field	July'16-Dec'20	BGFCL	9100.00 (7530.00)	ADB
9	Construction of Chattogram-Feni-Bakhrabad Gas Transmission Parallel Pipeline Project	July'16-June'19	GTCL	19623.80 (7383.60)	ADB
Sub-Total (foreign-aided)				82525.10 (50363.7)	



B. Ongoing Projects (GoB funded) : FY 2017-18

(Taka in Million)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
1	Gas Transmission Capacity Expansion Project (Ashuganj- Bakhrabad) (30" x 61 km)	Jan'10-Dec'17	GTCL	5134.60 (0.0)
2	Construction of Moheshkhali-Anowara Gas Transmission Pipeline Project (30" x 91 km)	July'14-June'18	GTCL	10396.70 (0.0)
Sub-Total (GoB)				15531.30 (0.0)

C. Ongoing Projects (self financing) : FY 2017-18

(Taka in Million)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
1	Installation of 4,000 barrels/day capacity Condensate Fractionation Plant at Rashidpur (1st Revised)	July'12-Aug'18	SGFL	4635.00 (3288.00)
2	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'19	SGFL	4979.80 (3698.70)
3	Feasibility Study for Extension of Existing Underground Mining Operation of Barapukuria Coal Mining towards the Southern & the Northern Side of the Basin without interruption of the Present Production	Apr'15-June'18	BCMCL	776.00 (476.60)
4	Construction of Divisional Office Building of Titas Gas Transmission and Distribution Company Limited at Gazipur	July'15-June'18	TGTDCL	145.10 (0.00)
5	Gas Supply to Srihotto Economic Zone, Sherpur, Moulvibazar	July'16-June'18	JGTDCL	378.20 (220.80)
6	Construction of Anowara-Fouzderhat Gas Transmission Pipeline Project	Apr'16-June'18	GTCL	7761.10 (3132.20)
7	Feasibility Study for Development of Dighipara Coal Field, Dinajpur	Jan'16-June'19	BCMCL	1798.80 (1237.00)
8	Reviewing of 3D Seismic Survey Data and Reports of Sylhet (Haripur), Kailashtila and Rashidpur Structures of Sylhet Fields Limited	Dec'16-Apr'18	SGFL	131.90 (97.10)

No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
9	Construction of 20" x 30 km Transmission Line from Sreepur to Joydevpur CGS	July'13-June'18	TGTDCL	2355.30 (679.30)
10	Construction of Moheshkhali-Anowara Gas Transmission Parallel Pipeline Project	July'16-Dec'18	GTCL	11574.20 (5189.60)
11	Workover of 3 Wells (Kailashtila-1, Rashidpur-2 and Rashidpur-6) under Sylhet Gas Fields Limited	Dec'16-Dec'18	SGFL	1343.90 (450.00)
12	Techno Economic Feasibility Study and Engineering Services for Construction of Land Based LNG Terminal at Maheshkhali, Kutubdia at Cox's Bazar and Payra at Patuakhali	Jan'17-July'18	Petrobangla	760.20 (471.50)
13	Construction of Gas Pipeline for Mirsarai Economic Zone and KGDCL Gas Distribution Network Upgradation Projects	May'17-June'19	KGDCL	3671.00 (1647.30)
14	Techno Economic Feasibility Study and Engineering Services for Construction of Land Based LNG Terminal at Moheshkhali (North side of Sonadis Island) Cox's Bazar	Apr'17-March'18	RPGCL	120.90 (76.30)
15	Feasibility Study for Granite Slab Preparation and Enhancement of Stone Production by Expansion of Maddhapara Mine	Nov'17-Apr'19	MGMCL	476.90 (284.80)
Sub-Total (self financing)				40908.30 (20949.20)

D. Ongoing Projects (under GDF): FY 2017-18 [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	2477.00 (1134.60)
2	2-D Seismic Project of BAPEX	Dec'12-June'18	BAPEX	933.30 (340.50)
3	Drilling of Well no. Kailashtila-9 (Appraisal/Development Well)	Nov'13-Dec'19	SGFL	1400.70 (609.90)
4	Drilling of Well no. Sylhet-9 (Appraisal/Development Well)	Dec'13 - June'18	SGFL	1602.70 (558.00)
5	Shahjadpur-Sundalpur (Sundalpur-2) Appraisal / Development Well Drilling Project	Oct'14-Oct'17	BAPEX	629.00 (372.80)



