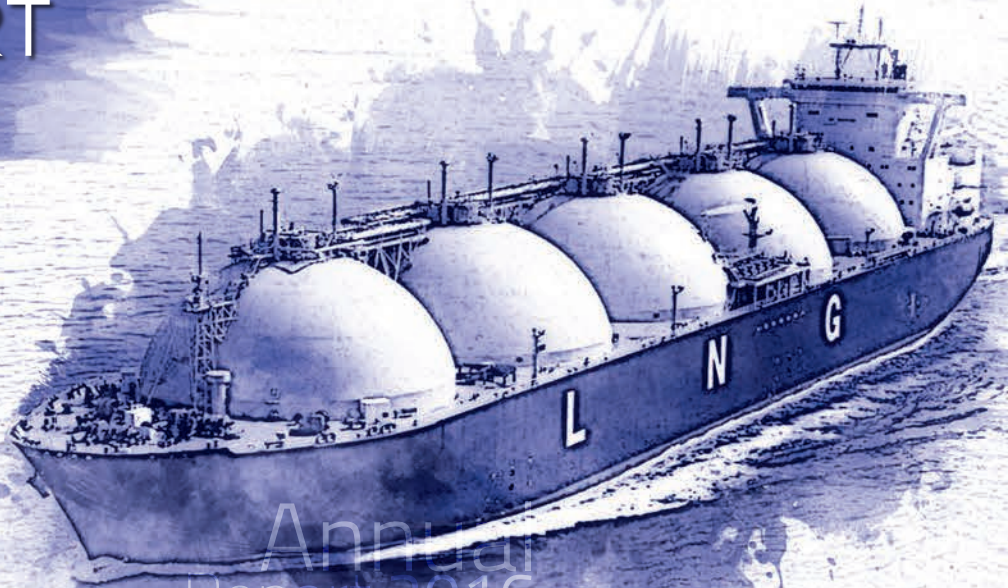


# ANNUAL REPORT 2016



## PETROBANGLA

Bangladesh Oil, Gas and Mineral Corporation

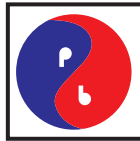
# PETROBANGLA

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# Annual Report 2016



## PETROBANGLA

Bangladesh Oil, Gas and Mineral Corporation

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# Contents



Sangu Gas Field in the Bay of Bengal

01	Message of the Adviser (Minister) to the Hon'ble Prime Minister, MoPEMR	04
02	Message of the Hon'ble Minister of State, MoPEMR	05
03	Message of the Secretary, EMRD	06
04	Introduction by Chairman, Petrobangla	07-08
05	Board of Directors (Incumbent)	09
06	Past and Present Chairmen of Petrobangla	10
07	The Genesis and Mandate	11
08	Petrobangla and the Government	12
09	A Brief History of Oil, Gas and Mineral Industry in Bangladesh	13-14
10	Activities of Petrobangla	15-30
11	The Petrobangla Companies	31-45
12	Development Programmes for FY 2015-16	46-48
13	Future Programmes	49
14	Plan for Production Augmentation	50
15	Data Sheets	51-58
16	Petrobangla Accounts	59-60



## Our Vision



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



## Our Mission

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



**Tawfiq-e-Elahi Chowdhury, BB, PhD**

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

## Message

The role of energy in the overall development of countries like Bangladesh hardly needs emphasis. Petrobangla and its companies have been playing the dominant role in exploration, production, transmission, distribution and development of the two vital sources of energy - gas and coal in the country. I trust the Annual Report 2016 would document its continued efforts in discharging those responsibilities.

The Father of the Nation Bangabandhu Sheikh Mujibur Rahman bought five gas fields from British oil company, Shell Oil, at a nominal price on 09 August, 1975 for ensuring energy security of the country. Following the path of development envisaged by the Father of the Nation, his worthy daughter, Prime Minister Sheikh Hasina, has also given the country's energy security one of the highest priorities. Extensive development programs were implemented during the last seven and a half years resulting in remarkable growth in the production and distribution of gas. The settlements of maritime boundaries with our neighbors have opened new possibilities for energy resources. Petrobangla is earnestly pursuing initiatives to harness the potentials from the 26 blocks in deep and shallow seas, covering of 19.5 thousand square kilometers. Alongside, energy efficiency and conservation measures should be strengthened. Customers should be encouraged to explore and adopt newer ways for cogeneration and trigeneration in the use of energy.

I hope the dedicated workforce of Petrobangla and its subsidiary companies will continue to be significant contributor to the prosperity of Bangladesh. My felicitations to the officials associated in the publication of the Annual Report 2016.

I wish Petrobangla continued success.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh

Dr. Tawfiq-e-Elahi Chowdhury, Bir Bikram



**Nasrul Hamid MP**

Minister of State

Ministry of Power, Energy & Mineral Resources

Government of the People's Republic of Bangladesh

## Message

I am indeed pleased to know that Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) is going to publish its Annual Report, 2016 reflecting the activities of Petrobangla and its companies. My heartiest thank and gratitude to all of its officials contributed in publishing the Annual Report.

Natural gas is a non-renewable energy resource. It provides about two-thirds of the total consumption of commercial energy of our country and as such, our economic development largely depends on sufficient supply as well as efficient utilization of this indigenous energy resource. The Government is very sincere and active in its endeavor for enhancing the supply of energy which is indispensable for continuing the pace of development. Out of the total daily gas production capacity grown over the last 45 years in the history of Bangladesh, one-third has been achieved due to the sincere efforts made by the Government led by Hon'ble Prime Minister Sheikh Hasina. At present, we have 20 gas fields in production with total capacity, 2,750 million cubic feet gas per day from 112 wells. Whereas, the daily gas production in January, 2009 was 1,744 million cubic feet.

Rapid urbanization and social development have increased the demand for energy in our country. With the object of reducing the demand-supply gap, the Government has invigorated its effort to enhance gas production along with installation of a Floating Storage and Re-gasification Unit (FSRU) at Moheshkhali for supplying 500 MMSCFD of Liquefied Natural Gas (LNG) within April 2018. Construction of 30" x 91 km transmission pipeline from Moheshkhali to Anowara in Chittagong has already been completed. In addition, initial activities have been started to install two land based LNG terminals, one at Kutubdia and the other at Paira port area with having the capacity of handling LNG equivalent to 1,000 MMSCFD of gas each. Initiation has been taken by the Government to complete a 108 wells programme in onshore by 2021. Besides, intensifying the mining of coal is also high on the agenda of Petrobangla.

I hope that Petrobangla and its companies will continue to play their vital roles keeping in view the ongoing energy needs and shall be able to achieve the target in the energy sector as envisaged in Vision 2021 of the Government.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh.

**(Nasrul Hamid)**



### Secretary

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

## Message

It is a pleasure knowing about the upcoming Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) Annual Report, 2016 publication which highlights the activities as performed in the 2015-16 Fiscal Year.

We are well aware and it is an accepted fact that the energy intensity and the sustainable development are reciprocally linked. To highlight energy, towards the higher economy growth trajectory, the intensive and optimum efficient use of natural gas is unique. It achieved the "*Energy of Choice*" due to its extended use in power, fertilizer production, rapid industrialization and households. 73% of commercial energy is met by the natural gas. It, as relatively low cost fuel, provides a competitive edge of our industrial products at home and abroad. In the recent multiplication of agricultural productions, natural gas played intensely in the backdrop of regular and timely production of the chemical fertilizer. In environmental conservation in the country, comparatively cleaner fuel natural gas is a preferred choice. Being non-renewable, the optimal and efficient use of natural gas and coal put the maximum benefit to our economy.

For achieving middle-income Bangladesh by 2021 the endeavors made by the Petrobangla in exploration, development, production and distribution of natural gas and coal are remarkable which maintain the pace of the required economic boost. Petrobangla has invigorated its effort to enhance gas production and has already been stepped in the process of importing Liquefied Natural Gas (LNG) as to play catalyst to ease the demand and supply gap of the natural gas. Beside natural gas and coal exploration it is also working on granite extraction which has become popular modern construction material in recent years. Due to present Government energy focused policy adoption and all-out efforts the gas price is still affordable to the stakeholders which helps the boost in the economic growth.

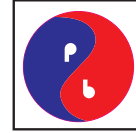
I am hopeful and happy to keep confidence on Petrobangla and its associated companies towards their achievement to the high with their energy dedication, commitment, integrity and target-oriented performance with hard work and utmost sincerity.

I take this opportunity to thank the Chairman Petrobangla and his colleagues for bringing out this publication. I hope they will make their best efforts to publish The Annual Report in a much improved form in future.

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

(Nazimuddin Chowdhury)





**Chairman**  
Petrobangla

## Introduction

I am, indeed, delighted to present the Annual Report, 2016 of Petrobangla that provides an overview of the key activities, projects and performances of the corporation in the FY 2015-16, as well as future plans and priorities as it continues its endeavor with its 13 companies for ensuring environment-friendly, sustainable and affordable primary energy supply in the country.

In the FY 2015-16, Petrobangla and its companies produced 973 billion cubic feet (BCF) of natural gas, which was equivalent to 24.3 million metric tons of oil worth 7.5 billion US dollars. Besides, about 4.1 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 1.1 million metric tons of coal this year. That is, Petrobangla and the companies under its umbrella provided fuels, around three-quarters of country's total commercial energy supply, worth around 7.8 billion US dollars in aggregate to the energy basket of the country in FY 2015-16.

Total initial recoverable proven plus probable gas reserve of 26 fields, discovered so far in the country, has been estimated to be at 27.12 trillion cubic feet (TCF); out of this estimated proven recoverable reserve (P1) is 20.77 TCF while the recoverable probable (P2) reserve is 6.35 TCF. Up to December, 2016 as much as 14.24 TCF gas was produced, leaving only 12.88 TCF of recoverable gas in 2P category. Currently, 20 gas fields are in production with 101 wells on-stream. Gas supply in the country increased from 600.86 BCF in FY 2007-08 to 973 BCF in FY 2015-16 due to various development programmes undertaken by Petrobangla during this period. Of this production, grid power consumed the largest share, about 399.6 BCF (41.33%) followed by captive power and industry which consumed 160.8 BCF (16.62%) and 156.0 BCF (16.13%) respectively; fertilizer 52.6 BCF (5.44%), domestic 141.5 BCF (14.63%), CNG 46.5 (4.81%) and commercial and tea-estates together 9.0 BCF (1.1%) in FY 2015-16.

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, a number of new gas structures have been delineated; 12 exploration and 52 development wells have been drilled, and workover of 25 wells have been completed. These activities



added a gross flow capacity of 1,503 million standard cubic feet per day (MMscfd) with net addition of 1,006 (MMscfd) due to natural decline in flow capacity of some wells as well as depletion of two gas fields. As a result gas supply capacity has risen to 2,750 MMscfd. At the same time, a total of 862 km transmission pipeline has been laid under different projects in addition to installation of three 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), the lone national exploration company under Petrobangla, has embarked on implementation of extensive exploration programmes that include drilling of 55 exploration wells and 31 development wells within 2021 along with 3,000 line-kilometre of 2D seismic survey during 2016 to 2019 in the onshore.

In order to reduce overwhelming dependence on natural gas and diversify the sources of energy supply, Petrobangla has developed the first coal mine of the country at Barapukuria. At present, Barapukuria Coal Mine is producing approximately 4000-5000 metric tons of coal daily. About 1.1 million metric tons of coal was produced in the FY 2015-16. The coal extracted from this mine is mainly used to fuel the only coal fired 250 MW power plant of the country located in Barapukuria. Two feasibility projects, one for extension of Barapukuria and another for development of Dhippara coal mine, are underway with the objectives of enhancing coal mining in the country.

Apart from these, Maddhapara Granite Mining Company Limited at Dinajpur - the only company of its kind in the country - extracts granite which is used mostly as construction material. Initiative has been taken to conduct a feasibility study to expand the operation of the existing mine. In the FY 2015-16, a total 1,53,719 metric tons of granite was produced from Maddhapara Mine and 6,25,831 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 rid the country from perennial fuel shortage, which is having a heavy toll on the country's economy, Petrobangla is set to import liquefied natural gas (LNG) in tandem with its endeavors to scale up exploration activities for new resources in the country. A Terminal Use Agreement (TUA) has been signed with Excelerate Energy Bangladesh Ltd. (EBBL) to setup an FSRU for supplying 500 MMSCFD RLNG within April, 2018. Another TUA has been signed with Summit LNG Terminal Co. Ltd. to supply 500 MMSCFD RLNG expected to be commissioned in October, 2018. As long-term measures two/three land based LNG terminals have been planned; feasibility studies are in progress for installation of these terminals at Moheshkhali, Kutubdia and Payra. A long-term contract with RasGas, Qatar is in final stage; discussion with Oman Trading International (OTI) and Pertamina, Indonesia are in progress to purchase LNG on G to G basis.

Exploration in the offshore is gathering momentum. Initial exploration activities are in progress. In the first phase ONGC Videsh Ltd.(OVL) has completed 3,008 lkm of 2D marine seismic survey data acquisition in blocks SS-04 and SS-09. In the 2nd phase OVL will carry out 2,542 lkm 2D OBC (Ocean Bed Cable) survey. As on December 2016 OVL completed about 500 lkm out of 2,542 lkm program in the 2nd phase survey. While in block SS-11 Santos conducted 3,050 line kilometer of 2D seismic survey in 2015. Interpretation and integration of the data sets had been completed and they submitted the report to Petrobangla in the first quarter of 2016. Under the Special Act for speedy gas supply, one PSC for deep sea block DS-12 has been signed with POSCO DAEWOO Corporation. They are preparing for conducting seismic survey in this block.

During FY 2015-16, Petrobangla group contributed to national exchequer an amount to the tune of Tk. 75,215.7 million and saved a considerable amount of foreign exchange by substituting import of fuel.

Petrobangla as a the state-owned flagship organization in the energy sector of the country, with its large army of dedicated workforce, is making its all-out efforts for maximizing the supply of fossil fuels, be it from indigenous sources or imported. It is now well perceived that after completion of ongoing efforts of Petrobangla, gas shortage in the country will soon be a matter of past in the country by the grace of Almighty.

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

(Abul Mansur Md. Faizullah ndc)



## Board of Directors (Incumbent)



**Abul Mansur Md. Faizullah ndc**  
Chairman  
Petrobangla  
Chairman of the Board



**Md. Moinul Islam**  
Addl. Secy. Finance Division  
representing MoF  
Director of the Board



**Niru Shamsun Nahar**  
Chief, Industry & Energy Division  
Planning Commission  
representing MoP  
Director of the Board



**Kazi Zebunnessa Begum**  
Addl. Secy. (Development)  
representing EMRD  
Director of the Board



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



**Md. Towhid Hasanat Khan**  
Director (Finance)  
Petrobangla  
Director of the Board



**Jameel Ahmed Aleem**  
Director (Operation and Mines)  
Petrobangla  
Director of the Board



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



**Md. Mahbub Sarwar**  
Director (PSC)  
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	Shafiu 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 - 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.

