









# **PETROBANGLA**

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Seminar on the occasion of National Energy Security Day on 9 August, 2014

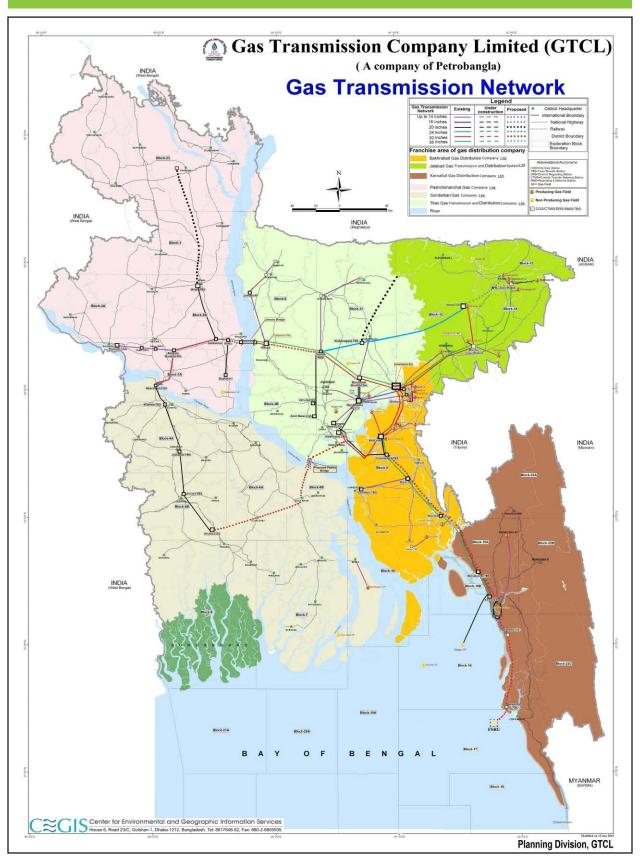
# **OUR VISION**

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

# **OUR MISSION**

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

# GAS TRANSMISSION NETWORK IN BANGLADESH





**Tawfiq-e-Elahi Chowdhury, BB, PhD**Adviser (Minister) to the Hon'ble Prime Minister
Power, Energy and Mineral Resources Affairs
Government of the People's Republic of Bangladesh.



# Message

Bangladesh has made significant strides towards achieving Vision 2021. Its recent graduation to the status of a low middle income country is an eloquent testimony to its potentials and the visionary stewardship of Prime Minister Sheikh Hasina. There is still a long distance to be covered and the journey ahead involves transforming the economic and social architecture of the country to the benefit of all its citizens, particularly, the less privileged.

Energy plays a pivotal role in the developmental transformation process. Petrobangla, as the apex organization in providing primary energy to diverse users- power plants, industries, commercial concerns and others, has been assigned this key responsibility. During the last six and a half years, Petrobangla has been able to increase natural gas supply by 40% although the steady annual economic growth of over 6% has generated even more demand for primary energy. The major challenge ahead is to find ways to enhance gas supply from domestic assets and import of LNG in the short run while accelerating E&P on land and the sea – a new opportunity that has been opened after the peaceful settlement of maritime boundaries with our neighbors. With the new emphasis on energy mix, efficiency and conservation, the demand on the capacity of Petrobangla to plan strategic directions and execute projects and programs is ever more increasing.

Petrobangla and its companies have been playing a pioneering role in ensuring energy security of the country. I am sure they would rise to the challenges ahead and support the future development of Bangladesh – in the making of the Sonar Bangla – the dream of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh

con for

Dr. Tawfiq-e-Elahi Chowdhury, Bir Bikram



Nasrul Hamid MP
Minister of State
Ministry of Power, Energy and 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 2014 focusing on the activities of Petrobangla and its companies.

Petrobangla is entrusted with the responsibilities of exploration, production, transmission and distribution of natural gas, as well as development of coal in the country. In addition to implementing its programmes to augment production and supply of natural gas and coal, Petrobangla has long been successfully administering Production Sharing Contracts (PSCs) with international oil companies (IOCs) for exploration and development of oil and gas both onshore and offshore of the country.

Rapid urbanization and social development have increased the demand for energy in our country. To meet the demand-supply gap, Petrobangla is implementing a number of projects for enhancing supply and improving transmission capacity of natural gas. In addition to its endeavour for boosting production and supply of gas from domestic sources, Petrobangla is also executing a project for importing LNG. Besides, intensifying the mining of coal is also high on the agenda of Petrobangla. I hope this organisation, through its relentless efforts by a dedicated workforce will continue to be a significant contributor to the prosperity of Bangladesh.

I express my felicitations to the officials associated with the effort of publication of the Annual Report 2014. I wish continuous progress of Petrobangla in the coming days.

Joy Bangla, Joy Bangabandhu

Long Live Bangladesh

(Nasrul Hamid)



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



# Message

I am delighted to know that Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) is going to publish its Annual Report 2014 encompassing the activities for the FY 2013-14.

Energy is the prime mover of an economy which ultimately contributes to propping up the living standards of the people. Bangladesh achieved impressive economic growth over the recent years. We are striving to further accelerate the growth in order to materialise our vision to become a middle-income country by 2021 which will obviously require a secure and high rate of energy supply. Petrobangla, the flagship organisation in the country's primary energy sector entrusted with the responsibilities of exploring, developing, producing and marketing natural gas as well as extracting the country's coal resources has been playing a vital role in fuelling the economy.

The goal for attainment of Vision 2021 largely depends on the performance of Petrobangla. I hope, Petrobangla with its excellent track record of outstanding performance will be able to live up to the expectations by further intensifying its efforts in exploration and development of fossil fuels in the country and also by managing activities related to the import of Liquefied Natural Gas (LNG) to ease the shortfall in the supply of natural gas.

With a view to conserving and ensuring efficient use of valuable natural gas, Petrobangla has been implementing schemes to install pre-paid meters and encouraging use of energy-efficient boilers. Further, it is working for importing LNG to help ease the demand and supply gap of natural gas. Petrobangla is also engaged in extracting granite which is used as construction materials.

It may be noted that Petrobangla is a major contributor to the national exchequer. At the same time, it is saving a huge amount of foreign currency by substituting the import of energy.

I am confident that Petrobangla will play a greater role in catapulting our economy to a higher growth trajectory. I wish Petrobangla every success in its ongoing and future ventures.

(Md. Abubakar Siddique)



Chairman Petrobangla



#### Introduction

This issue of Annual Report of Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) provides an overview of the key activities, projects and performances of the corporation in the FY 2013-14, together with its future plans and priorities as it moves forward with 13 companies under it striving to achieve an energy system that is environment-friendly, sustainable and affordable.

The energy mix of Bangladesh is changing slowly but indigenous natural gas is still a major part of it. It accounts for about three quarters of commercial primary energy supplies with the remainder coming from imported fuels and coal. It is indeed a constant challenge to ensure supply of natural gas resources to fuel the economic growth of the country against the backdrop of sharply rising demand. Petrobangla being on the cusp of non-renewable energy producers is diligently fulfilling its commitment.

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

In the year 2013-14, Petrobangla and its companies supplied 820 billion cubic feet (BCF) of natural gas, which is equivalent to 20.5 million metric tons of oil – about four times the annual import of crude oil and petroleum products. Natural gas now substitutes for oil import equivalent to US\$ 15.8 billion annually. Besides, about 321 thousand metric tons of condensate was extracted as byproduct from natural gas this year. A portion of it is fractionated into petrol, diesel and kerosene at the process plants of three companies. The only coal mining company of Petrobangla extracted about 947 thousand metric tons of coal this year. Petrobangla and the companies under its umbrella provided fuel worth US\$ 16.3 billion in aggregate to the energy basket of the country in 2013-14. Thus Petrobangla has become the lifeline of the economy of the country.