No.	Name of the project	Project period	Executing agency	Estimated cost (CFE)
6	RUPKALPO-1 Drilling Project : 3 Exploratory Wells (Hararganj-1, Srikail East-1 and Salda North-1) and 2 Development Wells (Srikail North-2 and Kasba-2)	July'16-Dec'18	BAPEX	4307.80 (2792.00)
7	RUPKALPO-2 Drilling Project : 4 Exploratory Wells (Salda Nodi South-1, Semutang South-1, Batchia-1 and Salda Nodi East-1)	July'16-June'18	BAPEX	4145.20 (2845.00)
8	RUPKALPO-3 Drilling Project : 4 Exploratory Wells (Kasba-1, Madarganj-1, Jamalpur-1 and Sailokupa-1)	July'16-June'18	BAPEX	3826.30 (2465.50)
9	RUPKALPO-4 Drilling Project : 2 Exploratory Wells (Shahbazpur East-1 and Bhola North-1) and 2 Workover (Shahbazpur East-1 and 2)	July'16 - June'18	BAPEX	4621.00 (3344.50)
10	Procurement of 1 Drilling and 1 Workover Rig with Supporting Equipment for BAPEX	July'16-June'18	BAPEX	3275.70 (2906.50)
11	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'18	BAPEX	3000.00 (2148.00)
12	RUPKALPO-9 Drilling Project : 2-D Seismic	Apr.'17-June'19	BAPEX	1233.80 (635.00)
13	Workover of 7 Wells at Titas, Habiganj, Narsingdi and Bakhrabad Gas Field	Apr.'17-Dec'19	BGFCL	3545.00 (872.50)
14	2D Seismic Survey Over Exploration Block 3B, 6B, 7	Apr.'17-June'18	BAPEX	1880.00 (1500.00)
Sub-Total (GDF)				36877.50 (22524.80)
Grand Total (foreign-aided + GoB + self financing + GDF)				175842.20 (93837.70)

Source : Planning & Monitoring Division, Petrobangla.

Commissioning works of Bibiyana-3,400 MW Power Plant by JGTDSL



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 GDP growth rate of over 8% 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 9 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 power sector. To overcome the stagnant situation, the present Government has been putting its best efforts for ensuring energy supply to accelerate the 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, necessary steps have been taken to import 1,000 MMscfd of LNG by 2019. 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 ensuring proper pricing of gas to conserve energy and improve the financial operations of the gas sector.

Sector wise Gas Demand Forecast (2018-2023)

Unit: BCF

Sector	2018-19	2019-20	2020-21	2021-22	2022-23
Power	1,605	1,667	1,731	2,078	2,078
Captive	573	697	779	899	1,008
Fertilizer	317	317	317	317	317
Industry	519	626	699	804	899
Commercial	29	31	33	34	34
Domestic	448	448	448	448	448
Tea-Estate	3	3	3	3	3
CNG	165	167	168	169	171
Total	3,658	3,955	4,178	4,752	4,957

Source : Production & Marketing Division, Petrobangla



Plan for Production Augmentation

National Exploration and Production (E&P) Companies (BAPEX, BGFCL & SGFL) and IOCs have taken a gas production augmentation programme. This includes exploration, 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 gas of 408 MMscfd through work-over and

new drilling by the year 2021. In addition to this International Oil Companies (IOCs) working in Bangladesh also intensified their exploration activities in offshore areas (both shallow and deep). IOCs planned to drill at least five exploration wells in the offshore during this period. The following table shows the summary of the activities for production augmentation.