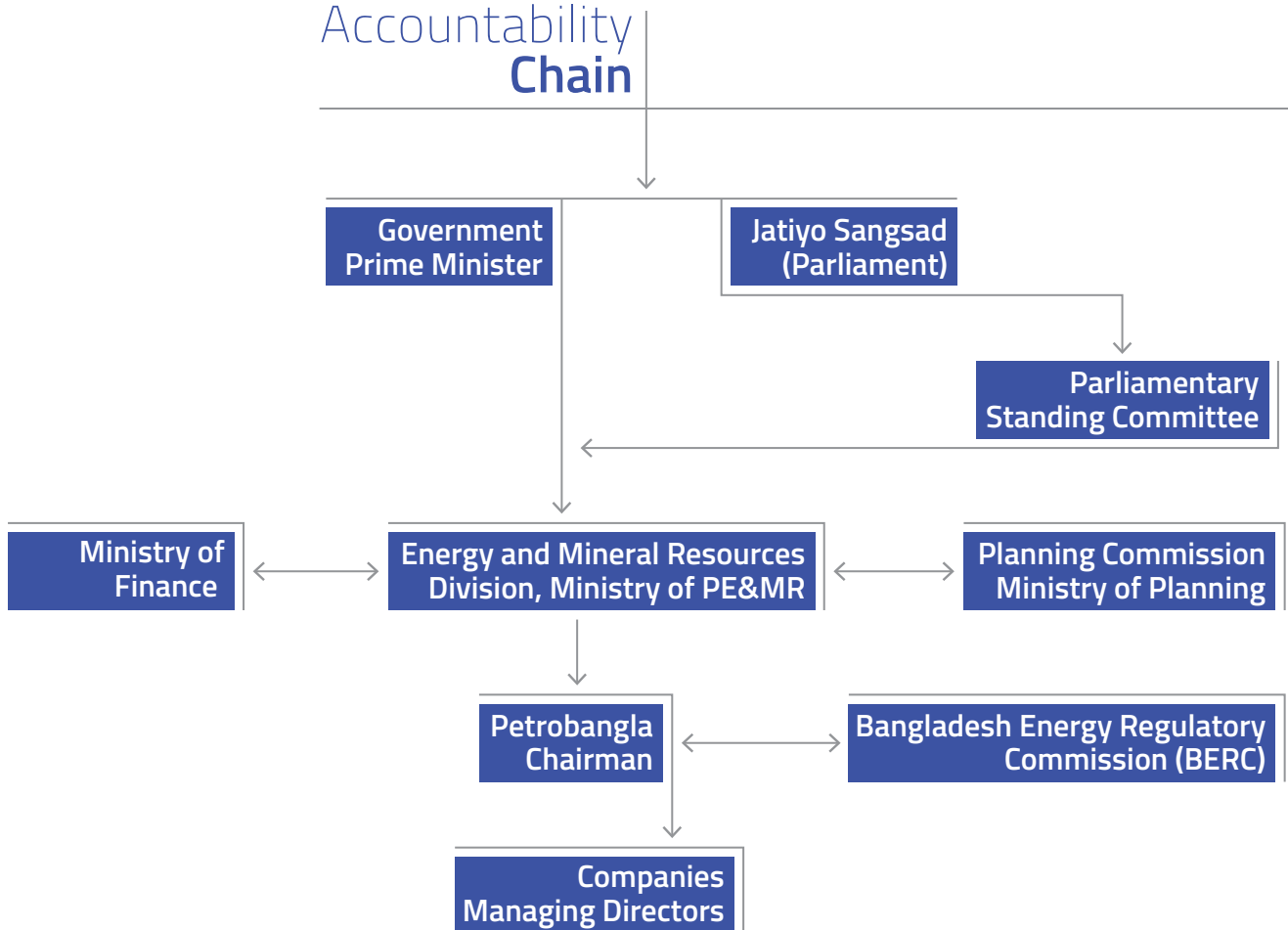


# Petrobangla and The Government

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 affairs and business of the Corporation vest in its Board of Directors. It is the policy making and managing body of the Corporation, with members from Energy, Finance and Planning Ministries. The Board in discharging its functions acts on commercial consideration having due regard to public interest. The Corporation is under the administrative control of the Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resources. The Corporation has also close relationship, through the Ministry of Power, Energy and Mineral Resources, with the Ministry of Finance and the Ministry of Planning for its development programmes. There is also active relationship between the Corporation and other functional bodies such as Bangladesh Energy Regulatory Commission, National Board of Revenue, the Department of Explosives and the Department of Environment for relevant purposes.

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

## Accountability Chain





## A Brief History of Oil, Gas and Mineral Industry In Bangladesh

### The beginning : up to 1947

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

### The interim : 1948 to 1971

The promulgation of 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, Bogra and Kuchma in the north-western part of the country without success. PPL drilled wells in Haripur, Patharia, Chhatak, Fenchuganj, Patiya and Lalmai and made the first gas discovery in Haripur in 1955, followed by Chattak in 1959. PSOC was the most successful company and discovered 5 gas fields named Titas, Habiganj, Rashidpur, Kailashtila and Bakhrabad. They also drilled the first offshore well Cox's Bazar-1, which was dry.

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

### The way forward : 1972 to 1979

After the independence of Bangladesh, exploration activities by both national and international companies gathered pace. Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) continued its exploration efforts while the Bangladesh Petroleum Act was passed in 1974 to facilitate international participation under Production Sharing Contract (PSC). The offshore area of Bangladesh was divided into 6 blocks, which were taken up by Ashland, ARCO, BODC (Japex), Union Oil, Canadian Superior Oil and Ina Naftaplin under PSCs. These companies carried out gravity, magnetic and seismic surveys (about 32,000 km) and drilled 7 wells. Of them, only Union Oil Company discovered an offshore gas field Kutubdia in 1977. This phase of PSC ended in relinquishment of the blocks by the PSC operators in 1978. On 9 August, 1975, Government led by the Father of the Nation Bangabandhu Sheikh Mujibur Rahman purchased 5 gas fields, namely Titas, Habiganj, Rashidpur, Kailashtila and Bakhrabad from British company, Shell Petroleum Company Limited, for a nominal amount of 4.5 million pound sterling. This landmark decision taken by the then Government laid the foundation of energy security of the country by introducing sole ownership of the state over these major gas fields.

### Gathering momentum : 1980 onwards

The 1980s saw accelerated exploration activities by Petrobangla. During the time, 12 exploration wells were drilled at Muladi, Begumganj, Singra, Beanibazar, Atgram, Feni, Fenchuganj, Sitakund, Bogra, 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 (4,977m). Meanwhile, a new milestone was achieved when Petrobangla discovered the first commercial oil pool in Sylhet no. 7 on 23 December, 1986. Since 1989, after the formation of BAPEX as the national exploration company and thereafter exploration and production company, the company has continued exploration and production activities and drilled 4 exploratory wells discovering gas at Shahbazpur, Saldanadi, Srikail and Sundalpur



In 1981 Shell Oil Company (Shell) was awarded the Chittagong Hill Tracts for petroleum exploration under PSC. Shell conducted geological and seismic survey and drilled the Sitapahar well which was 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, two 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. One PSC for deep sea block DS-12 is going to be signed very shortly with POSCO DAEWOO Corporation. Since the signing of the PSCs, several changes in ownership and restructuring in the contracts have taken place. 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, 2016 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 Tullow.

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 explorations were also contributing to the enhancement of gas production. As of December, 2016 out of 26 gas fields discovered, 20 were under production. Meanwhile, peak gas production per day crossed the level of 2,700 MMSCFD by December, 2016. Despite increase in production, the rising demand could not be met and the gap between supply and demand is widening. As such, the government has taken steps to import LNG and to implement massive exploration programmes in both onshore and offshore areas to minimize the gap.

### 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 BOGMC. 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).



Granite Mining by MGMCL





## 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. Furthermore, extraction of coal and granite are also conducted by Petrobangla.



3D Seismic Survey by BAPEX

### Exploration :

**Geological:** Geological survey has been carried out for Batchia formation in Moulovibazar district. With a total length of 22 lkm, this survey completed Baghachora section and partially completed Chomparechora and Kurmachora sections. The team collected 10 rock samples and no sample gas/oil/water yet.

**2D Seismic Survey :** Under 2D seismic project of BAPEX, a total of 1289 lkm 2D seismic data have been acquired in Dhaka, Manikgonj, Savar, Singair, Moulovibazar, Sylhet, Hobiganj, Sunamganj, Feni, Chittagong, Khagrachori, Jamalpur, Sherpur, Munshiganj, Comilla areas, some potential seismic lead have been identified which demands in detail exploration activity to keep up the growing demand of natural gas for the fast growing economic development of the country.

**3D Seismic Survey :** A Project entitled "3D Seismic Project of BAPEX" has been initialled to conduct 1950 sq. km 3D Seismic survey during December, 2012 to November, 2017 over Sunetro, Shahbazpur, Sundalpur-Begumganj, Srikail, Narsingdi and Habiganj Gas Fields/Structures with an approved DPP cost of Tk. 1,825.00 million. During 2016 calendar year, data acquisition of 419 sq. km over Sundalpur-Begumganj Gas Field and 200 sq. km over Narsingdi Gas Field area; totaling 619 sq. km data acquisition was completed.



## Drilling :

**Mobarakpur-1 well :** The drilling of Mobarakpur-1 well started on 22 August, 2014 using ZJ50DB (Bijoy 12) rig. The preparatory works for performing 2nd DST at Mobarakpur-1 well has been continued. Prior to this, an agreement was signed between Sinopec and BAPEX to integrate BOP of 15000 PSI WP at Mobarakpur-1 well which was required for the DST.

**Shahbazpur-2 well :** Rig padding and associated tasks has been performed for the workover of Shahbazpur-2 well.

**Shahbazpur-4 well :** The workover of Shahbazpur-4 well has been carried out by IPS rig which has been completed in October, 2016 and then gas flow started from the well throughout the existing process plant.

**Srikail-4 well :** The drilling of Srikail-4 well started on 15th February, 2016. Drilling was done to the depth of 3,512 metres. As well as subsequent DST and perforation was done as per technical discussion. The well was handed over to BAPEX on 10th May, 2016 and since 25th May, 2016 gas flow has been added to the national grid at an amount of 10 million from the Srikail-4 well.

**Bangora-6 and 7 well :** The drilling of Bangora-7 started on 4 September, 2016. Rig-down performed on the 1st week of December, 2016. Previously, an 8.625" casing has been run-in at 2,774 metres depth on October, 2016.



*Bijoy Rig of BAPEX*

## Production :

In the FY 2015-16, total 973.2 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 36.19% of total gas produced during FY 2015-16. BAPEX was assigned with production activities in 2000. It produced 43.11 BCF gas in FY 2015-16. Total production of these 3 national companies stood 395.3 BCF which was 40.62% of total production of gas during FY 2015-16. The remaining 577.92 BCF gas was produced by IOCs (Chevron and Tullow), which was 59.38% of total production of gas during 2015-16.

Compared to the previous year, Chevron produced 17.12% higher while Tullow and BAPEX produced 4.72% lower and 8.40% higher amount of gas respectively, in FY 2015-16. BGFCL and SGFL maintained their production almost at the same level of the previous year. The total production in FY 2015-16 stood at 973.2 BCF, averaging about 2,660 MMSCFD. Out of this, BGFCL produced 298.27 BCF, SGFL 53.92 BCF, BAPEX 43.11 BCF, Chevron 541.15 BCF and Tullow 36.77 BCF. The major gas producing fields of the companies under Petrobangla are : Titas Gas Field contributing 19.27%, Habiganj 8.46%, Kailashtila 2.69%, Rashidpur 2.19% and Fenchuganj 1.32%, whereas major producing fields under IOCs are : Bibiyana contributing 44.25%, Jalalabad 9.78%, Moulvibazar 1.57% and Bangura 3.78% .

At the end of FY 2015-16, 20 gas fields were in production with 101 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, 2016, Chevron and Tullow produced 273.48 BCF and 17.09 BCF gas respectively while local companies produced 192.76 BCF gas, making total of 483.34 BCF.



## 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 Monohordi-Dhanua and Elenga-East Bank of Jamuna Bridge 30" x 51 km gas transmission pipeline, Hatikumrul-Ishwardi-Bheramara 30" x 87 km gas transmission pipeline, Bonpara-Rajshahi 12" x 53 km gas transmission pipeline, Bheramara-Khulna 20" x 165 km gas transmission pipeline, Bakhrabad-Siddhirganj 30" x 60 km gas transmission pipeline, 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 and Installation of Compressor Stations at Ashuganj and Elenga by GTCL to enhance the gas transmission capacity. Among them, construction of 30" x 51 km Monohordi-Dhanua and Elenga-East Bank of Jamuna Bridge gas transmission pipeline, Hatikumrul-Ishwardi-Bheramara gas transmission pipeline, 12" x 53 km Bonpara-Rajshahi gas transmission pipeline, 36" x 137 km Bibiyana-Dhanua gas transmission pipeline, 24" x 7.5 km gas transmission pipeline from Titas location no. 7 to A-B Pipeline, Srikail - A-B 1.5 km gas transmission pipeline, Bheramara-Khulna 20" x 165 km gas transmission pipeline and Construction of 10" x 7.70 km Interconnection gas transmission pipeline from Titas Gas Field (Location C-B-A) to Titas-A-B Pipeline Projects have already been completed.

**Substantially completed projects by GTCL are :** (i) Installation of Compressor Stations at Ashuganj and Elenga, (ii) Hatikumrul-Bheramara 30" x 87 km gas transmission pipeline, (iii) 30" x 61 km Gas Transmission Capacity Expansion-Ashuganj to Bakhrabad and (iv) 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).

**Running projects are :** (i) Moheshkhali-Anowara 30" x 91 km gas transmission pipeline. (ii) Dhanua-Elenga and Bangabandhu Bridge West Bank-Nalka 30" x 66 km gas transmission pipeline. (iii) Sarail-Khatihata and Malihata-Khatihata 20" x 3.5 Km Gas Transmission Pipeline Project. (iv) Anowara-Fouzdarhat 42" x 30 km gas transmission pipeline. (v) Moheshkhali-Anowara 42" x 79 km gas transmission Parallel pipeline. (vi) Bakhrabad-Feni-Chittagong 30" x 181 km gas transmission Parallel pipeline. (vii) Construction of 30" x 6.15 km Padma River Crossing gas transmission pipeline. (viii) Kutumbopur-Meghnaghat 24" x 45 km gas transmission pipeline.