Bangladesh gas sector started its journey in the 1960s, but its expansion and integration started to accelerate in the early 70s, spurred by the rising oil prices. Till now, 26 gas fields have been discovered. Total recoverable proven and probable gas reserve of 26 gas fields has been estimated to be at 27.12 TCF out of which estimated proven recoverable reserve (P1) is 20.77 TCF and the recoverable probable reserve is 6.35 TCF. Up to December, 2014 as much as 12.57 TCF gas was produced, leaving only 14.55 TCF of recoverable gas. Currently, 20 gas fields are in production and out of 128 wells located in these gas fields, 98 are on stream. A total of 600.86 BCF gas was produced in FY 2007-08. It reached 820 BCF in FY 2013-14 due to various development programmes undertaken by Petrobangla. Out of this production, grid power consumed the largest part worth 337 BCF (41%) followed by industry and captive power which consumed 141.9 BCF (17%) and 143.8 BCF (17%) respectively, fertiliser 53.8 BCF (7%), domestic 101.5 BCF (12%), CNG 40.1 (5%) and commercial and tea-estates together 9.7 BCF (1%) in FY 2013-14.

As an industry, we are facing formidable challenges. In recent years, the demand for natural gas has seen a sharp rise outpacing supply. Consequently, the gap between supply and demand is increasing day by day at a higher rate persistently despite marked increase in production. It may be noted that the country's

gas requirement is mounting keeping pace with the growth in economic activity which averages 6% or above per annum. With rising demand, the known reserve of natural gas in the country is depleting at increasing rates. However, to replenish the depleted resource, massive exploration and drilling activities have been launched on. It may be noted with great concern that during the preceding seven years until 2009, exploration activities were almost stagnant. However, exploration activities 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, 7 new gas structures have been delineated, 8 exploration and 42 development wells have been drilled and workover of 18 wells have been completed. At the same time, a total of 767 km transmission pipeline has been laid under different projects which has contributed to larger flow of gas in the system. A remarkable success achieved in 2014 in the transmission sector is the commissioning of Bibiyana-Dhanua 137 km pipeline of 36 inch diameter, the largest diameter gas transmission pipeline ever constructed in the country, which has increased transmission capacity as well as the much needed line-pack capacity for maintaining stability of the transmission system.

Currently, demand for gas in the country has already surpassed about 3200 million cubic feet per day (MMCFD) whereas the average supply of gas is around 2,700 MMCFD, leaving a shortfall of about 500 MMCFD. The demand-supply mismatch has been a longstanding problem in the country's energy sector. With a view to easing the demand and supply disparity, Petrobangla chalked out time bound programmes. As a result of implementation of various projects, a gross production of 1,363 MMCFD has been added during last six and a half years, while net augmentation sustained as of today is 956 MMCFD. Petrobangla has been putting its utmost effort to enhance the production and supply of gas. The records of performance of Petrobangla will speak for its all-out efforts put in to improve the scenario.

Bangladesh Petroleum Exploration and Production Company Limited (BAPEX) - the lone national exploration company under Petrobangla - in its continued programme of drilling exploration wells in newly delineated structures, has discovered three new gas fields named Rupganj, Sundalpur and Srikail. BAPEX has been conducting complete 3D seismic survey since 2010 and has completed 2380 sq km of survey so far. The prime objectives of a 3D seismic survey are to properly delineate the extension of a discovered field, to increase the success rate in any new exploration or development well and to precisely calculate the gas-initially-in place (GIIP). It may be noted that 3D seismic programme not only helps precisely identify the country's gas reserve but also reduce the risk of drilling dry wells.

The installation and operation of turbine driven compressors at Muchai, Habiganj in 2012 has spurred the flow of gas through the North-South transmission pipeline and increased gas flow by approximately 120 MMCFD. Besides, one unit of Ashuganj compressor station was commissioned in 2014 and Elenga compressor station in 2015. Commissioning of a compressor at Ashuganj has enhanced gas supply to the Chittagong region by around 50 MMCFD, giving some relief to city dwellers and industries in the second largest city and commercial hub of the country.

At present, exceeding dependence on natural gas has contributed to sharp growth in its demand. 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 daily. The coal extracted from this mine is mainly used to fuel the only coal powered 250 MW power generation plant of the country located in Barapukuria. The remainder of coal is used in brick fields, boiler industry, steel re-rolling mills, etc. It is to be mentioned that a 2D seismic survey conducted by Petrobangla on the Dighipara Coal Field found that it had good prospects for mining. A techno-economic study will be carried out by Barapukuria Coal Mine Company Limited as a next step towards development of this field. Furthermore, a project named "Feasibility Study for the Extraction of Coal Bed Methane (CBM) at Jamalganj Coal Field has been undertaken by Petrobangla. 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.

The Government has also planned to build a floating liquefied natural gas (LNG) terminal to facilitate import of LNG. In this backdrop, Petrobangla is in the process of signing an agreement to build a floating LNG terminal at Moheskhali Island in the Bay of Bengal with a capacity to handle 4 million tons of LNG per year and re-gasification capacity of at least 500 million cubic feet per day.

Just after the delimitation of the maritime boundary between Bangladesh and Myanmar by the International Tribunal for the Law of the Sea (ITLOS) in March, 2012, Petrobangla realigned the blocks considering the new boundary and announced a bidding round in December 2012. Under this round, three PSCs for shallow sea blocks have been already signed. ONGC Videsh, Oil India and BAPEX joint venture has signed two PSCs for blocks SS-04 and SS-09. On the other hand, Santos, Kriss Energy and BAPEX joint venture has been contracted for block SS-11.

Initialing of 3 PSCs with Statoil for deep sea blocks DS-12, 16 and 21 is in progress. On the other hand, international bids have been received and evaluated for conducting marine 2D Non-Exclusive Multi-Client seismic survey. The objective of the survey is to provide the oil and gas industry with 2D Non-Exclusive Multi-Client seismic data of the offshore areas of Bangladesh in order to help basin evaluation, prospect generation and robust bid round participation. Signing of contract with the successful bidder is awaiting approval of the Government.

During FY 2013-14, Petrobangla contributed to national exchequer an amount to the tune of Tk 53,779.40 million and saved a considerable amount of foreign exchange by substituting import of fuel.

With continued investment in exploration and production, the significant economic benefits this country reaps from natural gas will flow for a long time to come. Petrobangla is striving to continue its all-out efforts for maximising the recovery of domestic gas and coal reserves.

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

Istiaque Ahmad

# **Board of Directors (Incumbent)**



Istiaque Ahmad
Chairman
Petrobangla
Chairman of the Board



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



Mahbubun Nahar Director (Finance) Petrobangla Director of the Board



Muhammad Ziaur Rahman Addl. Secy (Development) representing EMRD Director of the Board



Md. Ruhul Amin
Director (Admin)
Petrobangla
Director of the Board



Md. Saiful Alam Hamidi
Chief, Industry and Energy Division
Planning Commission
representing MoP
Director of the Board



Engr. Md. Quamruzzaman
Director (PSC)
Petrobangla
Director of the Board



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



Md. Abdul Khaleque
Director (Planning)
Petrobangla
Director of the Board

Past and Present Chairmen of Petrobangla		
Sl. 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.	Shafiul 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	30.04.2003 - 30.10.2005
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 - 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 organisation 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 # 88, the import, refining and marketing of crude and petroleum products were separated and vested with 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 in Act XI of February, 1989 to hold shares or interest in any company formed for the purpose of exploration and exploitation of oil, gas and mineral resources.

## **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;
- 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 plan, promote and develop cement industries in the country;
- f. to take up, execute and operate any project on mining and mineral development;
- g. 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
- h. 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** Government Jatiyo Sangsad Prime Minister (Parliament) Parliamentary Standing Committee **Energy and Mineral Resources** Planning Commission Ministry of Finance Ministry of Planning Division, Ministry of PE&MR Bangladesh Energy Petrobangla Regulatory Chairman Commission (BERC) Companies Managing Directors

# 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 two 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 five 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.