Year-wise Drilling and Work-over Programmes

FY	Exploration wells	Development wells	Work-over wells	Total wells
2016-17	2	4	11	17
2017-18	2	1	7	10
2018-19	3	-	11	14
2019-20	2	-	5	7
2020-21	3	1	4	8
Total	12	6	38	56

Source : Reservoir and Data Management Division, Petrobangla

Gas line welding work at Bizra to Cumilla 8" dia 24 bar gas line work of BGDCL



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
2	Chhatak	n/a	97.900	1.800	0.200	-	-	-	-	-	1005.710
3	Rashidpur	1.200	98.489	0.802	0.148	0.053	0.028	0.046	0.338	0.096	0.5637
4	Kailashtilla	0.700	96.217	2.588	0.674	0.098	0.075	0.019	0.310	0.018	0.5773
5	Titas	4.500	96.587	1.900	0.406	0.099	0.060	0.166	0.343	0.440	0.5790
6	Habiganj	4.200	97.650	1.543	0.006	0.000	0.000	0.002	0.790	0.008	0.5648
7	Bakhrambad	4.800	93.700	3.790	0.834	0.246	0.116	0.233	0.495	0.585	0.5989
8	Semutang	n/a	96.079	2.499	0.415	0.103	0.056	0.096	0.209	0.542	0.5818
9	Begumganj	n/a	95.460	3.190	0.640	0.170	0.040	-	-	0.300	0.5800
10	Kutubdia	n/a	95.720	2.870	0.670	-	0.310	-	0.360	0.070	0.5900
11	Barinibazar	4.400	93.536	3.499	1.324	0.309	0.274	0.603	0.354	0.099	1037.080
12	Feni	n/a	95.710	3.290	0.650	0.150	0.050	-	-	0.150	1045.610
13	Kamta	n/a	95.360	3.570	0.470	0.090	-	-	-	0.510	1041.660
14	Fenchuganj	n/a	97.264	1.452	0.135	0.036	0.012	0.070	0.212	0.819	1043.130
15	Jalabad	n/a	95.986	2.509	0.433	0.300	0.066	0.375	0.254	0.075	1044.000
16	Narsingdi	4.200	95.264	2.702	0.593	0.172	0.096	0.233	0.351	0.589	1056.066
17	Meghna	4.400	95.185	3.050	0.667	0.169	0.096	0.209	0.390	0.234	1050.000
18	Shahbazpur	n/a	94.553	3.555	0.569	0.159	0.058	0.062	0.201	0.842	1044.570
19	Sangur	n/a	94.510	3.170	0.610	0.190	0.070	0.410	0.440	0.600	1058.000
20	Saldanadi	n/a	96.959	1.781	0.324	0.079	0.048	0.095	0.129	0.583	1029.860
21	Bibijana	n/a	94.880	2.442	0.873	0.280	0.253	0.926	0.195	0.153	1060.000
22	Bangura	2.110	95.482	2.564	0.661	0.146	0.146	0.194	0.309	0.664	1049.200
23	Moulavibazar	n/a	98.198	1.002	0.160	0.042	0.022	0.087	0.356	0.131	1020.220
24	Shahjadpur Sundalpur	n/a	98.349	0.908	0.070	0.001	0.004	0.003	0.558	0.106	1013.520
25	Srikail	n/a	95.928	2.452	0.527	0.135	0.078	0.134	0.130	0.616	1041.050

Source: Production & Marketing Division, Petrobangla.



Natural Gas Tariff in Bangladesh

(As in December, 2018)

Taka/MCF

Effective From	Power	Fertilizer	Industry	Commer-	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

Source : Accounts Division, Petrobangla.

Gas Fields in Production

(As in December, 2018)

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	26	542	522.1	453.0
	Bakhrabad	10	6	43	30.3	15.0
	Habiganj	11	7	225	226.1	23.9
	Narsingdi	2	2	30	27.2	42.4
	Meghna	1	1	11	12.0	19.8
	Sub-Total	51	42	851	817.7	554.1
2. SGFL	Sylhet	8	1	6	4.4	30.8
	Kailashtila #1 (Silicagel)	4	1	13	7.9	47.2
	Kailashtila #2 (MSTE)	3	3	55	61.1	487.1
	Rashidpur	11	5	60	51.3	39.2
	Beanibazar	2	2	15	8.9	142.2
	Sub-Total	28	12	149	133.6	746.5
3. BAPEX	Saldanodi	4	1	3	5.0	0.5
	Fenchuganj	5	2	26	11.3	5.0
	Shahbazpur	5	3	50	60.5	7.0
	Semutung	6	2	3	0.5	0.0
	Sundalpur	2	1	5	6.8	0.3
	Srikail	4	3	40	36.7	109.8
	Begumganj	3	2	10	5.7	2.7
	Rupganj	1	0	8	0.0	00
	Sub-Total	30	14	145	126.5	125.3
	Sub-Total (1+2+3)	109	68	1145	1077.8	1425.9
4. IOCs						
CHEVRON	Jalalabad	9	7	270	246.2	918.2
	Moulvibazar	9	6	42	25.8	3.3
	Bibiyana	26	26	1200	1300.7	9076.8
TULLOW	Bangora	6	5	103	99.2	302.0
	Sub-Total	50	44	1615	1671.9	10300.3
	Indigenous	159	112	2760	2749.7	11726.2
5. RPGCL (R-LNG)		0	0	500	210.6	0.0
	Sub-Total	0	0	500	210.6	0.0
	Grand Total (1+2+3+4+5):	159	112	3260	2960.3	11726.2