## Pipelines :

Gas pipeline network continued to expand both in transmission and distribution. In total about 285.84 km pipelines of various sizes and grades were completed during the year 2015-16; these included 61 km transmission pipeline, 0.32 km distribution pipelines, 200.31 km feeder main and service lines and 24.21 km others (customer financing) pipelines. As on June, 2016 the gas pipeline network encompassed about 23,733.1 km comprising of about 2,536.26 km transmission lines, 2,371.8 km distribution lines, 16,609.52 km feeder main and service lines and the rest 2001.95 km other (customer financing) lines.

As in December, 2016 the pipeline network increased to about 23,750.43 km, which included about 2,550.58 km transmission lines, 2,372.04 km distribution lines, 16,609.9 km feeder main and service lines and the rest 2,004.34 km pipelines constructed under customer financing.



*Padma river crossing by GTCL*





## 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 (TGTDCL), (2) Bakhrabad Gas Distribution Company Limited (BGDCL), (3) Jalalabad Gas Transmission and Distribution System Limited (JGTDSL), (4) Paschimanchal Gas Company Limited (PGCL), (5) Karnaphuli Gas Distribution Company Limited (KGDCL) and (6) Sundarban Gas Company Limited (SGCL). Each company has its own marketing franchise area, covered by a fairly extensive distribution network. Among these marketing companies, Sundarban Gas Company Limited is the youngest one, which has started its operation in Bhola.

The total gas sales of the aforesaid six marketing companies in operation during this financial year was about 966.9 BCF, of which TGTDCL, being the largest shared about 60.5%, followed by BGDCL 14.1%, KGDCL 10.3%, JGTDSL 9.9%, PGCL 4.2% and SGCL 1.1%. Gas sector catered to 3.44 million customers under various categories as in June, 2016 which rose to 3.48 million at the end of December, 2016. 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 the fractionating condensate from national fields in fractionation plants installed at different gas fields, Rashidpur Condensate Fractionation Plant with a capacity of 3,750 barrels/day is producing petrol, diesel and kerosene by fractionating the condensate received from Bibiyana Gas Field. During 2015-16, a total of 543,298 barrels of condensate was produced by SGFL, BGFCL and BAPEX and 3,641,190 barrels by IOCs as a by-product of gas. During the same period, SGFL extracted 162,051 barrels of NGL from the gas processed in its Mole-Sieve Turbo Expander plant at Kailashtila. On the other hand, a total of 558,162 barrels of petrol, 349,674 barrels of diesel and 102,314 barrels of kerosene was produced by fractionating the condensate at the fractionation plants located at different fields of SGFL, BGFCL and RPGCL.



*Condensate delivery at Ashuganj by 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 3.53 BCF of CNG is used every month from 554 CNG stations, which is about 5% of the total gas consumption in the country. Consequently, the Government has been able to save about Tk. 11,170.0 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 6,080 metric tons of LPG by processing NGL in its fractionation plants (Plant-1 and 2) at Kailashtila in Sylhet in 2015-16.



## Liquefied Natural Gas (LNG) :



Terminal Use Agreements (TUA) signing with Excelerate Energy Bangladesh Limited

Present supply from existing gas fields is about 2750 MMSCFD against connected demand of about 3400 MMSCFD. This demand may be increased up to 4500 MMSCFD in the year 2021/22, widening the shortfall between demand and supply. To minimize the demand-supply gap, the Government has invigorated its effort to enhance gas production along with initiatives to import considerable quantity of LNG. Two Terminal Use Agreements (TUA) have been signed with Excelerate Energy Bangladesh Limited and Summit LNG Terminal Co. (Pvt.) Ltd. to install 2 Floating Storage and Re-gasification Unit (FSRU) at Moheshkhali approximately 90 kilometers south of Chittagong for supplying 500 MMSCFD of LNG each and expected to commission by April and October 2018 respectively. A Sales Purchase Agreement (SPA) has been initiated with RasGas of Qatar for supplying LNG. Construction of 30" x 91 km transmission pipeline from Moheshkhali to Anowara in Chittagong has already been completed. In addition, Petrobangla has started initial activities to install 2 land based LNG terminals, one at Moheshkhali and the other at Paira port area. Each of these two terminals will have a capacity of handling LNG equivalent to 1,000 MMSCFD of gas and a techno-economic feasibility study is underway for installation of these two terminals. Other than these, Memorandum of Understandings (MoU)/Term Sheets have been signed with few institutions with the object of installation of Land Based, Fixed Jetty Based and Gravitfloat LNG Terminals and initial survey activities have been carried out.





## 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 Stock Yard of BCMCL*

## Coal :

At present, natural gas accounts for about three-fourths of the commercial energy used in the country. Excessive dependence on natural gas has contributed to sharp growth in its demand. But gas is depleting very fast. Given the uncertainty of sustainable supply of natural gas, it is imperative to diversify the primary energy sources in the country. And coal can be a major source of primary energy supply in this country in future. Five coal fields have been discovered with estimated reserve of more than 3 billion tones, out of which Petrobangla has developed the first coal mine of the country at Barapukuria. At present, Barapukuria coal mine is producing approximately 4000-5000 metric tons daily. In the FY 2015-16, total 1,021,638 metric tons of coal was produced from this mine. The coal extracted from this mine is mainly used to fuel the only coal fired 250 MW power generation plant in the country located at Barapukuria. The remainder is used in brick fields, boiler industry, steel re-rolling mills, etc. With the objective of enhancing present production, various initiatives are underway which include feasibility study for extension of existing underground mining operation of Barapukuria Coal Mine towards the southern and the northern side of the basin without interrupting the present production, phase-2 feasibility study for development of Dighipara Coal Field at Dighipara, Dinajpur. Petrobangla has already implemented a 2D seismic survey for feasibility study of coal deposit at Dighipara under phase-1 and coal reserve has been estimated at 865 million metric tons. Furthermore, in an effort to diversify the current energy mix and partially resist deforestation and also to exploit a viable non-conventional source of energy, Petrobangla conducted feasibility study for the extraction of Coal Bed Methane (CBM) at Jamalganj coal field by drilling slim bore-hole and testing of the coal sample under the Consultancy Services. The study has revealed that in situ Gas content is invariably very low, 0.36 cc/gm to 1.7 cc/gm and total Gas-in place estimated for an area of 64.42 sq km of the Coal field is 4.99 BCM or 176.27 MMcf. Because of extreme gas under-saturation CBM production is not commercially viable. The study has established huge in place coal resource 5.45 Bt within the study area of 64.42 sq km. The coals occur at depth of 600 to 1050m.

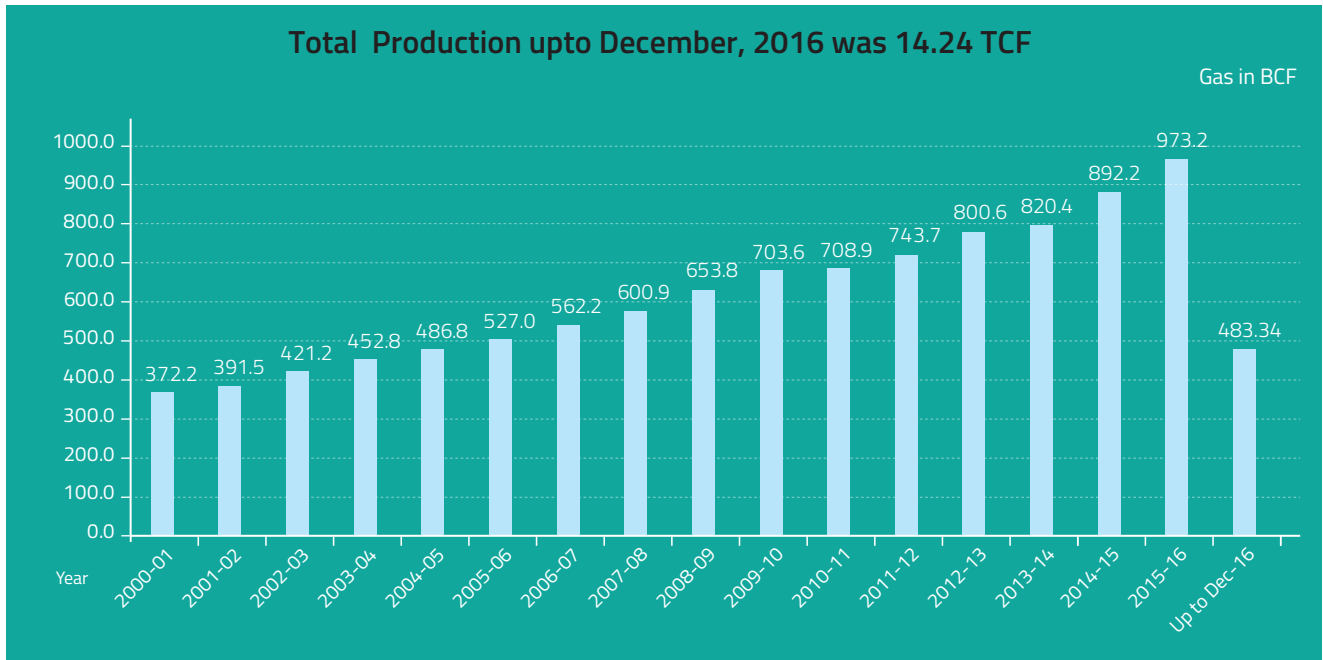
Presently, the Government has been putting efforts to finalize a coal policy wherein the strategies and rules of coal extraction will be spelled out. It is expected that the upcoming coal policy will help achieve the targets and take appropriate steps for developing the prospective coal sector.

## Granite :

Maddhapara Granite Mining Company Limited (MGMCL) at Dinajpur, the only underground mining company of this kind in the world, has been extracting granite which is used mostly as construction material. During the FY 2015-16, total 1,53,719.00 metric tons of granite was extracted from the mine and 6,25,831.00 metric tons was sold.

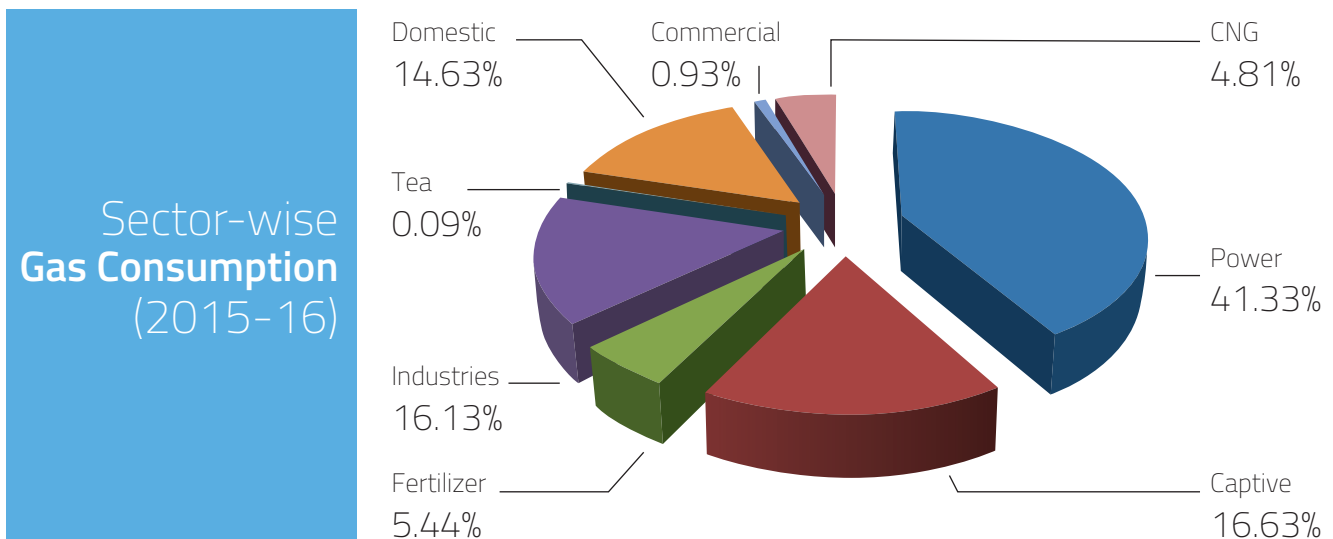


# Gas Production in Bangladesh



## Marketing :

In keeping with the increased production, gas sales also showed an upward trend. By the end of 2015-16 financial year, total sales was 966.9 BCF, of which power sector (Grid + Non-Grid) consumed the largest part amounting to 399.6 BCF followed by fertilizer sector 52.6 BCF, captive power 160.8 BCF, industry 156 BCF, domestic sector 141.5 BCF, and other non-bulk sectors 56.4 BCF. As in December, 2016 gas sector catered to more than 3.47 million customers of various categories. Most of this customers fall under domestic category; however, power sector remained the largest consumer.