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

#### 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 # 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 # 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 # 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 Moulavibazar, Sangu (offshore) and Bibiyana. These 3 fields alongwith 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 # 5 and 10, UNOCAL/BAPEX in block # 7 and TULLOW/CHEVRON/TAXACO/BAPEX in block # 9. Exploration activity was conducted in these blocks. Substantial activities were undertaken in block # 9 only, where 5 exploration wells were drilled on the basis of seismic survey including 3D seismic.

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 two blocks was 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, three shallow water PSCs have been signed with ONGC Videsh, Oil India & BAPEX for blocks SS-04 and SS-09. and Santos, Kris Energy and BAPEX for block SS-11. Deep water bids, received in January, 2014, are now being processed. Since the signing of the PSC's, several changes in ownership and restructuring in the contracts have taken place. All of the onshore PSC's have matured from the exploration phase to the production phase and major areas of the blocks have been relinquished. As of December, 2014 PSC's are active in production areas of blocks 12, 13 and 14 (Bibiyana, Jalalabad and Maulavibazar Gas Fields) operated by Chevron.

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, 2014 out of 26 gas fields discovered, 19 were under production. Meanwhile, peak gas production per day crossed the level of 2,600 MMCFD wherein average daily gas production remained more than 2,500 MMCFD by December, 2014. 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 to minimise 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 two 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).



Hon'ble Prime Minister Sheikh Hasina inaugurating Extension of Bybiyana Gas Field.

# **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 pipe line 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 fertiliser 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.

#### **Exploration**

The 2D Seismic Project of BAPEX envisages to acquire 1800 lkm data by 30 June, 2017 with an approved DPP cost of Tk 711.3 million. BAPEX has, so far acquired 476 lkm seismic data from Madaripur, Shariatpur, Gopalganj and Khulna areas out of the target. The interpretation report produced after processing the data reveals some potential leads that need to be further explored in the Madaripur-Shariatpur regions. During 2013-14, 358 lkm seismic data have been acquired from the Madaripur-Shariatpur region which is located in Block-6A and Block-6B.

The 3D seismic team of BAPEX started their work in 2010 and successfully completed acquisition, processing and interpretation of Rashidpur, Kailashtila, Sylhet, Titas, Bakhrabad and Saldanadi Gas Fields. From the interpretation results, drilling of 31 wells have been proposed. All the wells drilled on the basis of the results were successful among which RP-08 of Rashidpur, KTL-04 of Kailashtila, TT-18 and TT-27 of Titas and BKB-09 of Bakhrabad are producing gas which is being distributed through the national grid.

The 3D Seismic Project of BAPEX has been initiated to conduct a total of 1950 sq. km seismic exploration on Sunetro, Shahbazpur, Sundalpur-Begumganj, Srikail, Narshingdi and Habiganj gas fields with an approved DPP cost of Tk 1,825.0 million fixing a completion target by November, 2017. So far 562 sq. km data have been acquired from the Sunetro structure and 1st phase of Shahbazpur gas field. During the field season of 2013-14, 485 sq. km data has been acquired from the 1st phase of Sunetro structure which is located in Block-11 and Block-12.

#### **Drilling**

Bakhrabad well -9 (Drilling): Pursuant to a contract between BAPEX and BGFCL the drilling of vertical well was started on 19 May, 2013 using Rig IDECO H-1700. The drilling was completed at 2,535 metre depth on 18 July, 2013. After completion, 15 MMCFD gas is being produced from the well and supplied to national grid line. The rig mast was laid down on 28 August, 2013.

Titas well -18 (Drilling): Pursuant to a contract between BAPEX and BGFCL the drilling of directional well was started on 19 March, 2013 using GARDNER DENVER E 1100 drilling rig. The drilling was completed at 3,332 metre depth. After completion, 20 MMCFD gas is being produced from the well and supplied to the national grid line. The rig mast was laid down on 23 August, 2013.

Fenchuganj well -5 (Drilling): The drilling of the Fenchuganj well # 5 was started on 27 September, 2013 using ZJ70D (Bijoy-10) drilling rig. The drilling of directional well was completed at 3,137 metre depth on 24 January, 2014. The well was suspended due to non commercial gas flow. Three cement plugs were placed successively in the well for security and safety. The rig mast was laid down on 29 April, 2014.

**Titas well -27 (Drilling):** Pursuant to a contract between BAPEX and BGFCL the drilling of this well was started on 20 November, 2013 using Rig Gardner Denver E-1100 (IPS Cardwell). The drilling of directional well was completed on 19 March, 2014 at 3,137 metre depth. After completion, 20 MMCFD gas is being produced from the well and supplied to the national grid. The rig mast was laid down on 15 April, 2014.

Rupganj well-1 (Drilling): The drilling of the exploratory vertical well was started on 19 May, 2013 using IDECO H-1700 Rig. The drilling was completed at 3,615 metre depth on 31 May, 2014. After DST, production of 15 MMCFD gas was confirmed from the well.

Bakhrabad well-5 (Work-over): The work-over/re-compilation of the well was started on 15 March, 2014 using ZJ40DBT (Bijoy11) drilling/ work-over rig. Milled and recovered production packer. Milled and clean out unknown junk to 2,336 metre & continued.

Kailashtila well -7 (Drilling): ZJ70DBS (Bijoy-10) drilling rig was moved from Fenchuganj-5 to Kailashtila-7. Rig building was started from 07 June, 2014 and a new gas zone has been discovered.

Saldanadi well-4 (Drilling): Gardner Denver E 1100 drilling rig has been moved to Saldanadi -4 from Titas-27. Drilling is in progress.

**Mobarkpur well-1(Drilling)**: ZJ50DB (Bijoy-12) drilling rig has been moved from Chittagong port to Mobarkpur-1. Rig has been commissioned and drilling is in progress.

Ten Wells Drilling Programme by Gazprom, Russia: To meet the increasing gas demand within the soonest possible time, it was decided, as per Government directives and under the Speedy Supply of Power and Energy (Special Provisions) Act, 2010, to drill a total of 10 wells by Gazprom EP, Russia. These included 5 wells of BAPEX, 4 wells of BGFCL and 1 well of SGFL. The project was approved on 14 June, 2012 with a cost of Tk 10,139.7 million. The contract with Gazprom was signed in April, 2012. All the 10 wells have been drilled successfully and gas produced from these wells has contributed to raising production capacity under Petrobangla. In the meantime, 2 of the wells have stopped producing gas.

#### **Production**

The major public sector gas production companies are: Bangladesh Gas Fields Company Limited (BGFCL) and Sylhet Gas Fields Limited (SGFL). These two companies added 41.6% of total gas produced during FY 2013-14. BAPEX was assigned with production activities in 2000. It produced 40.1 BCF gas in FY 2013-14. Total production of these three national companies stood 381.4 BCF which was 46.5% of total production of gas during FY 2013-14. The remaining 438.7 BCF gas was produced by IOCs (Santos, Chevron and Tullow) which was 53.5% of total production of gas during 2013-14.

To keep pace with continually increasing gas demand, gas production by one of these IOCs, Chevron, maintained an increasing trend. The other three national and one international company (Tullow) maintained their production almost at the same level of the previous year. On the other hand, the production from the offshore gas field Sangu dropped to zero from September, 2013. The total production in FY 2013-14 stood at 820.1 BCF, averaging about 2,246.94 MMCFD. Out of this, BGFCL produced 288 BCF, SGFL 53.3 BCF, BAPEX 40.1 BCF, Chevron 401.2 BCF and Tullow 37.5 BCF. The major gas producing fields of the companies under Petrobangla are: Titas Gas Field contributing 21.8%, Habiganj 9.9%, Kailashtilla 3.5%, Rashidpur 2.1% and Fenchuganj 1.7%, whereas major producing fields under IOC's are: Bibiyana contributing 34.9%, Jalalabad 10.7%, Maulavibazar 3.3% and Bangura 4.6%.