Source : Production & Marketing Division, Petrobangla.



Growth Trajectory of Customer

Year	TGTDCL	BGDCL	JGTDCL	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
Up to Dec., 18	2862080	491450	223665	128355	602146	4800	4312496

Source : Production & Marketing Division, Petrobangla.

Natural Gas Reserve of Bangladesh

(As of 31 December, 2018)

Figure in BCF

SL No	Fields	Year of Discovery	Reserve Estimated By		GIIP	Proved (1P)	Proved + Probable (2P)	Proved + Probable + Possible (3P)	Cumulative Production (Dec, 2018)	Remaining Reserve w.r.t 2P (Jan, 2019)
			Company	Year						
A. Producing										
1	Titas	1962	RPS Energy	2009	8148.9	5384.0	6367.0	6517.0	4613.89	1753.11
2	Habiganj	1963	RPS Energy	2009	3684.0	2647.0	2647.0	3096.0	2434.88	212.12
3	Bakhrabad	1969	RPS Energy	2009	1701.0	1052.9	1231.5	1339.0	827.06	404.47
4	Kailashtilla	1962	RPS Energy	2009	3610.0	2390.0	2760.0	2760.0	694.03	2065.97
5	Rashidpur	1960	RPS Energy	2009	3650.0	1060.0	2433.0	3113.0	624.70	1808.30
6	Sylhet/Haripur	1955	RPS Energy	2009	370.0	256.5	318.9	332.0	215.20	103.70
7	Meghna*	1990	RPS Energy	2009	122.1	52.5	69.9	101.0	70.49	-
8	Narshingdi	1990	RPS Energy	2009	369.0	218.0	276.8	299.0	201.04	75.76
9	Beani Bazar	1981	RPS Energy	2009	230.7	150.0	203.0	203.0	102.25	100.75
10	Fenchuganj	1988	RPS Energy	2009	553.0	229.0	381.0	498.0	158.97	222.03
11	Shaldanadi	1996	RPS Energy	2009	379.9	79.0	279.0	327.0	90.36	188.64
12	Shahbazpur**	1995	Petrobangla	2011	920.0	-	644.0	-	57.85	586.15
13	Semutang	1969	RPS Energy	2009	653.8	151.0	317.7	375.1	13.01	304.69
14	Sundalpur Shahzadpur	2011	BAPEX	2012	62.2	25.0	35.1	43.5	12.16	22.94
15	Srikail	2012	BAPEX	2012	240.0	96.0	161.0	161.0	80.43	80.57
16	Begumganj	1977	BAPEX	2014	100.0	14.0	70.0	-	1.47	68.53
17	Jalalabad***	1989	D & M	1999	1491.0	823.0	1184.0	1184.0	1278.44	-
18	Moulavi Bazar	1997	Unocal	2003	1053.0	405.0	428.0	812.0	321.36	106.64
19	Bibiyana	1998	D & M	2008	8350.0	4415.0	5754.0	7084.0	3616.53	2137.47
20	Bangura	2004	Tullow	2011	1198.0	379.0	522.0	941.0	426.10	95.90
			Sub-total A:	36886.6	19826.9	26082.9	29185.6	15840.22	10337.73	
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	600.0	-	420.00	-	-	420.00
			Sub-total B:	665.0	45.5	465.5	45.5	0.00	465.5	
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				39795.2	20857.1	27809.09	30822.1	16438.77	11465.35	
Grand Total (A+B+C) in TCF				39.8	20.9	27.81	30.82	16.44	11.47	