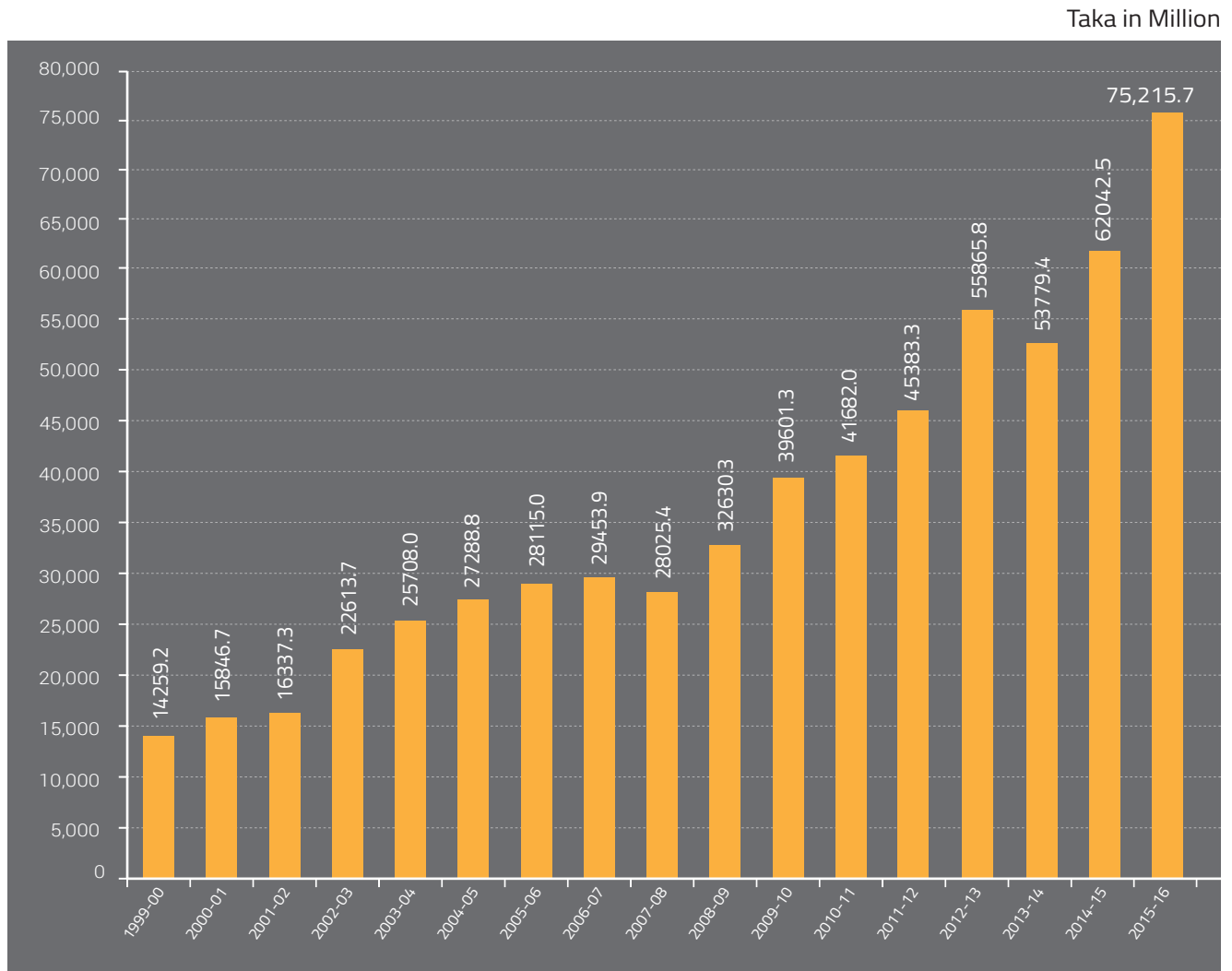




## Financial :

The gross income in the FY 2015-16 by Petrobangla group from sales of gas, gas derived liquids, coal and granite stood at Tk. 3,46,282.40 million. After paying Supplementary Duty (SD) and VAT, net income was Tk. 3,13,914.77 million. Gross expenses, comprising of Tk. 32,367.63 million as SD and VAT along with Tk. 3,14,768.47 million as cost of sales, amounted to Tk. 3,47,136.10 million. After paying income tax, net profit stood at Tk. 1,672.18 million. And after paying dividend of Tk. 7,940.23 million, net profit/(loss) turned out to be Tk. (6,268.05) million.

## Payment to National Exchequer



## Innovation Programme :

In order to provide better service to the people through establishing transparency and to ensure good governance in the public administration, Government has undertaken innovation programme. Pursuant to the government's circular in 2013, Petrobangla and its companies have already formed innovation teams. They are performing their assigned duties. In terms of "Innovative Action Plan and Assessment Guideline-2015" of Cabinet Division, Petrobangla has prepared an Annual Innovation Work Plan for the calendar year 2016 with the aim of making easier the way of serving citizen and to make qualitative change in working process. In line with this Work Plan-2016, Petrobangla has implemented the three innovative ideas which are: (a) Online Gas Bill Payment System; (b) Hotline Service and (c) CNG Auto Billing system.



## 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 programs : (i) Boiler Economiser Pilot Program (to fit an economiser 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 Program (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 Program (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 EMOs proposed by the consultants are implemented.

## Potential Gas Savings and Carbon Emissions Reduction

Energy Management Opportunities	From Audited Industries		Nationwide projection			
	Possible Annual Gas savings (MMSCF)	Savings to Consumption Ratio of Gas	Total Gas consumption (MMSCFD)	Potential Gas savings		Carbon Emission reduction (Ton/year)
				(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
<b>Total</b>			<b>816</b>	<b>286</b>		<b>5,350,964</b>

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.

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.



*Economizer to exhaust of the boiler to recover waste heat for heating the boiler feed water*



## Annual Performance Agreement (APA) :

Government of Bangladesh has introduced Government Performance Management System (GPMS) for ensuring assessment of performance from qualitative to quantitative figures in the public sector. Under this programme, Annual Performance Agreement (APA) system has been initiated. APA between EMRD and Petrobangla, and between Petrobangla and its companies are being signed every FY. Regarding APA in the FY 2015-16, Petrobangla's achievement was 89.14%. APA for the FY 2016-17 was signed between EMRD and Petrobangla on 27 June, 2016, while between Petrobangla and its companies on 30 June, 2016. A Director of Petrobangla has been assigned as the focal point for monitoring APA properly, and for necessary communication with EMRD and its companies. Report of achievement against APA is sent to EMRD on monthly, quarterly, half-yearly and yearly basis.



*Petrobangla signed APA with its companies on 30 June, 2016.*

## 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 To Information (RTI) Act, Petrobangla has specifically designated an officer.

## National Integrity Strategy :

As per government's decision and to implement national integrity strategy at the corporation level, time bound action plan from October, 2016 to June, 2017 has been prepared. A Committee has been formed to implement National Integrity Strategy in the Corporation. Time bound action plan report was sent to EMRD on 9 July, 2017. 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.



## 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 2015- 16, Petrobangla group arranged foreign training of different durations and disciplines for 493 personnel, while 25 participants were sent for attending seminars, 15 for attending workshops, 9 for attending conference, 42 for inspections and 9 for attending meetings. During the same period, local training was imparted to 131 personnel, while 26 were sent for attending seminars, 6 in workshops, 8 in summits, 13 in conventions, 3 in road shows and 7 in internships held in the country.

Petrobangla has implemented e-tendering procedure for inviting bid and going to introduce e-filing system with Access to Information (a2i). Petrobangla has also undertaken an initiative to develop an ERP system to digitalize and automate all levels of system. Petrocentre, the head office complex has already been under LAN and Wi-Fi connection to ensure internet based activities. Petrobangla is now connected in video-conferencing system of Bangla Govt. Net and taken a plan to establish video-conferencing system to the companies of Petrobangla. Website of Petrobangla is now in both Bangla and English version and Petrobangla monitors its company's website either the information of websites is updated or not. Petrobangla also maintain a mail server to ensure authentic and digital communication. Some previous applications like Human Resource Information System (HRIS) introduced in the early of 2008, Unified Material Code (UMC) is obsolete so the systems will be included in the ERP system. Beside this Petrobangla and its companies trying to develop some e-services to ensure that the stakeholder avail it smoothly. To increase the surveillance system Petrobangla is going to establish IP (Internet Protocol) camera system.



*Farewell of two officials before their going to PRL.*

## Grievance Redress System (GRS) :

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 wound up by 1978.

### PSCs in the 1980s

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

### 1993 Bidding Round

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

- Occidental (OXY) for blocks 12, 13 and 14 (Onshore); later transferred to Chevron which is producing from Bibiyana, Jalalabad and Moulvibazar fields;
- Cairn Energy for blocks 15 (Onshore) and 16 (Offshore); Cairn discovered Sangu gas field in 1996 which produced until 2013. Blocks 15 and 16 have now been relinquished, except for the ring-fenced offshore Magnama structure which was transferred to Santos;
- Oakland-Rexwood for blocks 17 and 18 (Offshore); transferred to CFP Total which has relinquished both blocks;
- United Meridian Corporation (UMC) for block 22 (Onshore); relinquished;
- Exploration ring-fenced of block 16 (Magnama ring-fence) is operated by Santos. Drilling operation is scheduled to take place in 2015.

### 1997 Bidding Round

4 blocks were awarded as follows :

- Tullow/Chevron/Texaco/BAPEX for block 9 (Onshore);
- Shell/Cairn/BAPEX for blocks 5 and 10 (Onshore); relinquished in totality; and
- Unocal/BAPEX for Block 7 (Onshore); relinquished in totality.

During this bidding round, the provision for a mandatory 10% carried interest for BAPEX was introduced and implemented for all blocks.

### 2008 Bidding Round

It attracted some bids, but the ensuing maritime boundary dispute with Myanmar in most of the blocks created a stalemate. However, the Government succeeded in signing a PSC for 2 deep sea blocks on 16 June, 2011 with ConocoPhillips for DS-10 and DS-11. ConocoPhillips conducted 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 :

3 proposals were received for blocks DS-12, 16 and 21 Joinly 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.

### Operating Fields under PSC in 2015-16

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 Bangora 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.

**Jalalabad :** Jalalabad Gas Field has 7 wells including 3 additional new wells drilled at 2015. Currently, total production from this field is around 270 MMSCFD gas and 2,000 bbl/day condensate.

**Moulvibazar :** Moulvibazar is producing 40 MMSCFD (down from 110 MMSCFD) from 6 wells while the installed process plant capacity is 125 MMSCFD. As production is now declining, the operator is investigating ways to enhance or at least sustain present rate of production.

**Bangura :** The Bangora field started producing in 2006, peaking at 120 MMSCFD in 2010 and thereafter declining to 100 MMSCFD from 4 wells. 2 development wells have been planned to drill. to sustain the current rate of production. In December 2016 one well has been drilled successfully.

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 2015-16 was 582 BCF together with 3,390,056 barrels of associated condensate. Since the beginning of PSC operations in Bangladesh in the 1970s, a total of 27 exploration wells have been drilled resulting in the discovery of 6 gas fields.



Bibiyana Gas Field



*Bangura Gas Field*

#### **Preparation for future Offshore Bidding Round :**

Bangladesh's maritime victory over Myanmar and India have opened the door to immense possibilities for the nation. Our neighbours 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. To achieve these objectives up gradation of model PSC is in progress.

#### **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 will carry out 2542 lkm 2D OBC survey. As on December 2016 OVL completed about 500 lkm survey. By January 2019 OVL will drill 1 exploratory well in block SS-04 and 2 exploratory wells in block SS-09.

In block SS-11 Santos conducted 3,050 line kilometers of 2D seismic survey in 2015 Interpretation and integration of the data sets have been completed and submitted the report to Petrobangla in the first quarter of 2016. They are going to conduct 300 sq. kilo meters of 3D seismic survey in the 3rd quarter 2017. By February 2019 Santos will drill 1 exploratory well in block SS-11.

Petrobangla has planned 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.

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 the Special Act for speedy gas supply one PSC for deep sea block DS-12 is going to be signed shortly with POSCO DAEWOO Corporation. Initially they will carryout 1800 lkm 2D seismic survey. Depending upon the outcome of the survey Daewoo will conduct 1000 Sq.km. 3D seismic survey and drill one exploratory well.

Very recently national exploration company Bapex has taken over 49% of rights of Santos Bangladesh Ltd's block 16 Magnama stake under PSC. Jointly Bapex and Santos have started to drill Magnama-2 exploratory well.



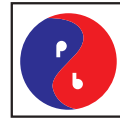




# Companies of Petrobangla

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.

## PETROBANGLA



EXP. & PROD.	TRANSMISSION	DISTRIBUTION	CNG & LPG	MINING
 <p><b>BAPEX</b></p>	 <p><b>GTCL</b></p>	 <p><b>TGTDCCL</b></p>	 <p><b>RPGCL</b></p>	 <p><b>BCMCL</b></p>
 <p><b>BGFCL</b></p>		 <p><b>BGDCL</b></p>		 <p><b>MGMCL</b></p>
 <p><b>SGFL</b></p>		 <p><b>JGTDSL</b></p>		
		 <p><b>PGCL</b></p>		
		 <p><b>KGDCL</b></p>		
		 <p><b>SGCL</b></p>		



## 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.

Participating in an international open tender, BAPEX obtained a contract for drilling Bangora- 6 and 7 development wells which fall under KrisEnergy-the operator of PSC block 9. The final contract was signed on 26 November, 2015. In the mean time BAPEX has completed a workover programme at Bangura well-7. Aside from exploring oil and gas and drilling, BAPEX is now producing nearly 105 million cft of gas daily from Saldanadi, Shahbazpur, Fenchuganj, Semutang, Begumganj, Shahjadpur-Sundalpur and Srikail Gas Fields. Another gas field at Rupganj which is ready to go on production as soon as Titas Gas Transmission and Distribution Company Limited (TGTDC) completes their setup of transmission pipeline.

BAPEX has drilled 8 exploratory wells, out of which 5 gas fields have been discovered. Since its inception, BAPEX has successfully completed work-over operations of 27 wells, drilling of 8 exploration wells and 21 development wells. Experience of exploring oil and gas gathered over a period of 27 years has enhanced the technical capacity of BAPEX. New gas reserves to be explored through the ongoing drilling works will help implement the Vision 2021 by mitigating the energy crisis of the country.

Under Bangladesh Offshore Bidding Round, 2012, 2 production sharing contracts (PSCs) have been concluded with ONGC Videsh Ltd. (OVL) and Oil India Ltd. (OIL) for shallow-sea blocks SS-4 and SS-9, and 1 PSC with Santos Sangu Field Ltd. and KrisEnergy Bangladesh Ltd. for shallow-sea block SS-11. The Government of Bangladesh has nominated BAPEX as stakeholder carrying 10 percent interests for these blocks. A joint operating agreement was signed with Santos Sangu Field Ltd and KrisEnergy Bangladesh Ltd on 18 June, 2015 to create an opportunity for BAPEX to participate in offshore gas blocks. And signing of a joint operating agreement with ONGC Videsh Ltd. (OVL) and Oil India Ltd. (OIL) is in the offing.

During the FY 2015-16, total income of BAPEX stood at Tk. 2,995.39 million, of which Tk. 1,185.17 million (excluding SD and VAT) earned from sales of natural gas and condensate of own gas fields, Tk. 538.20 million received from different gas marketing companies of Petrobangla as "BAPEX Margin" on gas sales and Tk. 1,272.02 million earned from PSC Block-9, interest income and income from other sources. Against this income, total expenditure stood at Tk. 3,554.80 million during the year. The net loss after tax of the Company stood at Tk. 579.23 million. During the FY, the revenue reserve stood at Tk. 2,137.14 million after prior years adjustment of Tk 7.94 million and transfer to profit and loss appropriation account accumulated revenue of Tk. 2,724.31 million. The Company paid Tk. 2,884.5 million to the Government Exchequer during FY 2015-16. The company has already established e-tendering procedure for inviting bid.



Considering its overall activities, for BAPEX, 2015-16 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 :

Hon'ble Prime Minister of the People's Republic of Bangladesh, during her visit to Ministry of Power, Energy and Mineral Resources on 6 February, 2014 and 9 April, 2015 expressed her deep interest in strengthening of BAPEX, the only state-owned petroleum exploration company, to trim down the dependence on IOCs. To materialize this objective, she instructed to take a 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:

- BAPEX will conduct 3,000 lkm 2D seismic survey under proposed project named "Block 8 and 11 Regional 2D Seismic Survey Program" within July, 2016 to June, 2019;
- Drilling of 53 exploratory wells, 35 development wells and workover/remedial of 20 wells (a total of 108 wells) within July, 2015 to June, 2021; and
- To strengthening BAPEX and to implement the above work-plan employment of consultants and experts of different relevant fields on contractual basis is under active consideration.