At the end of FY 2013-14, 19 gas fields were in production with 93 flowing wells. Out of these fields, five are operated by BGFCL, four by SGFL, six by BAPEX, three by Chevron and one by Tullow. Chevron, SGFL, BAPEX and BGFCL have taken up new drilling programmes in Bibiyana, Titas, Shahbazpur, Kailashtila, Begumganj, Srikail, Salda, Sundalpur, Semutung, Rashidpur and Bakhrabad gas fields. BAPEX, BGFCL and SGFL have developed six production wells - one each at Fenchuganj, Titas, Bakhrabad, Rashidpur, Begumganj, Shahbajpur and Salda gas fields in addition to one exploration well in Rupganj. Bibiyana gas field, was producing more than 900 MMCFD from 18 wells by the end of 2014.

During FY 2013-14 Chevron produced a total of 401.2 BCF gas from its 3 gas fields. It produced 87.8 BCF gas and 644,392 barrels of condensate from Jalalabad field, 27.1 BCF gas and 2,733 barrels of condensate from Maulavibazar field and 286.3 BCF gas and 1,830,230 barrels of condensate from Bibiyana gas field and Tullow produced 37.5 BCF gas and 106,191 barrels of condensate during this period. During the period from July to December, 2014, Chevron and Tullow produced 213.6 BCF and 19.5 BCF gas respectively while local companies produced 197.4 BCF gas.

#### **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 creation of GTCL have been integrated with the GTCL system. Apart from installing compressor stations at Ashugani and Elenga. 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" diameter 51 km gas transmission pipeline, Hatikumrul-Ishwardi-Bheramara gas transmission pipeline, Bonpara-Rajshahi 12" diameter 53 km gas transmission pipeline, Bheramara-Khulna gas transmission pipeline, Bakhrabad-Shidirganj 30" diameter 60 km gas transmission pipeline, Ashuganj-Bakhrabad gas transmission pipeline, gas transmission pipeline from Titas location # 7 to A-B pipeline, Bibiyana-Dhanua gas transmission pipeline and Installation of Compressor Stations at Ashuganj and Elenga by GTCL have been undertaken to enhance the gas transmission capacity. Among them, construction of 30" diameter 51 km Monohordi-Dhanua & Elenga-East Bank of Jamuna Bridge gas transmission pipeline, Hatikumrul-Ishwardi-Bheramara gas transmission pipeline (excluding Padma river crossing), 12" diameter 53 km Bonpara-Rajshahi gas transmission pipeline, 36" diameter 137 km Bibiyana-Dhanua gas transmission pipeline and 24" diameter 7.5 km gas transmission pipeline from Titas location # 7 to A-B Pipeline and Srikail - A-B 1.5 km gas transmission pipeline have been already completed.

Substantially completed projects by GTCL are: (i) Installation of Compressor Stations at Ashuganj and Elenga (ii) Hatikumrul-Bheramara 30" diameter 87 km Gas Transmission Pipeline (iii) Bheramara-Khulna 20" diameter 165 km Gas Transmission Pipeline (iv) 30" diameter 61 km Gas Transmission Capacity Expansion-Ashuganj to Bakhrabad (v) Construction of 10" diameter 7.70 km Interconnection Gas Transmission Pipeline from Titas Gas Field (Location C-B-A) to Titas-AB Pipeline Project and (vi) 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).

Immediate upcoming transmission pipeline constructions projects are: (i) Maheshkhali-Anowara 30" diameter 91 km gas transmission pipeline. (ii) Dhanua-Elenga and Bangabondhu Bridge West bank- Nalka 30" diameter 66 km gas transmission pipeline.

# **Pipelines**

Gas pipeline network continued to expand both in transmission and distribution. In total about 590.80 km pipelines of various sizes and grades were completed during the year 2013-14; these included 0.14 km transmission pipeline, 14.68 km distribution pipelines, 524.77 km feeder main and service lines and 58.06 km others (customer financing) pipelines. As on June, 2014 the gas pipeline network encompassed about 22,348.22 km comprising of about 2,308.82 km transmission lines, 2,516.90 km distribution lines, 15,612.38 km feeder main and service lines and the rest 1,910.16 km other (customer financing) lines.

As in December, 2014 the pipeline network increased to about 23,026.78 km, which included about 2,406.94 km transmission lines, 2,569.29 km distribution lines, 16,101.82 km feeder main and service lines and the rest 1,948.73 km pipelines constructed under customer financing.

The Bibiyana-Dhanua 36" diameter 137 km gas transmission pipeline, the largest diameter transmission pipeline ever constructed in the country, was commissioned in December, 2014. This pipeline has contributed to enhancing transmission capacity of the gas grid, improving transmission pressure and raising line-pack in the system.

#### **Distribution**

Marketing of gas to the customers ranging from large power and fertilizer plants to small households and business is the responsibility of six marketing companies under Petrobangla. These companies are namely Titas Gas Transmission and Distribution Company Limited, Bakhrabad Gas Distribution Company Limited, Jalalabad Gas Transmission and Distribution System Limited, Paschimanchal Gas Company Limited, Karnaphuli Gas Distribution Company Limited and Sundarban Gas Company Limited. Each company has its own marketing franchise area covered by a fairly extensive distribution network. Among these marketing companies, Sundarban Gas Company Limited - the last to join the marketing group - has started its operation.

The total gas sales of the aforesaid six marketing companies in operation during this financial year was about 828.1 BCF of which power sector consumed the largest part worth 337.4 BCF followed by fertilizer sector 53.8 BCF, captive power sector 143.8 BCF, industrial sector 141.9 BCF, domestic sector 101.5 BCF and others non-bulk 49.7 BCF. Gas sector catered to more than 2.76 million customers under various categories as on June, 2014 which rose to 2.92 million at the end of December, 2014. Most of these customers fall under domestic category.

#### **Condensate and Natural Gas Liquids (NGL)**

Some of the gas fields located in north-eastarn part of Bangladesh contain high percentage of liquid hydrocarbon. Extraction of this liquid, especially value added by-products, is becoming a growing activity. Apart from the condensate fractionation plant installed in different gas fields, Rashidpur Condensate Fractionation Plant with a capacity of 3750 bbl/day is producing petrol, diesel and kerosene by fractioning the condensate received from Bibiyana Gas Field. During 2013-14, a total of 590,968 barrels of condensate was produced by SGFL, BGFCL and BAPEX and 1,936,641 barrels by IOCs as a by-product of gas. During the same period, SGFL extracted 174,197 barrels of NGL from the gas processed at its Mole-Sieve Turbo Expander plant at Kailashtilla. On the other hand, a total of 609,389 barrels of petrol, 482,105 barrels of diesel and 189,713 barrels of kerosene was produced by fractionating the condensate at the fractionation plants located at different fields of SGFL, BGFCL and RPGCL. Besides, a total of 45,489 barrels of petrol was converted to octane using octane booster at Rashidpur Condensate Fractionation Plant under SGFL in 2013-14.

#### **CNG** and LPG

RPGCL, a company under Petrobangla, has been entrusted with the regulatory 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. The company also produced 6,800 metric ton LPG by processing NGL in its fractionation plant at Kailashtilla in 2013-14.

#### **Liquefied Natural Gas (LNG)**

At present, there is a shortage of about 500 MMCF gas per day in the country. To the situation, Government has taken up necessary steps to import 500 MMCFD of LNG particularly to meet the need of the Chittagong area. Under this project, installation of a Floating Storage and Re-gasification Unit (FSRU) at Moheshkhali approximately 90 kilometers south of Chittagong and construction of 30" diameter 115 km transmission pipeline from Moheshkhali Ring-Main at Fouzdarhat in Chittagong are expected to be completed by early 2017.



Initial Agreement Sining for installation FSRU at Moheshkhali

#### **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

At present, natural gas accounts for about 73% of commercial energy in the country. The sole dependence on natural gas has contributed to sharp growth in its demand. In order to reduce increasing dependence on natural gas, 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. The coal extracted from this mine is mainly used to fuel the only coal powered 250 MW power generation plant of the country located at Barapukuria. The remainder is used in brick fields, boiler industry, steel re-rolling mills, etc. It is to be mentioned that Petrobangla completed a project to conduct seismic survey for feasibility studyof coal deposit at Dighipara coal field in 2014. Furthermore, a project named "Feasibility Study for the Extraction of Coal Bed Methane (CBM) at Jamalganj Coal Field has been undertaken by Petrobangla.