- Note:**
- * Since the cumulative production of Meghna gas field has exceeded the earlier estimated 2P reserve, the remaining reserve of that field is not shown in the table.
 - ** 2P Reserve of Shabazpur gas field including Shabazpur East-1 re-estimated by BAPEX is 644 BCF.
 - *** Reserve re-evaluation of Jalalabad gas field is under way. Since the cumulative production has exceeded the earlier estimated 2P reserve, the remaining reserve of Jalalabad gas field is not shown in the table.
 - **** 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

Source : Reservoir and Data Management Division, Petrobangla.



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)
TGTDCL 01	Titas - Dhaka	14	81.80	1000	175
	02 Titas - Narshingdi	16	46.31	1000	265
	03 Narshingdi - Joydevpur	14	37.51	1000	220
	04 Narshingdi - Ghorasal	14	10.30	1000	220
	05 Habiganj - Ashuganj	12	57.75	1000	85
	06 Monohardi - Narshingdi	20	24.50	1000	300
	07 Monohardi - Kishorganj	4	35.00	1000	6
	08 Ashuganj V.S. # 3 - ZFCL	10	4.00	1000	95
	09 Elenga - Tarakandi	12	42.41	1000	80
	10 Dhonua - Mymensingh	12	56.70	1000	55
	11 Tarakandi - Jamalpur	8/6	21.00	1000	25
	12 Mymensingh - Netrokona	8/6	40.00	1000	60
GTCL 13	North South	24	175.00	1050	330
	14 Ashuganj - Bakhrabad 1 58.5	30	58.50	1000	425
	15 Bangabandu Bridge	30	9.00	1000	300
	16 Elenga - Nalka	24	28.50	1000	250
	17 Nalka - Baghabari	20	35.50	1000	250
	18 Beanibazar - Kailashtila	20	18.00	1050	250
	19 Ashuganj - Habiganj	30	54.00	1050	500
	20 Rasidpur - Habiganj	30	28.00	1050	500
	21 Nalka - Hatikumrul	30	6.00	1000	425
	22 Hatikumrul - Bogura	20	54.00	1000	225
	23 Monohardi - Dhanua Elenga Pipeline (1st Phase)	30	51.00	1000	500
	24 Bakhrabad - Demra	20	68.72	1000	250
	25 Bakhrabad - Chattogram	24	174.65	1000	300
	26 Ashuganj - Elenga	24	124.00	960	330
	27 Ashuganj - Monohardi	20	37.00	1000	425
	28 Dhaka Clean Fuel (GTCL Part)	20	60.00	1000	230
	29 Bonpara - Rajshahi	12	53.00	1000	150
	30 Hatikumrul - Bheramara	30	84.00	1000	400
	31 24" Dia 8 Km From Titas Gas Field - AB Pipeline Project	24	8.00	1050	330
	32 Srikail Gas Field (Location 2) - AB Pipeline Project	20	1.50	1000	250
	33 Bibiyana - Dhanua	36	137.00	1000	640
	34 Bakhrabad - Siddhirganj	30	60.00	1000	450
	35 Gas transmission pipeline from Titas Gas Field (Location-G) to AB Pipeline	24	8.00		100
	36 Ashuganj - Bakhrabad 2	30	61.00	1000	450
	37 Bheramara-Khulna	20	163.06	1000	200
	38 Titas Gas Field well no. 23,24 (Sorail) to Khatihata and well no. 25,26 (Malihata) to Khatihata gas transmission pipeline	20	3.3	1000	100
	39 Moheshkhali-Anowara gas transmission pipeline	30	91	1000	500
	40 Anowara-Fouzdarhat gas transmission pipeline	42	30	1000	1000
KGDCL 41	Chattogram Ring Main	24/20/16	59.48	350	330
	42 KPM Spaur	8	36.15	350	18
	43 Chattogram - Rauzan	20	18.00	350	150
	44 Semutang - Chattogram	10	56.00	960	70
JGDSL 45	Haripur - NGFF	-	43.00	1000	62
	46 Kailashtila - Kuchai	8	13.00	1000	62
	47 Kuchai - Chatak	6	39.00	1000	36
	48 Devpur - Kumargaon	6	11.00	1000	36
	49 Habiganj - Shahji Bazar	8	2.00	1000	53
	50 Shahaji Bazar - Shamsher Nagar	6	65.00	1000	11
	51 Srimongal - Moulvibazar	6	26.00	1000	11
	52 Chatak - Tengratila	4	19.00	1000	10
	53 Tengratila - Sunamganj	4	13.00	1000	10