**Completed Projects during FY 2015-16 are :** Procurement of Silica Gel Type gas process plant for Srikail gas field; Srikail-4 Appraisal cum Development well drilling project; Mobarakpur Oil/Gas exploration well drilling project; Salda-3 and 4 and Fenchuganj-4 and 5 gas field development project; Rehabilitation project for IDECO Rig engine mud tank and electrical power system; Procurement of TEG Type gas process plant for Shahbazpur gas field.

**On-going Projects during FY 2015-16 are :** 3D Seismic Project of BAPEX; 2D Seismic Project of BAPEX; Shahzadpur-Sundalpur (Sundalpur-2) Appraisal/Development Well Drilling Project; Rupkolpo-1 Drilling Project: 3 Exploration wells (Srikail East-1, Salda North-1 and Hararganj-1) and 2 Development wells (Srikail North-2 and Koshba-2); Rupkolpo-2 Drilling Project: 4 Exploration wells (Salda South-1, Semutang South-1, Batchia-1 and Salda East-1); Rupkolpo-3 Drilling Project: 4 Exploration wells (Koshba-1, Madarganj-1, Jamalpur-1 and Shoilokupa-1); Rupkolpo-4 Drilling Project: 2 Exploration wells (Shahbazpur East-1, Bhola North-1) and 2 Workover wells (Shahbazpur-1 and 2); Procurement of 1 drilling and 1 workover rig with supporting equipment for BAPEX.



3D Drilling by 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. After independence of Bangladesh, on a far-sighted decision of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, 5 gas fields of the erstwhile Pakistan Shell Oil Company Limited (PSOC), namely Rashidpur, Kailashtila, Titas, Habiganj and Bakhrabad were brought under state ownership on 9 August, 1975 by purchasing at a minimal price. Accordingly, Shell Oil Company was renamed as Bangladesh Gas Fields Company Limited 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). The company is currently contributing more than 31% of total gas production of the country. Presently, this company owns 6 gas fields - Titas, Habiganj, Bakhrabad, Narsingdi, Meghna and Kamta.

BGFCL continued gas production from 5 gas fields out of its 6 fields in the FY 2015-16. At present, daily maximum 817.17 million cubic feet gas is being supplied to the national grid from 38 wells of 5 producing fields. BGFCL shares about 30.7% of country's total gas production. During 2015-16 FY, 298.27 BCF of gas and 169,816 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 recovered condensate from Titas, Habiganj and Narsingdi Gas Fields of BGFCL and Beanibazar Gas Field of SGFL are fractionated into MS (Petrol) and HSD (Diesel) in 2 fractionation plants of Titas Gas Field. The recovered condensate from Bakhrabad and Meghna Gas Fields of BGFCL, Bangura Gas Field of Tullow, Saldanadi, Srikail, Sundalpur and Semutang Gas Fields of BAPLEX is fractionated into MS and HSD 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.

As per latest report of Petrobangla, total recoverable gas reserve of 6 fields under the company is about 12.252 TCF, out of which 7.427 TCF or about 60.62 percent was recovered till 30 June, 2016.

With a view to mitigating the ongoing gas crisis, BGFCL has kept up its relentless effort to ensure uninterrupted gas supply and implemented various development projects with the financial assistance of GoB and Gas Development Fund (GDF) in addition to various development partners such as ADB, JICA etc. Under the projects, 3 new wells (Titas-25, 26 and Bakhrabad-10) have been drilled and workover of 2 existing wells (Titas-11 and 21), installation of 3 gas booster compressors each having capacity of 15 MMSCFD, installation of 1 gas process plant having capacity of 75 MMSCFD have been completed. At present, out of these 5 wells, 3 wells are producing about 43 MMSCFD gas which is being supplied to national grid. About 45 MMSCFD gas from Titas well no. 25 and 26 is expected to become into production soon.

Under 3D seismic survey project, 335 sq. km field level survey over Titas structure and 210 sq. km over Bakhrabad structure have been completed. In the survey report drilling of 11 new wells at Titas Gas Field and drilling of 3 new wells at Bakhrabad Gas Field have been proposed. Of these, 4 wells (Titas-27, 24, 25 and 26) at Titas Gas Field and 1 well (Bakhrabad-10) at Bakhrabad Gas Field have been drilled as well as drilling of Titas-23 is in progress. About 32 MMSCFD gas from Titas-27 and Bakhrabad-10 is being supplied to national grid and about 70-75 MMSCFD gas from Titas-23, 24, 25 and 26 is expected to be added to national grid. To reduce gas seepage problems through workover programme of 5 wells at Titas Gas Field, a separate project was undertaken with GDF finance. Besides, due to gradual decline of wellhead pressure of producing wells at Titas, Bakhrabad and Narsingdi Gas Fields and hence for supplying gas from producing wells matching grid line pressure, a GDF financed project for installation of compressor at Bakhrabad Field was undertaken; another project funded by JICA was undertaken for installation of compressors at Location-C of Titas Field and Narsingdi Gas Field. Besides, a project funded by ADB has already been approved for installation of wellhead compressors at Location-A of Titas Gas Field.

The company earned a gross revenue of Tk. 36,618.9 million and a pre-tax profit of Tk. 5,800.6 million during the FY 2015-16. The company also paid Tk. 27,987.9 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 website and necessary steps along with training program have been taken to introduce e-filing.



## 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 13 wells (2 at Sylhet, 5 at Kailashtila, 5 at Rashidpur and 1 at Beanibazar) are presently on stream which produce an average of 147 MMSCFD. The produced gas is supplied to Jalalabad, Bakhrabad, Pashchimanchal and Karnaphuli gas distribution companies franchised areas. SGFL shares about 5.2% of country's total gas production. In the FY 2015-16, SGFL produced 53.93 BCF of gas and 229,982 barrels of condensate and 162,038 barrels of NGL from its own fields. The company also produced 707,817 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 gas production capacity. The ongoing projects include: (i) Installation of a 4,000- bbl/day capacity Condensate Fractionation Plant at Rashidpur, (ii) Installation of a 3,000-bbl/day Catalytic Reforming Unit at Rashidpur to convert petrol into octane, (iii) Drilling of appraisal/development well Sylhet-9 and KTL-9, (iv) Review of 3-D seismic data acquired from Kailashtilla and Haripur fields and (v) Workover of production-suspended wells.

During the FY 2015-16, the company earned an amount of Tk. 4,661.0 million from the sales of 53.86 BCF of gas and Tk. 9,335.3 million from the sales of 1,128,986 barrels of finished liquid petroleum products such as petrol, diesel, kerosene, NGL and condensate. Company earned pre-tax profit to the tune of Tk. 5,153.7 million during the year and paid Tk. 5,290.2 million as supplementary duty and VAT, Tk. 1,607.8 million as income tax and Tk. 1,345.5 million as dividend. The total contribution by the Company to the Government exchequer in the financial year stood at Tk. 8,243.5 million which was 58.90% of the total income from sales.

Sylhet Gas Fields Limited has been adjudged as the top-most VAT paying organization in the production sector at national level for the last consecutive 5 years up to FY 2015-16 and has been rewarded by the National Board of Revenue. The company has already established e-tendering procedure for inviting bid.



Maintenance work of Kailashtilla MSTE plant by SGFL.



## 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.

During the FY 2015-16, GTCL transmitted in total 767.21 BCF of gas, 10.34% higher than the previous year, delivering 34.84 BCF, 515.18 BCF, 89.19 BCF, 90.06 BCF and 37.95 BCF to franchise areas of Jalalabad, Titas, Bakhrabad, Karnaphuli and Paschimanchal gas distribution companies respectively. The Company transported a total of 1,335,767 barrels of condensate through its 193 km long North-South condensate pipeline during the year, which was 152.44% higher than the previous year.

**Ongoing projects in FY 2015-16 were :** (i) Installation of compressor stations at Ashuganj & Elenga under Natural Gas Access Improvement Project (NGAIP), (ii) Construction of 30" x 60 km Bakhrabad-Siddhirganj gas transmission pipeline project, (iii) SCADA Rehabilitation 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 61 km gas transmission pipeline for Gas Transmission Capacity Expansion-Ashuganj to Bakhrabad Project, (vi) Construction of Company's Head Office Building Project, (vii) Construction of 20" x 3.3 km high pressure gas transmission pipeline from Titas Well no. 23 & 24 at Sorail to Khatihata and Titas Well no. 25 & 26 at Malihata to Khatihata Project, (viii) Construction of 36" x 181 km Bakhrabad-Feni-Chittagong gas transmission pipeline Project, (ix) Construction of 30" x 6.15 km Padma River crossing Project and (x) Construction of 24" x 45 km gas transmission pipeline from Kutumbopur to Meghnaghat Project.

**Up-coming projects are :** (i) Lagalbandth-Mawa 30" x 45 km gas transmission pipeline, (ii) Zajira-Gopalganj 30" x 95 km gas transmission pipeline, (iii) Construction of 30" x 60 km gas transmission pipeline from Polianpur of Jinaidha to Jessore TBS, (iv) Construction of Mobarakpur-Baghabari 25 km gas transmission pipeline, (v) Construction of Payera-Barisal-Zajira/Payera-Barisal-Khulna gas transmission pipeline and (vi) Construction of Bhola-Barisal 60 km 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). Bangladesh eyes starting LNG imports from April, 2018 and is making concerted efforts to move forward with the LNG import infrastructure. For transmitting the Regasified LNG from FSRU at Moheshkhali to national grid, it is required to develop infrastructure. 2 FSRUs at Moheshkhali are being developed and are expected to be commissioned by 2018. In this regard, GTCL has already constructed 30" x 91 km transmission pipeline from Moheshkhali to Anowara and construction of 42" x 30 km gas transmission pipeline from Anowara to Fouzdarhat is underway. For supplying of enhanced quantity of regasified gas, construction of another parallel 42" x 79 km gas transmission pipeline from Moheshkhali to Anowara is also underway.



Compressor station at Ashuganj of GTCL.

The company earned an amount of Tk. 4,192.2 million as revenue and Tk. 1,834.1 million as pre-tax profit and contributed an amount of Tk. 3,845.5 million to Government Exchequer during the FY 2015-16.

All tender notices and important information are being posted in the Company's own website regularly. Steady State network analysis are carried out to all transmission pipeline of the company to determine accurately and expeditiously the gas pressure and transportation capacity by using Pipeline Studio Software. Enterprise Resource Planning (ERP)/Enterprise Asset Management (EAM) System for GTCL are also being implemented. The company has already established e-tendering procedure for inviting bid.



## Titas Gas Transmission and Distribution Company Limited (TGTDC)

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 (TGTDC) 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 93 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 £ 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, Netrokona and Kishoreganj.

Presently, total length of pipeline owned by the company is 13,038.69 km including 149.66 km built during the FY 2015-16. The total number of customers of the company was 1,897,316 as on 30 June, 2015 which rose to 2,023,005 in June, 2016. Bulk customers of the company include 3 fertilizer plants, 7 government and 31 private power stations. The company hogs about 60.51% of natural gas market share in Bangladesh.

During FY 2015-16, total 585.64 BCF of gas was sold and a sales revenue of Tk. 1,12,038.3 million was earned and the total revenue was Tk. 1,13,171.0 million including meter rent and surcharge. compared to previous year's revenue of Tk. 81,606.2 million, the growth rate in revenue income for the year under review was 38.68% higher. During FY 2015-16 a sum of Tk. 1,06,427.2 million (including arrear revenue) was realized against the revenue income of Tk. 1,13,171.0 million, which was Tk. 6,743.8 million less than the receivable. The company earned a net profit before tax and a net profit after tax of Tk. 9,700.2 million and Tk. 7,293.9 million respectively. The company paid Tk. 4,836.0 million to the Government exchequer during FY 2015-16.

Modern and state of the art web-based total integrated Computer System has been set up to boost up all the functions of the company to facilitate improved customer services which includes – automatic updating of customer ledger if bill payment is made through banks having online banking facilities; informing registered customers about their gas bills through SMS; obtaining online update about payment and dues; complaining through online facility; email 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 pre-paid 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 centres including 24 hours central emergency control room. During the FY 2015-16, 414 km illegal gas distribution line has been removed and around 1,24,000 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-Chittagong and 20" X 69 km Bakhrabad-Demra gas transmission pipelines were handed over to GTCL leaving only the responsibility for marketing gas in the Chittagong 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 Comilla 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, 2016 is 3,868.79 km. During the FY 2015-16, a total of 89,975 gas connections were given which includes 1 power, 2 industry, 2 captive power, 1 CNG and 89,969 domestic (Burner) category. The cumulative gas connection stood at 4,89,519 as on 30 June, 2016 which includes 18 power, 1 fertilizer, 159 industrial, 76 captive power, 2,140 commercial, 89 CNG and 4,87,036 domestic (Burner) connections.

During the FY 2015-16, BGDCL sold 137.54 BCF gas to its customers, of which power plants consumed 97.39 BCF (70.81%). The company earned Tk. 17,651.80 million as sales revenue, net profit before tax stood at Tk. 1,456.80 million and paid Tk. 1,156.10 million to the national exchequer. The company purchased 133.62 BCF gas and sold 137.54 BCF gas this year. As a result, the system gain of the company stood at 3.92 BCF i.e 2.93%.

In order to mitigate gas crisis, 2 by-pass runs have been constructed in the TBS at Chandpur, 2 separate regulating lines have been constructed at Feni TBS, parts of RMG-512 regulator of Salda TBS and Bancharampur TBS have been replaced during FY 2015-16. During the year, a Skid Mounted Transfer Prover has been installed at a cost of Tk. 22.50 million for calibration of gas meters used in BGDCL.

BGDCL started its online gas bill collection services through a bank from 28 June, 2016. The company has already established e-tendering procedure for inviting bid. Launching a hot line number for disposing of any complain received from the customer. During the FY 2015-16, the gas connections of 811 nos. of different categories of customers were disconnected due to the non-payment of gas bills as well as the connections of illegal gas users.



*Bizra off-take, Laksham, Comilla of BGDCL*





জালালাবাদ গ্যাস

## Jalalabad Gas Transmission and Distribution System Limited (JGTDSL)

Jalalabad Gas Transmission and Distribution System Limited (JGTDSL) was formed under the Companies Act on 1 December, 1986 with an authorized capital of Tk. 1,500.00 million after infrastructural development of gas transmission and distribution system under the management of Petrobangla for supplying gas to different categories of customers in Sylhet Division.

The company possessed a total 3,817.00 km gas network comprising of 465.08 km transmission, 1,336.61 km distribution, 1,221.02 km feeder mains and service lines and 794.29 km other (customer financing) pipelines. During the FY 2015-16, the company constructed 32.89 km pipelines including 0.33 km distribution, 15.60 km feeder mains and service lines and 16.96 km other (customer financing). During the year, the company provided 14,298 new gas connections - 3 captive power, 2 tea estate, 3 industrial, 2 commercial and 14288 domestic connections which is 258.74% more than the budgetary target.