Presently, the Government has been putting efforts to finalise 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.

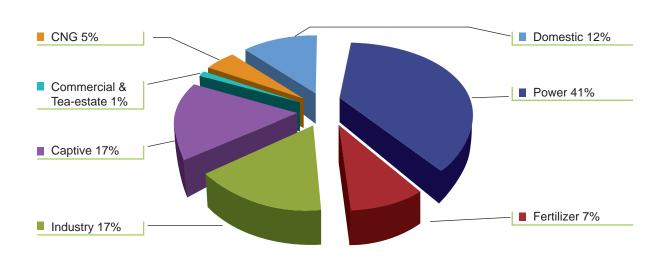
#### **Granite**

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. During the FY under review, a total of 1,87,342.05 metric tons of granite was produced from the mine.



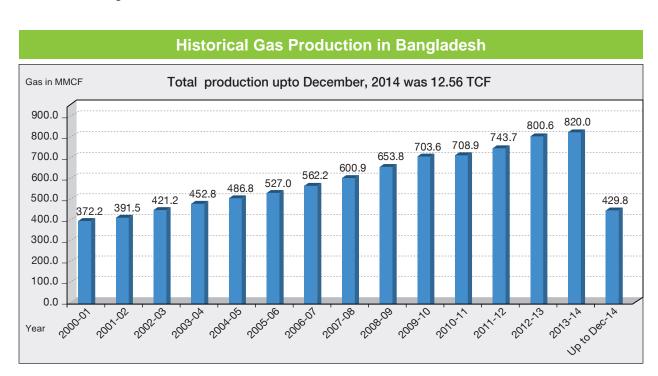
Granite Stack Yard at Maddhapara Granite Mine





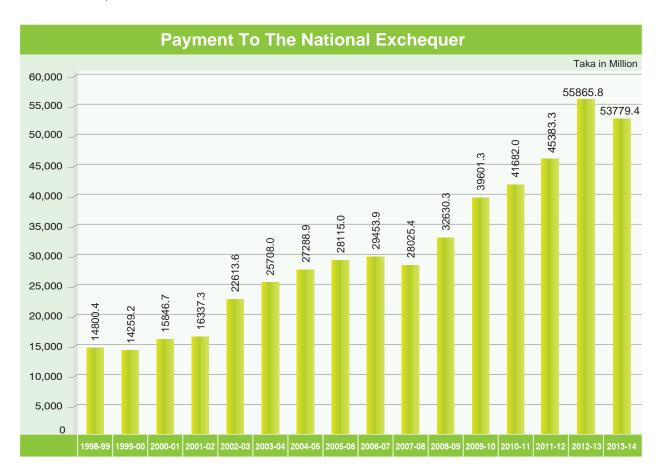
# **Marketing**

In keeping with the increased production, gas sales also showed an upward trend. By the end of 2013-14 financial year, total sales was 828.1 BCF of which power sector (Grid + Non–Grid) again consumed the largest part worth 337.4 BCF followed by fertilizer sector 53.8 BCF, captive power 143.8 BCF industry sector 141.9 BCF, domestic sector 101.5 BCF and others non-bulk 49.7 BCF. As in June, 2014 gas sector catered to more than 2.76 million customers of various categories which increased to about 2.92 million at the end of December, 2014. Most of these customers fall under domestic category; however, power sector remained the largest consumer.



#### **Financial**

The gross income in the year 2013-14 by Petrobangla group from sales of gas, gas derived liquids, coal and granite stood at Tk 2,59,930.29 million, while after paying supplementary duty (SD) and VAT, net income stood at Tk 2,32,908.19 million. Gross expenses, comprising of Tk 27,022.09 million as SD and VAT along with Tk 1,99,057.50 million as cost of sales, amounted to be Tk 2,26,079.61 million. After paying income tax, net profit stood at Tk 33,585.04 million. After paying dividend of Tk 9,446.78 million, net profit stood at Tk 24,138.26 million.



# **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 specialisation 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 fiscal year 2013-14, Petrobangla group arranged foreign training of different duration and disciplines for 496 personnel, while 5 participants were sent for attending seminars, 7 for attending workshop, 8 for attending conference, 38 for inspection, 1 for summit, 16 for visiting different countries, 8 for attending meetings, 1 for study tour and 3 for attending congress. During the same period, local training was imparted to 143 personnel, while 10 participated in convention and 3 in workshop held in the country.

Petrobangla has also undertaken a plan to automate the management system. The head office complex has already been brought under LAN with almost all personnel and sections connected within the network. Petrobangla introduced Human Resource Information System (HRIS) in the early 2008, wherein database for the officials has been developed for smooth running and efficient management of the human resources of the Corporation. All the companies under Petrobangla have already introduced the Human Resources Information System (HRIS) which is helpful for efficient human resources management of the companies under Petrobangla as well.

## **Energy Efficiency**

Natural Gas is a vital source of primary commercial energy in Bangladesh. Gas demand is increasing sharply keeping pace with the economic development. On the contrary gas reserve is limited. Approximately total demand was about 2900 MMCFD and shortfall quantity is about 500 MMCFD in 2014. Gas saving from any possible area could help provide new connections as well as improve energy conservation. Efficiency improvement can be one of the measures to save gas. Developed countries of the world have succeeded in saving gas by increasing the efficiency of gas utilisation. Petrobangla has implemented a TA project namely "TA to Review the Approach for Increasing the Efficiency of Gas Utilisation in Certain Major Users" under JDCF financing for identifying opportunities to increase gas utilisation efficiency of major users such as fertiliser industries, captive power plants, glass industries, steel re-rolling mill and other industrial establishments that use boilers. Under the TA project, three pilot programmes have been implemented such as (i) Industrial Boiler Efficiency Demonstration- to fit an economiser to exhaust of the boiler to recover waste heat for heating the boiler feed water, (ii) Combined Heat and Power Demonstration - to demonstrate recovery of heat from the jacket water of a captive power generator set for use as process heat and (iii) Steel Furnace Efficiency Demonstration- to install a recuperator to the exhaust of the furnace to pre-heat the combustion air.

Findings of the pilot programmes: (i) For Industrial Boiler Efficiency Demonstration: gas consumption was reduced by 4.4% and boiler efficiency increased by 4.4% indirectly. Investment required for these measures is BDT 3.5 million and the payback is less than 2 years. (ii) For Combined Heat and Power Demonstration: gas consumption was reduced by 14.4% and generator fuel efficiency increased by 14.4% indirectly. Investment required for these measures is BDT 3 million and the payback is less than one year. (iii) For Steel Furnace Efficiency Demonstration: gas consumption was reduced by 9.10% and furnace efficiency increased by 10.4% indirectly. Excess air has been controlled by setting up a damper at forced draft fan inlet and the draft pressure was controlled by installing a butter fly damper at chimney. Excess air as well as oxygen controlled by these two dampers as a result furnace losses and scale losses reduced significantly. Reduction of scale loss gives a dramatic result i.e. gas consumption was reduced by 35% if it is considered payback comes down to 2 to 5 months.



Cogeneration to recovery of heat from the Jacket Water of a Captive power Generator set for use as process heat

#### **Production Sharing Contracts (PSC)**

Under its charter, Petrobangla has the right to enter into petroleum agreements with any International Oil Company (IOC). One of Petrobangla's major activities consists of organising, 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, three PSCs were concluded. Of these, two 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, 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 four IOCs:

- Occidental (OXY) for blocks 12, 13 and 14 (Onshore); later transferred to Chevron which is producing from Bibiyana, Jalalabad and Moulavibazar 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:

Four 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 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 two deep sea blocks on 16 June, 2011 with Conoco Phillips for DS-10 and DS-11. ConocoPhillips conducted total 5750 line kilometres of 2D seismic survey in 2012 and 2013. After interpretation CococoPhillips 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.