Category-wise Annual Gas Sales
(FY 1990-91 to FY 2017-18) 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	Com-mercial	Tea/CNG	Brick Field				
1990-91	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		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		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		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		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		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		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		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		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		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		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		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		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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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		*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 (Dec)	496.6	31.4	528.0	306.6	28.4	335.0	84.9	79.2	4.0	22.3	0.5	191.0	526.0	(14.6)	511.4

* Including Captive Power
UFG : Un-accounted For Gas (System Loss Plus Pilferage/system Gain)

Source : Production & Marketing Division, Petrobangla.



Payment to National Exchequer

Taka in Million

Year	SD+VAT	DSL	Income Tax	Dividend	CD/VAT	Royalty	Total
1997-98	8431.1	2745.7	862.8	1000.1	404.1	-	13443.8
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

Source: Accounts Division, Petrobangla



Moheshkhali CTMS, Cox's Bazar of GTCL

Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2018

	2018 BDT	2017 BDT
Income		
Sales proceeds from IOC gas and condensate	48,221,458,031	45,920,583,531
Transport fare recovery	689,774	629,482
Rental income	29,471,261	13,550,861
Miscellaneous income	5,519,092	100,000
	48,257,138,158	45,934,863,874
Expenditure		
Cost of sales of gas and condensate	69,079,155,287	65,953,485,652
Personnel expense	789,633,756	853,612,522
Professional services	21,435,154	17,838,213
Promotional expense	6,157,334	5,836,746
Power expense	4,233,170	4,238,763
Communication expense	1,056,278	1,419,167
Transport expense	30,128,346	28,155,675
Occupancy expense	25,772,193	27,491,436
Financial expense	810,735	568,863
Administrative expense	5,850,756	4,857,817
Miscellaneous expense	14,110,212	107,332,388
Depreciation	34,391,287	27,184,018
	70,012,734,509	67,032,021,260
Petrobangla actual cost recovery	(1,442,722,000)	(1,003,602,000)
	68,570,012,509	66,028,419,260
	Operating profit/(loss)	(20,312,874,351)
	(20,093,555,387)	
Non-operating income		
Interest on short term deposit	88,716,341	62,634,267
Interest on house building loan	13,594,689	13,239,400
Interest on motor cycle loan	239,474	289,566
Interest on computer loan	58,750	73,750
PSC financial income from STD bank account	959,600,000	530,000,000
PSC financial income from FDR	1,249,134,203	1,253,137,373
Other non-operating income	648,411,124	779,370
	2,959,754,581	1,860,153,726
Total non-operating income		
Income tax expenses	(831,007,172)	(509,189,082)
Current tax	(72,724,420)	-
Deferred tax		
Net surplus/(deficit)	(18,256,851,361)	(18,742,590,743)
Appropriation account		
Un-appropriated surplus brought forward	(84,425,593,368)	(48,261,794,428)
Prior year's adjustment	3,401,728	58,430,680
Prior year's adjustment for PSC	(4,477,199,329)	(17,479,638,879)
Surplus/(deficit) for the year	(18,256,851,361)	(18,742,590,743)
	(107,156,242,330)	(84,425,593,368)

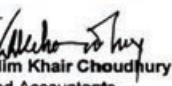
The annexed notes form an integral part of these financial statements