During the FY 2015-2016, the gas sales of the company was about 95.66 BCF of which power plants consumed 64.83 BCF (67.77%) and others 30.83 BCF. During the year, the company earned Tk. 13,318.16 million as sales revenue, Tk. 1,312.97 million as net profit before tax and Tk. 853.43 million after tax. The company paid Tk. 941.70 million to the national exchequer.

During the year, the company was able to keep the system loss within 'Zero' through the efficient management and different action plans have been taken and implemented to keep the system loss under control.

On the other hand, a project titled "Gas supply to Srihotta Economic Zone, Sherpur, Moulvibazar" is being implemented by the company during the year to supply 20 MMCFD gas to industrial customers of BEZA (Bangladesh Economic Zone Authority) controlled 'Srihotta Economic Zone'. The completion period of the project is March, 2016 to June, 2017 (15 Month).

JGTDSL introduced online gas bill information system through which the customers can have information regarding gas bill payment and dues from the company's website. Implementation of computerization system expediting marketing and revenue activities of the company as well as easing issuance of dues clearance certificates to the customers; introduction of collection of gas bill through mobile phone, customers can pay their gas bills from anywhere and at anytime. The company has already established e-tendering procedure for inviting bid. During the FY 2015-16, gas connections of 2,882 nos. of different categories of customers have been disconnected due to the non-payment of gas bills.



Pipeline construction work by JGTDSL.



## Pashchimanchal Gas Company Limited (PGCL)

This 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 2015-16, a total of 1,283 km of pipeline of various diameters has been constructed and by the end of June, 2016 the Company encompassed a network of 1,627.493 km pipeline.

At the end of FY 2015-16, the company provided gas connection to 1,29,303 customers including 9840 new gas connections to new customers. During this year a total of 40.23 BCF of gas was sold by the company as against 36.40 BCF gas in the previous year. The company earned Tk. 6,272.7 million revenue from sales during FY 2015-16 and earned Tk. 587.9 million as net profit before tax. The company paid Tk. 638.3 million to the national exchequer during this year.

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

Various actions have been taken to install/replace meter with Electronic Volume Corrector (EVC) to determine more accurate gas consumption, calculation of proper system loss of gas, to increase the consciousness of gas usage and to increase the reliability between gas sellers and customers. Activities of Emergency Cell are always in place for disposing of any complain regarding emergency gas leakage or any other problem. The company has already established e-tendering procedure for inviting bid. During FY 2015-16 a total number of 460 gas connections have been disconnected which include 447 Domestic, 11 Commercial, 1 Industry and 1 CNG for illegal consumption of gas and defaulting customers.



*Pipeline Construction Work at Ishwardi EPZ by PGCL*



*Maintenance Work of Bogra RMS by PGCL*



## Karnaphuli Gas Distribution Company Limited (KGDCL)

Karnaphuli Gas Distribution Company Limited (KGDCL) was formed on 8 February, 2010, with greater Chittagong and Chittagong 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 2015-16 stood at about 99.20 BCF. The company earned Tk. 20,844.9 million as sales revenue and Tk. 5,074.7 million as net profit before tax. The company paid Tk. 2,541.4 million to the national exchequer during this year. The company purchased 91.27 BCF gas and sold 99.20 BCF gas this year. As a result, the system gain of the company stood at 7.93 BCF i.e 8.69%. At the end of the FY 2015-16, KGDCL had a customer base of 6,02,074 of which 36,816 (CNG 2, Industry 3, Captive Power 2 and Domestic 36,809) were new customers connected in this year. During FY 2015-16, 43.66 km distribution pipelines with diameters ranging from ¾" to 6" were constructed.

### Following Steps have been taken to prevent misuse and to ensure the accuracy of metering system :

Tele-metering system has been introduced initially in the RMS of 5 bulk industrial customers (KAFCO, Shikolbaha Power Station, Chittagong Power Station, KPM and CUFL) for monitoring the quantum of gas supplied to them. Meters with Electronic Volume Correctors (EVCs) are being installed in the RMS of load intensive customers. By now, meters with EVCs have been set up in the premises of 229 customers including 66 CNG, 87 captive power and 74 industrial, 1 commercial, 1 domestic customer, and they are billed on the basis of EVC data. With the finance of Japan International Co-operation Agency (JICA), a project for installation of 60,000 pre-paid gas meters for the domestic users in the Chittagong city area is in progress to prevent the misuse of gas. Rest of the domestic customers will be brought under this system in phases.

Development of customized software to bring all the activities of KGDCL under Enterprise Resource Planning (ERP) software is in progress. Installation of online gas bill system is in process to ensure easy and fast bill payment by all categories of customer of KGDCL. The company has undertaken the work of mapping its network of gas pipelines and gas installation and also developed its own website ([www.kgdcl.gov.bd](http://www.kgdcl.gov.bd)) in order to improve customer service and easy access of information. The company has already established e-tendering procedure for inviting bid. During FY 2015-16 a total number of 12,081 gas connections have been disconnected which include 11,909 Domestic, 113 Commercial, 44 Industry and 15 CNG Feed Gas for defaulting and illegal users.



Modern meter testing lab of KGDCL



সুন্দরবন গ্যাস  
কোম্পানী 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 south-western region of the country which includes Khulna Division, Barisal Division and 5 districts of Dhaka division. In the initial stage, the Company has been implementing gas distribution network in 5 districts, namely Kushtia, Jhenaidah, Jessore, Khulna and Bagerhat under "South West Region Gas Distribution Network Project" since February, 2011. According to the direction of progress meeting held at Energy and Mineral Resources Division (EMRD) on 30 June, 2016, the project has been closed and submitted a closing report. In the said meeting the decision was also made for taking separate projects to supply gas to power plants and the industrial customers.

Presently, gas supply by this company is limited within the island district Bhola only. One 34.5 MW rental power plant of Venture Resources Ltd, 225 MW power plant of PDB and 3 commercial, 1 industrial and around 3,076 domestic customers in Bhola town are connected with gas distribution network of the company. On an average of 35-40 MMSCFD gas is being supplied to these customers.

In the FY 2015-16, SGCL completed a project named "Extension of gas distribution Network in Bhola and New Network at Borhanuddin" at a cost of Tk. 183.4 million and constructed 42.2 km (6" X 20.0 km, 4" X 100 meter, 2" X 11.2 km and 1" X 10.9 km) distribution pipelines under this project. During the year, SGCL completed 20" X 850 meter pipeline to supply 85 MMCFD gas to 360 MW Power Plant of North West Power Generation Company Ltd. at Bheramara. Construction work of 85 MMCFD capacity RMS at Bheramara is in progress.

In the FY 2015-16, the company earned a total revenue of Tk. 863.4 million, out of which Tk. 844.5 million was earned from sales of 10.4 BCF of natural gas and the rest Tk. 18.9 million from other operational income. In FY 2015-16, the company made a total expenditure of Tk. 776.9 million; out of which Tk. 712.8 million was spent to meet the cost of purchased gas and the rest Tk. 64.1 million for meeting the cost of gas distribution. After considering other non-operational income, interest income on deposit and allocation made to workers profit participation fund, net income before tax and after tax for 2015-16 were Tk. 93.5 million and Tk. 60.8 million respectively. In 2015-16 total capital of the company increased by Tk. 60.8 million revenue reserve was derived from income and expenditure statement. Besides, project loan increased this year by Tk. 196.7 million which included Tk. 18.5 million from Petrobangla, and Tk. 178.2 million from ADB. Fixed assets increased by Tk. 6.0 million and Tk. 296.1 million added to work-in-progress of SGCL's 2 running projects in FY 2015-16. The company's current assets liabilities ratio was 1.51 : 1, rate of return was 40.21%, return on capital employed was 2.23% and debt-equity ratio was 85.67 : 14.33 in the FY 2015-16. The performance level of liquidity, profitability and solvency of the company has not reached to the expected level. After successful implementation of the projects, the sales of gas will be increased and the financial condition of the company will stand on a sustainable base.



RMS at Bheramara of SGCL



## 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 CNG, building a transport infrastructure in the country based on CNG, and production and distribution of LPG, petrol and diesel obtained from NGL. RPGCL has been playing an effective and important role in arresting air pollution, saving foreign exchange by substituting import of fuel and accelerating multidimensional use of indigenous natural gas. The Government has undertaken various programmes for arresting air pollution, saving foreign exchange and ensuring uses as well as expanding diversified use of indigenous natural gas. RPGCL has been working untiringly to implement the programmes taken up by the Government in the gas sector. Within the gas network of the country the Government and the private entrepreneurs have setup 589 CNG filling stations and 180 conversion workshops till June, 2016. These stations, located across the country, are supplying CNG to almost 300 thousand vehicles daily.

Approximately 3.53 BCF of CNG is being used every month from 554 CNG stations, which is 5% of the total gas consumption of the country. Hence, the Government has been able to save about Tk. 11,170.0 million per month in foreign exchange in the sector against fuel import. Widespread use of CNG has reduced air pollution to a great extent. CNG activities adopted by the government to curb air pollution has been widely extolled at home and abroad.

RPGCL has been entrusted to import and marketing LNG by the Government to meet the ever increasing demand of natural gas. Steps have been taken to install LNG terminal both land based and floating. In this regard two Terminal Use Agreements (TUA) have been signed to install 2 Floating Storage and Re-gasification Unit (FSRU) at Moheshkhali in Chittagong for supplying 500 MMSCFD of LNG each and expected to commission by April and October 2018 respectively. The company is exploring different sources (both long and short term) including Qatar for importing LNG. In addition, initial activities has been started to install 2 land based LNG terminals, one at Moheshkhali and the other at Paira port area. Each of these 2 terminals will have a capacity of handling LNG equivalent to 1,000 MMSCFD of gas. Effort is underway to train the officers of RPGCL in home and abroad to take up the responsibility.

The company will introduce auto billing system of its CNG dispensing units at Central CNG Workshop by the next fiscal year to facilitate improved customer service. Steps are to be taken to induct use of LPG as an alternative fuel for transport system of the country including installation of LPG gas stations all over the country. The company has already established e-tendering procedure for inviting bid.

In the FY 2015-16, the company earned Tk. 2,088.6 million as revenue before VAT from sales of CNG, LPG, MS and HSD. The company earned an amount of Tk. 289.6 million as net profit before tax and made a payment of Tk. 774.2 million to the National Exchequer.



KTL Plant of RPGCL



## 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).

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 CMC-XMC on 4 June, 2005 for a period of 71 months with a contract price of US\$ 82.30 million (Foreign Portion US\$ 55.551 + Local Portion Tk. 1,572.7 million). The company went into commercial production on 10 September, 2005. The contract was completed on 10 August, 2011.

On expiration of the M&P Contract, a new draft "Management, Production, Maintenance & Provisioning Services (MPM&P)" contract was signed on 6 August, 2011 with the successful bidder Consortium of Xuzhou Coal Mining Group Corporation Limited and China National Machinery Import and Export Corporation (XMC-CMC). New M&P contract came into effect on 11 August, 2011 and will remain effective for a period of 72 months. According to new M&P contract, a target of 5.50 million metric tons of coals production has been set. During the contract period, coal production from longwall face and new roadway development activities will continue simultaneously.

In the FY 2015-16, total coal production and roadway development was achieved by 10,21,638.10 metric tons and 3,119.10 meters respectively. The present commercial production rate is 4000-5000 metric tons/day. During the FY 2015-16, the company earned Tk. 8,949.7 million from sale of coal and Tk. 738.6 million from other sources comprising a total amount of Tk. 9,688.3 million, which is the highest ever revenue collection. During this period the expenditures for operating and other costs were Tk. 4,663.3 million and Tk. 516.1 million respectively. The company made a net profit of Tk. 4,508.9 million during this period prior to transferring Tk. 225.4 million to Beneficiary Profit Participation Fund (BPPF). In this fiscal year, the net profit stood at Tk. 2,784.3 million after deducting of BPPF and income taxes, which was Tk. 2,466.6 million in the previous fiscal year. In addition to this, the actual revenue expenditure was Tk. 5,344.7 million in the current fiscal year against an allocated budget of Tk. 7,456.5 million which is 28.32% less. In addition, during the FY 2015-16, the company deposited Tk. 3,309.8 million to the government exchequer as supplementary taxes, custom duties, VAT, income tax and royalty, etc.

Remarkable activities by BCMCL in FY 2015-16 included 10,21,638.10 metric tons coal production from 1205 (part), 1208, 1214 longwall face and roadway development; The development of roadway has been completed 3,119.10 meters including construction of 845 meters Dedicated Air Return Roadway. To enhance the present production of Barapukuria Coal Mine, 2 projects have been undertaken with the supervision of the planning and exploration division. The name of the projects are: (i) 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 and (ii) Feasibility Study for Development of Dighipara Coal Field at Dighipara, Dinajpur, Bangladesh. Approval process of SSP of the both project and appointment process of consulting firm was underway in the FY 2015-16.

Subsidence monitoring activities has been conducted by this company on regular basis in the FY 2015-16. 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.

In 'National Power and Energy Week, 2015' BCMCL obtained the award of being the best company and its stall was adjudged the best one in the category of government companies. Apart from this, BCMCL and BAPEX, under the banner of Petrobangla, jointly took part in the 'BDF Fair' organised by Bangladesh Development Forum on 15-16 November 2015 and adjudged the best one in this fair.



## Maddhapara Granite Mining Company Limited (MGMCL)

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

Granite mining in Bangladesh is important, 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, and started development of new underground roadways and stopes.

In the FY 2015-16, a total 1,53,719.00 metric tons of granite was produced and 6,25,831.00 metric tons was sold. Additional granite was sold from previous stocks. The company earned Tk. 1,056.1 million from the sale of granite and made a payment of Tk. 198.5 million to the national exchequer.

Considering the huge demand for granite in the country and in order to save the foreign currency used for import of granite, Petrobangla has undertaken a scheme for studying the feasibility for increasing production of granite by expansion of the Maddhapara Mine. Other than this, final report has been submitted by Infrastructure Investment Facilitation Company (IIFC) for market feasibility study for Enhancement of hardrock production. The recommendation of the report is being implemented on priority basis. Manufacturing of Ceramic Tiles (Wall Tiles, Roof Tiles, Facing, Pavement) by using stone dust and manufacturing of Granite Polish Block, Mosaic Block, Gem Stone are being in progress with collaboration of Institute of Mining, Mineralogy and Metallurgy (IMMM), BCSIR, Joypurhat.