#### Shallow Water Bids:

Under this round, the following three shallow water PSCs have been signed:

- ONGC Videsh, Oil India and BAPEX for blocks SS-04 and SS-09; and
- Santos, Kris Energy and BAPEX for block SS-11.

Exploration activities in the newly signed blocks SS-04 and SS-09 (ONGC Videsh/ Oil India Ltd/ BAPEX) are expected to start by 2015.

Santos, KrisEnergy and BAPEX conducted 3,050 line kilometres of 2D seismic survey in 2014 for block SS-11, interpretation and integration of the data sets are in progress now.

#### Deep Water Bid:

Deep water bids, received in January, 2014, were being processed during the reporting period.

#### Operating Fields under PSC in 2013-2014:

Currently four gas fields are being operated by IOCs under PSC. Of them three fields namely Bibiyana, Jalalabad and Maulavibazar gas fields by are being operated by Chevron, and Bangura gas field by Tullow. Sangu gas field was in operation until October, 2013 when it ceased to produce due to depletion of reserve.

Bibiyana: Bibiyana is now the largest supplier of gas to the national grid. Providing about 1,000 MMCFD and 4,500 bbl/day condensate from 18 out of 26 wells drilled. The remaining 8 wells will come on-stream by March, 2015 when total production from the field will increase to 1,150 MMCFD gas and 9,000 bbl/day condensate. The installed process plant capacity is 1,350 MMCFD. A compression project is being planned for Bibiyana that is aimed at increasing and sustaining future production.

Jalalabad: Jalalabad has four producing wells which are delivering to full process plant capacity of 250 MMCFD. Three infill wells are now being drilled (from the same pad) that are aimed at increasing or sustaining production to present levels.

Moulavibazar: Moulavibazar is producing 65 MMCFD (down from 110 MMCFD) from 6 wells while the installed process plant capacity is 125 MMCFD. As production is now declining, the operator is investigating ways to enhance or at least sustain present rate of production.

**Sangu:** Production from the lone offshore gas field 'Sangu' ceased in October, 2013 as the field reached its economic limit and the facilities have been handed over to Petrobangla as per contract.

Bangora: The Bangora field started producing in 2006, peaking at 120 MMCFD in 2010 and thereafter declining to 110 MMCFD from 4 wells. Two development wells are planned for 2015 to sustain the current rate of production.

PSCs have resulted in addition of significant sources and supplies of gas in the country. Production from the PSC blocks have increased significantly over the last few years. The total gas production from the PSC operations during FY 2013-14 was about 438.7 BCF together with about 1,936,636 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. The producing gas fields under the PSCs have a total of 84 wells, out of which 32 are currently producing.

#### Preparation for Another Offshore Bidding Round:

Bangladesh's maritime victory over Myanmar and India have opened the door to immense possibilities for the nation. Our neighbors are already exploiting their subsea energy resources with rich dividends. High investments are required for deep sea exploration and production and countries successful in attracting foreign investments for offshore exploration have been quick to recognize, address and accommodate this issue in their model PSC offerings. We have to make it attractive for IOCs to explore in our waters. Only intensive offshore exploration activity can enable Bangladesh to tap the huge reservoirs of riches trapped beneath our seas. To achieve this objectives model PSC is being revised. Draft of the revised model PSC is under consideration of the Government.

Petrobangla has planned to undertake 2D Non-Exclusive Multi-Client Seismic Survey of the offshore area (open blocks) of Bangladesh. The objective of the survey is to provide the 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 were invited in early 2015. Final selection of contractor for this survey is awaiting approval of the Government.



Production Sharing Contract (PSC) Singning for Block SS-11

# **Petrobangla Companies**

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







































# **Bangladesh Petroleum Exploration and Production Company Limited (BAPEX)**



BAPEX emerged as an oil/gas exploration company under Petrobangla in July, 1989 as per Government's decision to expedite petroleum exploration activities within the country. Subsequently, in February, 2000 BAPEX was transformed into an exploration-cum-production company with a view to making it more dynamic and self-reliant. Currently, in addition to its main exploration activities in the awarded ring-fenced areas, BAPEX was producing and supplying about 105 MMCFD gas to the national grid from its six gas fields namely Saldanadi,

Fenchuganj, Shahbazpur, Semutang, Sundalpur and Srikail in 2014. BAPEX has discovered the 26th gas field of the country named Rupganj Gas Field in the Purbachal new town of RAJUK near Dhaka city as its 5th discovered gas field so far.

During fiscal year 2013-14, BAPEX completed the construction of its 13-storied Head Office building at Kawran Bazar at a cost of Tk 630 million from its own sources. The Hon'ble Prime Minister Sheikh Hasina kindly inaugurated the newly constructed BAPEX Bhaban on 29 October, 2013.

The Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resources under the Government of the People's Republic of Bangladesh gave 'Energy Award 2014' to BAPEX on 9 August of the year, which is observed as "National Energy Security Day" in recognition of its efforts made in pursuit of achieving national energy security and its unparallel contributions in oil/gas exploration and production activities for the nation.

During the financial year 2013-14 BAPEX produced 41.14 BCF gas and 27,057 barrels of condensate from its 6 gas fields. The Company earned a total income of Tk 3,563.4 million (excluding SD and VAT) and net profit after tax of Tk 1,204.7 million and made payment to the National Exchequer of Tk 3,658.4 million.

During the field season of 2013-14, a total of 85 line-km survey was completed by geological survey party at Jaldi structure in the Banshkhali-Lohagora areas of Chittagong district. By exploring 16 stream-cut sections of this structure, 84 rock samples were collected during this survey.

In the field season of 2013-14, a total of 358 line-km 2D seismic data were acquired in the area of Gopalganj, Shariatpur, Madaripur, Faridpur, Khulna and surrounding areas. After preliminary processing and interpretation, a few potential seismic leads have been delineated in Shariatpur, Barisal (Muladi) and Khulna areas.

During 2013-14 field season, acquisition of 183 sq. km over Sunetro structure and 302 sq. km 3D seismic data over Shahbazpur gas field wete completed. Data processing of Sunetro structure is also completed.

During 2013-14, Laboratory Division produced 31 technical reports analysing a total of 206 samples. Besides these, reports have been prepared after analysing 6 condensate samples received from Titas Gas Transmission and Distribution Co. Ltd. and 2 rock samples from Chevron Bangladesh.

During 2013-14, BAPEX completed drilling of 6 Wells (Fenchuganj well -5, Rupganj well-1, Bakhrabad-9, Titas-18, Titas-27 and Bakhrabad Work-over well-5) of which 4 belong to BGFCL. The Engineering Division repaired and maintained P-80 rig equipment, GARDNER DENVER E-1100 rig equipment and spares, IDECO H-1700 rig and rig equipment, ZJ70DBS AC-AC VFD type rig and rig equipment that have been used in drilling of these Wells.

During the FY 2013-14, BAPEX was carrying out a total of 10 projects of which 8 were under Gas Development Fund and 2 under ADP financing. The total project cost is Tk 21,735.2 million which includes foreign currency of Tk 16,609.0 million.



Shahbazpur Gas Process Plant

# 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 has been entrusted to BGFCL. It is a public limited company registered under the Companies Act, 1994 (Amended) belonging to Bangladesh Oil, Gas and Mineral Corporation (Petrobangla). The Company is currently contributing about 35% of total gas production of the country.

BGFCL kept continuous gas production from 5 gas fields out of its 6 fields in the FY 2013-14. At present, a maximum of 826 MMCFD gas is being supplied to the national grid from 38 wells of those 5 producing fields. During 2013-14 fiscal year 287.94 BCF gas and 178,788 barrels condensate were produced as by-product from the Company's own gas wells. 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 is fractionated into MS (petrol) and HSD (diesel) at the 2 fractionation plants of Titas Gas Field. The recovered condensate from Bakhrabad and Meghna Gas Fields of BGFCL and Bangura Gas Field of Tallow and Saldanadi, Srikail, Sundalpur and Semutang Gas Fields of BAPEX is fractionated into MS and HSD at the fractionation plant of Bakhrabad Field. MS and HSD are delivered to Padma Oil Company Limited and Meghna Petroleum Limited regularly for marketing.