Director


K. M. HASAN & CO.
Chartered Accountants

Place: Dhaka
Date: 10 June 2019




Aziz Halim Khair Choudhury
Chartered Accountants

Director





Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Financial Position

As at 30 June 2018

	2018 BDT	2017 BDT
Assets		
Non-current assets		
Property, plant and equipment	352,225,180	330,338,406
Minor capital project (capital work-in-progress)	3,436,809	3,436,809
Assets held under SPMC project	26,041,845	26,041,845
	381,703,834	359,817,060
Investments		
Investment in enterprises	4,196,580	4,196,580
Investment in FDRs	98,982,591,129	89,779,120,662
Investment in shares	18,482,000	18,482,000
	99,005,269,709	89,801,799,242
Current assets		
Group current account	16,351,821,540	15,381,497,867
Accounts receivable	34,189,213,076	33,124,905,545
Advances, deposits and prepayments	1,283,324,615	500,861,123
Loans and advances to employees	363,822,258	340,665,229
Cash and cash equivalents	87,003,725,062	25,654,060,922
	139,191,906,551	75,001,990,686
Total assets	238,578,880,094	165,163,606,988
Equity and liabilities		
Capital and reserves		
Paid-up capital	1,500,000	1,500,000
Capital reserve	18,999,518,396	18,386,929,238
Revenue reserve	54,602,793,160	18,992,895,761
Gas Development and Energy Security Fund	117,785,081,694	50,268,686,217
	191,388,893,249	87,650,011,216
Long-term liabilities		
Long-term borrowings	39,275,956	39,275,956
Other long-term liabilities	109,533,797	107,647,872
Deferred tax liabilities	72,724,420	-
	221,534,173	146,923,828
Current liabilities		
Accounts payable	46,932,272,074	77,338,822,361
Deferred income	26,041,845	26,041,845
Accruals and provisions	10,138,753	1,807,736
	46,968,452,672	77,366,671,944
Total equity and liabilities	238,578,880,094	165,163,606,988

The annexed notes form an integral part of these financial statements.

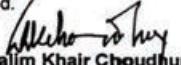

Director


Director


K. M. HASAN & CO.
Chartered Accountants

Place: Dhaka
Date: 10 June 2019




Aziz Halim Khair Choudhury
Chartered Accountants



Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Cash Flows

For the year ended 30 June 2018

	2018 BDT	2017 BDT
A. Cash Flows from operating activities		
Operating profit/(loss)	(20,312,874,351)	(20,093,555,387)
Adjustment for non-cash item:		
Depreciation	34,391,287	27,184,018
Changes in working capital:		
Increase/Decrease in Group current account	(970,323,673)	(1,029,946,401)
Increase/Decrease in Accounts receivables	(1,064,307,531)	3,627,957,923
Increase/Decrease in Advances, deposits and prepayments	(782,463,492)	(160,713,537)
Increase/Decrease in Loans and advances to employees	(23,157,029)	(10,186,813)
Increase/Decrease in Accounts Payable	(30,406,550,288)	32,179,247,944
Increase/Decrease in Accruals and provisions	8,331,017	(272,821,442)
Income tax paid	(831,007,172)	(509,189,082)
Net cash used in operating activities (A)	(54,347,961,232)	12,579,276,512
B. Cash flows from investing activities		
Acquisition of property, plant and equipment	(56,278,061)	(59,443,596)
Minor capital project (capital work-in-progress)	-	42,463,631
Investment in FDR	(9,203,470,467)	(5,973,077,835)
Non-operating income	2,959,754,581	1,860,153,728
Net cash provided by investing activities (B)	(6,299,993,946)	(4,129,904,072)
C. Cash flows from financing activities		
Capital reserves	612,589,158	749,858,818
Revenue reserves	53,866,748,760	(13,581,594,586)
Other long-term liabilities	1,885,925	339,961
Gas development fund	67,516,395,477	15,757,314,739
Net cash provided by financing activities (C)	121,997,619,320	2,925,918,932
D. Net changes in cash and cash equivalents (A+B+C)	61,349,664,141	11,375,291,372
E. Opening cash and cash equivalents	25,654,060,922	14,278,769,550
F. Closing cash and cash equivalents	87,003,725,062	25,654,060,922



Director

Place: Dhaka
Date: 10 June 2019




Director





Annual Report 2018

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Director (Operation and Mines), Petrobangla

Convener

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Member Secretary

Tariqul Islam Khan

Manager (Public Relations), Petrobangla

Member



PETROBANGLA