Stack Yard of MGMCL



## Development Programmes for the Fiscal Year 2015-16

The Annual Development Programme of Petrobangla for the FY 2015-16 had a total allocation of Tk. 16,504.30 million, which includes Tk. 6,776.20 million as project aid. The programme consists of 18 projects of which 12 are foreign-aided and 6 are GoB funded. In addition, there are 8 projects financed by the Corporation/Companies itself (Self Financing) involving total allocation of Tk. 4,132.30 million, where Cash Foreign Exchange (CFE) involvement is Tk. 1,507.00 million and Local Currency is Tk. 2,625.30 million. Furthermore, there are 13 projects under Gas Development Fund (GDF) in the same fiscal year with a total allocation of Tk. 9,752.90 million, where CFE involvement is Tk. 5,001.60 million and local currency is Tk. 4,751.30 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 2015-16

(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	Jan'06-Sep'17	GTCL	14941.33 (9191.22)	ADB
2	Hatikumrul-Bheramara Gas Transmission Pipeline Project (30" x 98.10 km)	July'06-Dec'16	GTCL	7268.51 (4408.03)	ADB
3	Bheramara-Khulna Gas Transmission Pipeline Project (20" x 162.50 km)	July'07-Dec'15	GTCL	9038.14 (4752.66)	ADB
4	Bakhrabad-Siddhirganj Gas Transmission Pipeline Project (30" x 60 km)	July'07-Dec'18	GTCL	8000.00 (5134.4)	World Bank
5	Gas Seepage Control and Appraisal and Development of Titas Gas Field (Titas Well no. 23, 24, 25 and 26)	Jan'10-June'17	BGFCL	10000.00 (8100.00)	ADB
6	Supply Efficiency Improvement of Titas Gas Transmission and Distribution Company Ltd.	Jan'10-Sept'15	TGTDCL	632.80 (424.60)	ADB
7	South-West Region Gas Distribution Network Project	Jan'10-Sept'15	SGCL	6000.00 (2850.00)	ADB
8	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	2940.04 (2402.35)	JICA
9	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
10	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for KGDCL)	July'14-June'18	KGDCL	2465.60 (1560.30)	JICA
11	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	9791.76 (5070.19)	JICA
12	Natural Gas Efficiency Project (Installation of Prepaid Gas Meter for TGTDCL)	July'15-Dec'18	TGTDCL	7120.99 (4548.10)	JICA
<b>Sub-Total (Foreign-Aided)</b>				<b>86879.10 (55731.90)</b>	

Source : Planning &amp; Monitoring Division, Petrobangla.





## B. Ongoing Projects (GoB Funded) : FY 2015-16

(Taka in Million)

No.	Name of the project	Project Period	Executing Agency	Estimated Cost (CFE)
1	Mobarakpur Oil/Gas Exploration Well Drilling Project	Jan'06-Dec'15	BAPEX	892.60 (527.30)
2	Gas Transmission Capacity Expansion Project (Ashuganj-Bakhrabad) (30" x 61 km)	Jan'10-June'16	GTCL	7433.80 (3836.70)
3	Augmentation of Gas Production under Fast Track Program (Drilling of 4 wells under BGFCL and 1 well under SGFL) (Titus Well no. 19, 20, 21, 22 and Rashidpur Well no. 8)	July'10-March'16	BGFCL SGFL	13005.00 (10538.00)
4	Gas Fields Development Project of BAPEX (Saldanadi Well no. 3, 4 and Fenchuganj Well no. 4, 5)	Jan'10-June'16	BAPEX	3056.40 (2410.10)
5	Sylhet Gas Transmission Network Up-gradation Project	July'12-June'16	JGTDSL	1068.30 (237.20)
6	Moheshkhali-Anowara Gas Transmission Pipeline Project (30" x 91 km)	July'14-June'16	GTCL	9819.00 (4689.10)
<b>Sub-Total ( GoB)</b>				<b>35275.10 (22238.30)</b>

Source : Planning &amp; Monitoring Division, Petrobangla.

## C. Ongoing Projects (Self Financing) : FY 2015-16

(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-Dec'16	SGFL	4635.00 (3288.00)
2	Installation of 3,000 barrels/day capacity Catalytic Reforming Unit (CRU) at RCFP to Convert Petrol into Octane (2nd Revised)	March'12-June'17	SGFL	3541.30 (2763.80)
3	Construction of 2 Storage Tanks at Rashidpur Condensate Fractionation Plant (RCFP)	Sept'12-June'16	SGFL	213.10 (0.00)
4	Construction of 13 Storied Head Office Building with Two Basements of Gas Transmission Company Limited (GTCL) at Sher-e-Bangla Nagar Administrative Area, Agargaon, Dhaka	July'12-Dec'16	GTCL	1084.80 (0.00)
5	Construction of 20" DN x 1000 psig x 30 km Gas Transmission Pipeline from Sreepur to Joydevpur CGS	July'13-June'17	TGTDCCL	1982.13 (693.15)
6	Feasibility Study for the Extraction of Coal Bed Methane (CBM) at Jamalganj Coal Field	Jan'14-June'16	Petrobangla	233.79 (176.20)
7	Extension of Gas Distribution Network in Bhola and New Network at Borhanuddin	Oct. '14-June '16	SGCL	183.40 (21.00)
8	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-March'17	BCMCL	354.60 (229.80)
<b>Sub-Total (Self Financing)</b>				<b>12228.10 (7172.00)</b>

Source : Planning &amp; Monitoring Division, Petrobangla.



## D. Ongoing Projects (under GDF) : FY 2015-16

(Taka in Million)

No.	Name of the project	Project Period	Executing Agency	Estimated Cost (CFE)
1	Procurement of Standby Gas Process Plant for Shahbazpur Field	July'12- June '16	BAPEX	953.40 (850.90)
2	Workover of Wells at Titas Gas Field Seepage Area	July'13- Dec'16	BGFCL	2350.00 (647.50)
3	Drilling of 1 Appraisal Oil Well/ Development Gas Well (Kailashtilla no. 7) at Kailashtilla Structure	Sep'12- Dec'15	SGFL	2181.90 (589.90)
4	3-D Seismic Project of BAPEX	Dec'12- Nov'17	BAPEX	1825.00 (914.00)
5	2-D Seismic Project of BAPEX	Dec'12- June'17	BAPEX	711.30 (336.00)
6	Drilling of Well no. Kailashtilla-9 (Appraisal/ Development Well)	Nov'13- Dec'17	SGFL	1400.70 (609.90)
7	Drilling of Well no. Sylhet-9 (Appraisal/ Development Well)	Dec'13- June'18	SGFL	1602.70 (558.00)
8	Drilling of Well no. Rashidpur-9 (Appraisal/ Development Well)	Feb'15- June'17	SGFL	1980.70 (570.80)
9	Drilling of Well nos. Rashidpur-10 and 12 (Exploratory Wells)	July'14- Dec'17	SGFL	4098.10 (1230.30)
10	Installation of Gas Compressors at Bakhrabad Field	Jan'14- June'17	BGFCL	1197.50 (948.00)
11	Procurement of Gas Process Plant for Srikail Gas Field	July'14- Dec'16	BAPEX	1166.70 (1020.00)
12	Shahjadpur-Sundalpur (Sundalpur-2) Appraisal/ Development Well Drilling Project	Oct'14- June'16	BAPEX	754.50 (488.50)
13	Rehabilitation of Engine, Mud Tanks & Electrical Power System of IDECO-Rig Project	Nov'14- June'16	BAPEX	389.00 (344.00)
<b>Sub-Total (GDF)</b>				<b>20611.50 (9107.80)</b>
<b>Grand Total (Foreign-Aided + GoB + Self Financing + GDF)</b>				<b>154993.80 (94250.00)</b>

Source : Planning &amp; Monitoring Division, Petrobangla.



Construction of pipeline under Sreepur (Gayaran)-Joydebpur gas transmission pipeline project by TGTDCCL



## 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 7% for the country, it is possible to improve the living standard of huge population through proper utilization of the limited resources. It may be mentioned here that present energy crisis has become acute due to the absence of proper initiatives for the last 7 years until 2009 in the energy sector. As a result, the GDP growth of the country has been hampered in the industry and other production sectors including 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 2018. 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 finalising 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.

## Countrywide Gas Demand Projection up to 2019

Figures are in MMSCFD

SL.	Company	Y-2015	Y-2016	Y-2017	Y-2018	Y-2019
A.	Titas Gas T & D Company Ltd.	1989	2099	2170	2209	2220
B.	Karnaphuli Gas Distribution Co. Ltd.	447	449	512	526	552
C.	Bakhrabad Gas D Company Ltd.	493	618	554	555	555
D.	Jalalabad Gas T & D System Ltd.	341	424	522	524	529
E.	Pashchimanchal Gas Company Ltd.	129	200	201	258	259
F.	Sundarban Gas Company Ltd.	45	80	83	139	141
	<b>Total Gas Demand</b>	<b>3444</b>	<b>3870</b>	<b>4042</b>	<b>4211</b>	<b>4256</b>
	<b>Overall Countrywide Total Gas Demand</b>	<b>3274</b>	<b>3664</b>	<b>3823</b>	<b>3979</b>	<b>4023</b>

Source : Production & Marketing Division, Petrobangla.



# Plan for Production Augmentation

National exploration company BAPEx has launched a 108 well programme covering exploration, production and work-over for augmentation of gas production from the onshore under the title 'Rupkalpa (Vision) 2021'. To be completed by the year 2021, this programme is expected to yield additional capacity of around 1,000 MMCFD. In addition, International Oil Companies engaged in the offshore are also expected to drill at least five exploration wells during this period. A summary of the augmentation programmes is given in the table below :

## Year-wise Drilling and Work-over Programmes

FY	Exploration Well	Development Well	Workover Well	Total
2015-16	1	1	3	5
2016-17	5	3	7	15
2017-18	19	3	9	31
2018-19	17	6	3	26
2019-20	8	11	-	19
2020-21	10	7	-	17
<b>Total</b>	<b>60</b>	<b>31</b>	<b>22</b>	<b>113</b>



3D Interpretation centre of BAPEx

# 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.				N <sub>2</sub>	CO <sub>2</sub>
1	Sylhet	1.200	95.349	2.542	0.974	0.247	0.296	0.165	0.247	0.180	0.5896	1056.878	Nil
2	Chhatak	n/a	97.900	1.800	0.200	-	-	-	-	-	0.5500	1005.710	Nil
3	Rashidpur	1.200	98.489	0.802	0.148	0.053	0.028	0.046	0.338	0.096	0.5637	1017.234	Nil
4	Kailashtila	0.700	96.217	2.588	0.674	0.098	0.075	0.019	0.310	0.018	0.5773	1042.726	Nil
5	Titas	4.500	96.587	1.900	0.406	0.099	0.060	0.166	0.343	0.440	0.5790	1032.000	Nil
6	Habiganj	4.200	97.650	1.543	0.006	0.000	0.000	0.002	0.790	0.008	0.5648	1014.000	Nil
7	Bakhrabad	4.800	93.700	3.790	0.834	0.246	0.116	0.233	0.495	0.585	0.5989	1057.000	Nil
8	Semutang	n/a	96.079	2.499	0.415	0.103	0.056	0.096	0.209	0.542	0.5818	1037.080	Nil
9	Begumganj	n/a	95.460	3.190	0.640	0.170	0.040	-	-	0.300	0.5800	1045.610	Nil
10	Kutubdia	n/a	95.720	2.870	0.670	-	0.310	-	0.360	0.070	0.5900	1041.660	Nil
11	Beanibazar	4.400	93.536	3.499	1.324	0.309	0.274	0.603	0.354	0.099	0.6089	1086.418	Nil
12	Feni	n/a	95.710	3.290	0.650	0.150	0.050	-	-	0.150	0.5800	1049.840	Nil
13	Kamta	n/a	95.360	3.570	0.470	0.090	-	-	-	0.510	0.5700	1043.130	Nil
14	Fenchuganj	n/a	97.264	1.452	0.135	0.036	0.012	0.070	0.212	0.819	0.5743	1018.390	Nil
15	Jalalabad	n/a	95.986	2.509	0.433	0.300	0.066	0.375	0.254	0.075	0.5885	1056.066	n/a
16	Narsingdi	4.200	95.264	2.702	0.593	0.172	0.096	0.233	0.351	0.589	0.5893	1044.000	Nil
17	Meghna	4.400	95.185	3.050	0.667	0.169	0.096	0.209	0.390	0.234	0.5878	1050.000	Nil
18	Shahbazpur	n/a	94.553	3.555	0.569	0.159	0.058	0.062	0.201	0.842	0.5913	1044.570	Nil
19	Sangu	n/a	94.510	3.170	0.610	0.190	0.070	0.410	0.440	0.600	0.5900	1058.000	n/a
20	Saldanadi	n/a	96.959	1.781	0.324	0.079	0.048	0.095	0.129	0.583	0.5770	1029.860	Nil
21	Bibiyana	n/a	94.880	2.442	0.873	0.280	0.253	0.926	0.195	0.153	0.6107	1060.000	Nil
22	Bangura	2.110	95.482	2.564	0.661	0.146	0.146	0.194	0.309	0.664	0.5884	1049.200	Nil
23	Moulavibazar	n/a	98.198	1.002	0.160	0.042	0.022	0.087	0.356	0.131	0.5673	1020.220	Nil
24	Shahjadpur Sundalpur	n/a	98.349	0.908	0.070	0.001	0.004	0.003	0.558	0.106	0.5634	1013.520	Nil
25	Srikail	n/a	95.928	2.452	0.527	0.135	0.078	0.134	0.130	0.616	0.5847	1041.050	Nil

Source : Production & Marketing Division, Petrobangla.





## Natural Gas Tariff in Bangladesh

Taka/MCF

Effective From	Power	Ferti- lizer	Industry	Comme- rcial	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
12.05.2009	-	-	-	-	-	-	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

Source : Accounts Division, Petrobangla.