The latest report of Petrobangla indicates that the total recoverable gas reserve of the 6 fields under the Company is about 12.252 TCF, out of which 6.830 TCF or about 55.75 percent was recovered till 30 June, 2014.

With a view to mitigating the ongoing gas crisis, BGFCL has kept its relentless effort to ensure uninterrupted gas supply and implemented various development projects with its own finance as well as with financial assistance of the Government of Bangladesh (GoB) and Gas Development Fund (GDF) including various development partners such as ADB, JICA etc. Under these projects, 4 new wells (Titas-17, 18, 27 and Bakhrabad-9) have been drilled and workover of 1 existing well (Bakhrabad-2) and installation of one 75 MMCFD gas process plant have been completed. As a result, additional 75 MMCFD gas from these wells have been added to national grid. Due to lack of capability of P-80 rig to reach in prospective gas sand zone, re-completion of Bakhrabad Well no. 5 was undertaken by another rig, and upon re-completion, 5 MMCFD gas is being produced from the well. A fast track project coordinating with BGFCL and SGFL was undertaken where 4 new wells (Titas 19-22) were drilled and 2 gas process plants having 75 MMCFD each were installed. A total of 35 MMCFD gas has been added to national grid from Titas well no. 19, 20 and 22. Gas production from Titas well no. 21 has been suspended due to excessive water production.

Under 3D seismic survey project, 335 square km field level survey over Titas structure and 210 sq-km field level survey over Bakhrabad structure have been completed. The survey reports proposed for drilling of 11 new wells at Titas gas field and 3 new wells at Bakhrabad gas field. Of these, 1 well (Titas-27) has already been drilled and procurement activities for drilling of 4 wells (Titas 23-26) at Titas field are in progress. After completing drilling of these 4 wells, gas at a rate of 80 to 100 MMCFD is expected to be added to the national grid. To reduce gas seepage problems through workover of 5 wells at Titas gas field and to bring back the suspended well Titas-21 into production, two separate projects were 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 maintaining grid line pressure, a project was undertaken for installation of compressor at Bakhrabad field and another project with JICA finance has been undertaken for installation of compressors at Titas Location-C and Narsingdi gas field.

The company earned a gross revenue of Tk 27,067.0 million and a pre-tax profit of Tk 3,038.9 million during the FY 2013-14. The company also paid Tk 23,276.2 million to the National Exchequer in the form of SD and VAT, DSL, dividend and income tax during the year.

## **Sylhet Gas Fields Limited (SGFL)**



Sylhet Gas Fields Ltd. is the second largest state-owned gas producing company in the country. It is the pioneer in the exploration, production and commercial sale of Natural Gas and Petroleum products in the country. It was originally owned by Pakistan Petroleum Ltd. (PPL). The company was abandoned by PPL after the independence of Bangladesh and taken over by the Government. The company was incorporated on 8 May, 1982 in the name of Sylhet Gas Fields Limited. The company, under its umbrella, currently operates Sylhet (Haripur), Kailashtilla, Rashidpur and Beanibazar gas fields. In 2013-14, a total of 14 wells (2 at Sylhet, 6 at Kailashtilla, 4 at

Rashidpur and 2 at Beanibazar) were on stream producing at an average of 146 MMCFD. The produced gas is supplied to Titas Gas T&D Company Ltd., Bakhrabad Gas Distribution Company Ltd, and Jalalabad T&D System Ltd. franchise areas. A considerable amount of Condensate and Natural Gas Liquid (NGL) is extracted from the gas stream during of processing.

Sylhet Gas Fields Limited has undertaken various development projects for enhancing its revenue income alongside meeting the ever-increasing energy demand of the country. The projects which are now under implementation are: (i) Drilling of Rashidpur Well-8 under fast track programme, (ii) Installation of a 4000 bbl/day capacity Condensate Fractionation Plant at Rashidpur, (iii) Installation of a 3000 bbl/day Catalytic Reforming Unit to convert petrol into octane at Rashidpur, (iv) Construction of two storage tanks at Rashidpur, (v) Drilling of Kailashtilla Well-7 (oil/gas well), (vi) Drilling of 5 new wells (Kailashtilla-9, Sylhet-9, Rashidpur-9, 10 and 12).



Kailashtilla-1 Silicagel Plant Under SGFL

In the year 2013-14, SGFL produced a total of 53.27 BCF gas and 252,614 barrels of petroleum products and 174,196 barrels of NGL. During the year, the Company earned an amount of Tk 3,960.8 million from the sale of gas and Tk. 15,498.7 million from the sale of by-products such as petrol, diesel, kerosene, octane, NGL and condensate. The Company earned Tk 7,321.8 million pre-tax profit during the year. Company has paid Tk 6,847.2 million as supplementary duty and VAT, Tk 2,325.0 million as income tax, Tk 1,682.0 million as dividend and Tk 8.9 million as DSL. The total contribution to the Government exchequer amounted to Tk. 10,863.1 million which accounted for 55.82% of the total income from sales.

Sylhet Gas Fields Limited was adjudged and awarded by the National Board of Revenue (NBR) as the largest VAT paying organisation in the production sector at national level for the last 4 consecutive years upto FY 2013-14 for its contribution.

## **Gas Transmission Company Limited (GTCL)**



Gas Transmission Company Limited (GTCL) was incorporated on 14 December, 1993 with the objectives of (i) centralised 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 2013-14, the Company transmitted a total of 614.83 BCF of gas distributing 26.52 BCF, 416.59 BCF, 61.51 BCF, 73.59 BCF and 36.6 BCF to franchise areas of

Jalalabad, Titas, Bakhrabad, Karnaphuli and Paschimancahal gas distribution companies respectively. The Company transported a total of 331,662 barrels of condensate through its 193 km long North-South Condensate pipeline of 6" and 4" diameters during the year.

Projects completed by the Company are: (i) Monohordi-Dhanua and Elenga- Bangabondhu Bridge 30" diameter 51 km Gas Transmission Pipeline Project, (ii) Bonpara-Rajshahi 12" diameter 53 km Gas Transmission Pipeline Project, (iii) Bakhrabad-Siddhirganj 30" diameter 60 km Gas Transmission Pipeline Project, (iv) Bibiyana-Dhanua 36" diameter 137 km Gas Transmission Pipeline Project, (v) Construction of 24" diameter 8 km Gas Transmission Pipeline from Titas Gas Field to AB Pipeline Project and (vi) Construction of Gas Transmission Pipeline from Srikail Gas Field (Location-2) to AB Pipeline Project.

Substantially Completed Projects by the Company are: (i) Installation of Compressor Stations at Ashuganj and Elenga, (ii) Hatikumrul-Bheramara 30" diameter 87 km Gas Transmission Pipeline, (iii) Bheramara-Khulna 20" diameter 165 km Gas Transmission Pipeline, (iv) 30" diameter 61 km Gas Transmission Capacity Expansion-Ashuganj to Bakhrabad, (v) Construction of 10" diameter 7.70 km Interconnection Gas Transmission Pipeline from Titas Gas Field (Location C-B-A) to Titas-AB Pipeline Project, (vi) 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) and (vii) 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.

Immediate Up-coming projects: (i) Maheshkhali-Anowara 30" diameter 91 km Gas Transmission Pipeline, (ii) Dhanua-Elenga and Bangabondhu Bridge West bank-Nalka 30" diameter 66 km Gas Transmission Pipeline.

The Company earned an amount of Tk 5,623.9 million as revenue and Tk 4,715.1 million as pre-tax profit and contributed an amount of Tk 3,302.9 million to Government Exchequer during the FY 2013-14.



Formal Inauguration of Dhanua Metering & Mainfold Station on 20 June, 2014 by Managing Director, GTCL and Managing Director, TGTDCL.