## Gas Fields in Production

(As in December, 2016)

Gas in MMSCFD, Condensate in BBL

Company	Gas Field	Total Wells (No.)	No of Producing Wells	Production Capacity (MMSCFD)	Production	
					Gas	Condensate
<b>1. BGFL</b>	Titas	27	24	518	516.3	378.0
	Bakhrabad	10	6	43	37.0	16.0
	Habiganj	11	7	225	225.5	11.5
	Narsingdi	2	2	30	28.3	47.6
	Meghna	1	1	11	11.2	20.3
	<b>Sub-Total</b>		<b>51</b>	<b>40</b>	<b>827</b>	<b>818.2</b>
<b>2. SGFL</b>	Sylhet	3	2	8	8.1	60.4
	Kailashtila	6	5	73	71.2	621.2
	Rashidpur	8	5	60	58.2	55.3
	Beanibazar	2	2	15	9.5	154.5
	<b>Sub-Total</b>		<b>19</b>	<b>14</b>	<b>156</b>	<b>147.0</b>
<b>3. BAPEX</b>	Salda	3	1	10	7.8	1.0
	Fenchuganj	5	3	35	35.9	27.0
	Shahbazpur	4	3	50	39.5	2.7
	Semutung	6	2	3	3.3	0.9
	Sundalpur	1	0	0	3.5	0.0
	Srikail	3	3	40	35.2	24.3
	Begumganj	3	0	0	0.3	0.0
	<b>Sub-Total</b>		<b>25</b>	<b>12</b>	<b>138</b>	<b>125.6</b>
	<b>Sub-Total (1+2+3)</b>	<b>95</b>	<b>66</b>	<b>1121</b>	<b>1090.7</b>	<b>1420.6</b>
<b>4. IOCs</b>						
<b>CHEVRON</b>	Jalalabad	8	7	260	274.4	1604.1
	Maulavibazar	9	5	50	49.1	6.7
	Bibiyana	26	26	1200	1216.5	8426.7
<b>TULLOW</b>	Bangora	7	5	110	103.6	310.0
	<b>Sub-Total</b>	<b>50</b>	<b>43</b>	<b>1620</b>	<b>1643.6</b>	<b>10347.4</b>
	<b>Grand Total (1+2+3+4):</b>	<b>145</b>	<b>109</b>	<b>2741</b>	<b>2734.3</b>	<b>11768.0</b>

Source : Production & Marketing Division, Petrobangla.



## Growth Trajectory of Customer

Year	TGTDCL	BGDCL	JGTDSL	PGCL	KGDCCL	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
up to Dec, 16	2025847	493241	223738	128724	602074	3069	3476693

Source : Production & Marketing Division, Petrobangla.





# Natural Gas Reserve of Bangladesh

(As in December, 2016)

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, 2016)	Remaining Reserve w.r.t 2P (Jan, 2017)
			Company	Year						
<b>A. Producing</b>										
1.	Titas	1962	RPS Energy	2009	8148.9	5384.0	6367.0	6517.0	4221.34	2145.66
2.	Habiganj	1963	RPS Energy	2009	3684.0	2238.0	2633.0	3096.0	2273.03	359.97
3.	Bakhrabad	1969	RPS Energy	2009	1701.0	1052.9	1231.5	1339.0	803.87	427.65
4.	Kailashilla	1962	RPS Energy	2009	3610.0	2390.0	2760.0	2760.0	647.07	2112.93
5.	Rashidpur	1960	RPS Energy	2009	3650.0	1060.0	2433.0	3113.0	585.81	1847.19
6.	Sylhet/Haripur	1955	RPS Energy	2009	370.0	256.5	318.9	332.0	211.27	107.63
7.	Meghna	1990	RPS Energy	2009	122.1	52.5	69.9	101.0	61.32	8.58
8.	Narshingdi	1990	RPS Energy	2009	369.0	218.0	276.8	299.0	180.92	95.88
9.	Beani Bazar	1981	RPS Energy	2009	230.7	150.0	203.0	203.0	94.66	108.34
10.	Fenchuganj	1988	RPS Energy	2009	553.0	229.0	381.0	498.0	148.34	232.66
11.	Shaldanadi	1996	RPS Energy	2009	379.9	79.0	279.0	327.0	87.70	191.30
12.	Shahbazpur	1995	Petrobangla	2011	677.0	322.0	390.0	488.0	26.86	363.14
13.	Semutang	1969	RPS Energy	2009	653.8	151.0	317.7	375.1	12.10	305.60
14.	Sundalpur Shahzadpur*	2011	BAPEX	2012	62.2	25.0	35.1	43.5	9.98	25.12
15.	Srikail	2012	BAPEX	2012	240.0	96.0	161.0	161.0	54.84	106.16
16.	Begumganj*	1977	BAPEX	2014	100.0	14.0	70.0	-	0.88	69.12
17.	Jalalabad	1989	D & M	1999	1491.0	823.0	1184.0	1184.0	1046.70	137.30
18.	Moulavi Bazar	1997	Unocal	2003	1053.0	405.0	428.0	812.0	289.54	138.46
19.	Bibiyana	1998	D & M	2008	8350.0	4415.0	5754.0	7084.0	2530.04	3223.96
20.	Bangura	2004	Tullow	2011	1198.0	379.0	522.0	941.0	359.05	162.95
<b>Sub-total A:</b>					<b>36643.6</b>	<b>19739.9</b>	<b>25814.9</b>	<b>29673.6</b>	<b>13645.32</b>	<b>12169.60</b>
<b>B. Non-Producing</b>										
21.	Kutubdia	1977	HCU	2003	65.0	45.5	45.5	45.5	0.00	45.5
22.	Rupganj	2014	BAPEX	2014	48.0	-	33.6	-	0.00	33.6
<b>Sub-total B:</b>					<b>113.0</b>	<b>45.5</b>	<b>79.1</b>	<b>45.5</b>	<b>0.00</b>	<b>79.1</b>
<b>C. Production Suspended</b>										
23.	Chattak**	1959	HCU	2000	1039.0	265.0	474.0	727.0	26.46	447.54
24.	Kamta	1981	Niko/Bapex	2000	71.8	50.3	50.3	50.3	21.1	29.20
25.	Feni	1981	Niko/Bapex	2000	185.2	125.0	125.0	175.0	62.4	62.60
26.	Sangu***	1996	Cairn/Shell	2010	899.6	544.4	577.8	638.7	487.91	89.85
<b>Sub-total C:</b>					<b>2195.6</b>	<b>984.7</b>	<b>1227.1</b>	<b>1591.0</b>	<b>597.9</b>	<b>629.2</b>
<b>Grand Total (A+B+C) in BCF</b>					<b>38952.2</b>	<b>20770.1</b>	<b>27121.09</b>	<b>31310.1</b>	<b>14243.19</b>	<b>12877.89</b>
<b>Grand Total (A+B+C) in TCF</b>					<b>39.0</b>	<b>20.8</b>	<b>27.12</b>	<b>31.31</b>	<b>14.24</b>	<b>12.88</b>

Note: \* Production from Sundalpur Shahzadpur and Begumganj Gas Fields ceased on 14 June 2016 and 30 July 2016 respectively.  
 \*\* 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 Fields suspended from 1 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)
TGTDCCL	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	30	58.00	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 - Bogra	20	54.00	1000	225
	23 Monohardi - Dhanua Elenga Pipeline (1st Phase)	30	51.00	1000	750
	24 Bakhrabad - Demra	20	68.72	1000	250
	25 Bakhrabad - Chittagong	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	425
	29 Bonpara - Rajshahi	12	53.00	1000	450
	30 Hatikumrul - Bheramara	30	78.00	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 Srikail Gas Field (Location 2) - AB Pipeline Project Intake Point of Titas AB Pipeline at Chayabaria	10	7.70	1000	250
	36 Ashuganj - Bakhrabad 2	30	61.00	1000	450
KGDCL	37 Chittagong Ring Main	24/20/16	59.48	350	451
	38 KPM Spaur	8	36.15	350	18
	39 Chittagong - Rauzan	20	18.00	350	150
	40 Semutang - Chittagong	10	56.00	960	70
JGTDSL	41 Haripur - NGFF	-	43.00	1000	62
	42 Kailashtila - Kuchai	8	13.00	1000	62
	43 Kuchai - Chatak	6	39.00	1000	36
	44 Devpur - Kumargaon	6	11.00	1000	36
	45 Habiganj - Shahji Bazar	8	2.00	1000	53
	46 Shahaji Bazar - Shamsher Nagar	6	65.00	1000	11
	47 Srimongal - Moulovi Bazar	6	26.00	1000	11
	48 Chatak - Tengratila	4	19.00	1000	10
	49 Tengratila - Sunamganj	4	13.00	1000	10

# Category-wise Annual Gas Sales

(FY 1990-91 to FY 2015-16)

Gas Volume In Billion Cubic Feet (BCF)

Year	Gas Production	BULK SALES			Non Bulk Sales					Total Sales	UFG	Total Production	
		Power	Fertilizer	Sub-Total	Industry	Domestic	Commercial	Tea/CNG	Brick Field				Sub-Total
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
July-Dec, 16	483.5	256.1	19.8	275.9	90.2	87.0	5.0	27.8	0.0	210.0	485.9	(7.5)	478.3

\* 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	-	<b>13443.8</b>
1998-99	9116.9	2984.9	1030.6	1500.0	168.0	-	<b>14800.4</b>
1999-00	8618.9	3253.3	1105.1	1150.0	131.9	-	<b>14259.2</b>
2000-01	11049.2	2503.8	1142.1	1058.6	93.0	-	<b>15846.7</b>
2001-02	10541.3	3327.3	917.2	1428.9	122.6	-	<b>16337.3</b>
2002-03	15576.4	3395.9	1456.8	1499.8	684.7	-	<b>22613.7</b>
2003-04	18235.2	3708.9	1620.4	1750.0	393.5	-	<b>25708.0</b>
2004-05	18481.0	3681.1	2530.6	2000.0	596.2	-	<b>27288.8</b>
2005-06	18526.7	3440.0	3597.8	2154.8	383.2	12.5	<b>28115.0</b>
2006-07	18801.5	4145.5	3665.1	2500.0	329.2	12.6	<b>29453.9</b>
2007-08	17900.6	3223.4	6490.5	-	350.1	60.9	<b>28025.4</b>
2008-09	19313.5	3533.0	7507.6	1715.3	554.7	6.3	<b>32630.3</b>
2009-10	20064.7	3331.2	10057.5	3281.6	2211.1	655.3	<b>39601.3</b>
2010-11	21625.5	3209.0	11050.9	4198.4	884.2	714.0	<b>41682.0</b>
2011-12	26668.1	2989.3	9378.9	3875.8	1470.6	1000.6	<b>45383.3</b>
2012-13	23861.6	3350.1	14257.2	8395.8	4596.4	1404.7	<b>55865.8</b>
2013-14	31616.0	2856.3	11854.2	4460.8	1443.0	1549.1	<b>53779.4</b>
2014-15	37498.6	2392.3	9471.7	11009.0	1425.4	245.5	<b>62042.5</b>
2015-16	48432.4	3269.4	15523.8	6900.9	744.2	345.2	<b>75215.7</b>

Source: Accounts Division, Petrobangla.



RMS of combined cycle power plant at Bhola of SGCL



# Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Financial Position (Balance Sheet)  
As at 30 June 2016

	2016 BDT	2015 BDT
<b>Assets</b>		
<b>Non-current assets</b>		
Property, plant and equipment	298,078,828	276,624,117
Minor capital project (capital work-in-progress)	45,900,440	2,873,133
Assets held under SPMC project	26,041,845	26,041,845
	<b>370,021,113</b>	<b>305,539,095</b>
<b>Investments</b>		
Investment in enterprises	4,196,580	4,196,580
Internal accounts with projects	-	20,000,000
Investment in FDRs	83,806,042,827	61,148,400,807
Investment in shares	18,482,000	18,482,000
	<b>83,828,721,407</b>	<b>61,191,079,387</b>
<b>Current assets</b>		
Group current account	14,351,551,466	13,299,576,099
Accounts receivable	36,752,863,468	33,257,715,662
Advances, deposits and prepayments	340,147,586	303,152,349
Loans and advances to employees	330,478,416	300,439,802
Cash and cash equivalents	14,278,769,550	8,933,505,350
	<b>66,053,810,486</b>	<b>56,094,389,262</b>
<b>Total assets</b>	<b>150,252,553,006</b>	<b>117,591,007,744</b>
<b>Equity and liabilities</b>		
<b>Capital and reserves</b>		
Paid-up capital	1,500,000	1,500,000
Capital reserve	17,637,070,419	16,942,922,172
Revenue reserve	51,317,081,090	62,114,467,253
Gas Development Fund	34,511,371,478	30,720,958,397
	<b>103,467,022,987</b>	<b>109,779,847,822</b>
<b>Long-term liabilities</b>		
Long-term borrowings	39,275,956	39,275,956
Other long-term liabilities	107,307,911	114,657,238
	<b>146,583,867</b>	<b>153,933,194</b>
<b>Current liabilities</b>		
Creditors	45,159,574,417	6,939,835,929
Deferred income	26,041,845	26,041,845
Suspense account	1,178,700,711	689,334,632
Accruals and provisions	274,629,179	2,014,322
	<b>46,638,946,152</b>	<b>7,657,226,728</b>
<b>Total equity and liabilities</b>	<b>150,252,553,006</b>	<b>117,591,007,744</b>

K. M. HASAN & CO.  
Chartered Accountants

S. F. AHMED & CO.  
Chartered Accountants



# Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)

Statement of Profit or Loss and Other Comprehensive Income  
For the year ended 30 June 2016

	2016 BDT	2015 BDT
<b>Income</b>		
Sales proceeds from IOC gas and condensate	102,923,315,215	80,421,044,204
Petrobangla actual cost recovery	834,222,000	487,041,000
Transport fare recovery	664,166	759,406
Rental income	11,310,856	11,817,367
Miscellaneous income	900,042	44,545,278
	<b>103,770,412,279</b>	<b>80,965,207,255</b>
<b>Expenditure</b>		
Cost of sales of gas and condensate	123,008,260,300	81,658,383,253
Personnel expense	640,629,316	413,389,489
Professional services	9,976,095	1,409,595
Promotional expense	8,978,653	8,274,804
Power expense	5,319,231	4,802,165
Communication expense	1,491,688	1,484,100
Transport expense	29,753,247	25,034,124
Occupancy expense	25,305,554	27,612,639
Financial expense	548,705	500,539
Administrative expense	5,943,056	5,448,361
Miscellaneous expense	105,115,005	72,442,354
Depreciation	19,062,034	18,722,605
Total expenditure	<b>123,860,382,884</b>	<b>82,237,504,028</b>
<b>Operating profit/(loss)</b>	<b>(20,089,970,605)</b>	<b>(1,272,296,773)</b>
<b>Non-operating income</b>		
Interest on short term deposit	68,346,369	73,358,860
Interest on house building loan	11,971,059	11,595,851
Interest on motor cycle loan	342,801	409,278
Interest on computer loan	92,250	104,750
PSC financial income from STD bank account	500,000,000	540,000,000
PSC financial income from FDR	1,626,162,275	1,108,192,587
Total non-operating income	<b>2,206,914,754</b>	<b>1,733,661,326</b>
<b>Net surplus/(deficit)</b>	<b>(17,883,055,851)</b>	<b>461,364,554</b>
<b>Appropriation account</b>		
Un-appropriated surplus brought forward	(30,547,281,756)	(30,868,887,116)
Prior year's adjustment	89,061,454	(6,198,804)
Prior year's adjustment for PSC	79,481,725	(133,560,390)
Surplus/(deficit) for the year	(17,883,055,851)	461,364,554
	<b>(48,261,794,428)</b>	<b>(30,547,281,756)</b>

K. M. HASAN & CO.  
Chartered Accountants

S. F. AHMED & CO.  
Chartered Accountants

# Annual Report 2016

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# P E T R O B A N G L A