# Titas Gas Transmission and Distribution Company Limited (TGTDCL)



The discovery of a huge gas field on the bank of the Titas River in Bhramanbaria in 1962 created a new horizon for the utilisation of natural gas. Being established on 20 November, 1964 Titas Gas Transmission and Distribution Company Limited (TGTDCL) has completed 50 years of its operation. 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" diameter 93 kilometres long Titas-Demra gas 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 authorised and paid up capital of Tk 17.8 million. At present, the authorised and the paid up capital of the company are Tk 20,000.0 and Tk 9,892.2 million respectively.



Town Border Station (TBS) at Godnail Under TGTDCL

The main objective of the company is to supply natural gas to customers of different categories under Titas 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. Narayangani, Narsingdi, Manikganj, Gazipur, Munshiganj, Tangail, Mymensingh, Jamalpur, Sherpur, Netrokona, Kishoreganj.

Presently, company's total length of pipeline is 12,505.50 km including 252.28 km built during the FY 2013-14. The total number of customers of the company stood at 17,22,712 as on 30 June, 2014, as a part of network expansion, service connections and pipeline modification/up-gradation activities. Bulk customers of the company includes 3 fertiliser plants, 9 Government and 25 private power stations. The company hogs about 63% of natural gas market share in Bangladesh.

During FY 2013-14, a total of 520.28 BCF of gas was sold and a sales revenue of Tk 76,955.0 million was earned and the total revenue was Tk 77,732.8 million with meter rent and surcharge. Compared to previous year's revenue of Tk 74,625.5 million, the growth rate in revenue income for the year under review was 4.16%. During FY 2013-14 a sum of Tk 76,304.8 million (including arrear revenue) was realized against the revenue income of Tk 77,732.8 million which is Tk 1,428.0 million less than the receivable. The Company has earned a net profit before tax and net profit after tax of Tk 13,798.4 million and Tk 10,268.9 million respectively during FY 2013-14. The Company's net profit before tax and net profit after tax were Tk 12,265.4 million and Tk 9,096.4 million respectively during FY 2012-13. During the FY under review, earning per share (EPS) is Tk 10.38 which was Tk 9.20 in the FY 2012-13. The Company has paid Tk 6,154,1 million to the Government Exchequer during FY 2013-14.

### **Bakhrabad Gas Distribution Company Limited (BGDCL)**



The Company was established on 7 June, 1980 initially with the three-fold responsibilities of production, transmission and distribution. Subsequently, Bakhrabad Gas Field was handed over to BGFCL putting an end to its production wing. Further, the 2 main transmission pipe lines of the company, 24" diameter 110 km Bakhrabad-Chittagong and 20" diameter 69 km Bakhrabad-Demra gas transmission pipe lines 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.

Due to the gas crisis in the country, an order was issued by the Government on 13 July, 2010 to suspend gas connection of all categories. Domestic gas connection was, however, resumed only from the existing distribution line after lifting the ban by the Government since 8 May, 2013. But under the development work, construction of new extension and distribution line with the own fund of the company still remains suspended. The cumulative gas pipeline of different categories constructed up to 30 June, 2014 is 3,863.21 km. During the financial year under consideration, a total of 82,271 domestic gas connections were given. The cumulative gas connection stood at 3,18,437 as on 30 June, 2014 which includes 15 power, 1 fertiliser, 157 industrial, 73 captive power, 2,140 commercial, 87 CNG and 3,15,964 domestic connections.

During the FY 2013-14, BGDCL sold 110.31 BCF gas to its customers of which power plants consumed 77.67 BCF. The company has earned Tk 13,017.3 million as sales revenue, net profit before tax stood at Tk 2,137.8 million and paid Tk 728.7 million to the national exchequer. During the financial year 2013-14, the company purchased 108.03 BCF gas and sold 110.31 BCF gas. As a result, the system gain of the company stood at 2.10% compared to 2.15% system loss in the previous year.



DRS of Ashuganj Power Station Under BGDCL

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



Jalalabad Gas Transmission and Distribution System Limited supplies gas to different categories of customers in its franchise area consisting of Sylhet Division. Jalalabad Gas initially started as a project in 1977 and thereafter, being formed under the Companies Act, turned into a full-fledged public limited company remaining under the management of Petrobangla on 1 December, 1986 with an authorised capital of Tk 1,500.0 million.

During the FY 2013-14, the Company constructed 137.089 km pipelines including 0.143 km transmission, 7.728 km distribution, 83.795 km feeder mains and service lines and 45.423 km others (customer financing). During the FY 2013-14, the company also gave connections to 10 captive power, 1 CNG, 7 industrial, 1 power, 113 commercial and 14,836 domestic connections which is 8% more than the preceding year and 35.09% more than the budgetary target.

By the end of December 2014, the company had a total network of 3,720.203 km pipelines including 465.067 km transmission lines, 1,330.981 km distribution, 1,171.435 km feeder main and service lines and 752.720 km others (customers financing). At that time, JGTDSL had a total customer base of 2,00,883 including 13 power plants, 1 fertiliser factory, 93 tea estate, 1,98,897 domestic and 1,879 others.

During the FY 2013-14, the gas sales of the company was about 75.68 BCF of which power plants consumed 49.38 BCF (65.25%) and others 26.30 BCF. During the same FY, the Company earned Tk 9,458.2 million as sales revenue, Tk 1,338.3 million as net profit before tax and Tk 869.9 million after tax. The Company paid Tk 741.6 million to the national exchequer during the FY 2013-14.

The Company kept the system loss within 0.50% in the fiscal year 2013-14 as against allowable maximum system loss of 2% for gas transmission and distribution system. Inspite of this, the company has taken different initiatives throughout the year to minimise the system loss.

On the other hand, a project titled "Sylhet Gas Transmission Network Up-gradation Project" is being implemented by the company to construct high pressure balancing gas pipeline and 4 new DRS along with up-gradation of 7 installed DRSs in consideration of increasing demand of gas in different areas under the franchise area of the Company.



High pressure gas pipeline construction works at Sreemangal under SGTP project of JGTDSL.

### **Pashchimanchal Gas Company Limited (PGCL)**



This is the fourth gas marketing company under Petrobangla, set-up with the objective of distributeing gas in the north-west region of the country. The Company commenced its business on 23 April, 2000. By the end of June, 2014 the Company encompassed a network of 1,468.56 km pipeline which included 377.96 km distribution and 1,087.73 km feeder main and service lines. As in December, 2014 the network increased to 1,505.51 km of pipelines.

At the end of FY 2013-l4, the company had a customer base of 96,492 numbers which increased to 1,03,277 by the end of December, 2014. During this year a total of 38.06 BCF of gas was sold by the company as against 35.65 BCF gas in the previous year. The company earned Tk. 4,856.4 million revenue from sales during FY 2013-14 and earned Tk. 578.4 million as net profit before tax. The company paid Tk. 454.9 million to the national exchequer during this year.

The company is always pulling its best efforts for achieving its desired goal. Meanwhile the company has extended its gas network facilities most efficiently 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.

### **Karnaphuli Gas Distribution Company Limited (KGDCL)**



Karnaphuli Gas Distribution Company Limited (KGDCL) was formed on 8 February, 2010 bifurcating greater Chittagong and Chittagong Hill Tracts area under BGSL franchise pursuant to a Government decision in order to rationalise and improve the services of the companies under Petrobangla. The commercial activities of the company commenced from 1 July, 2010.

Gas sales by KGDCL during the FY 2013-14 stood at about 82.32 BCF. The company earned Tk 14,885.9 million as sales revenue and Tk 4,802.3 million as net profit before tax while it paid Tk 2,397.9 million to the national exchequer during this year. The company attained 7.99% system gain during the same FY at the end of which it had a customer base of 4,72,991.

### **Sundarban Gas Company Limited (SGCL)**



Sundarban Gas Company Limited (SGCL) was formed on 23 November, 2009 with the objective of supplying gas to the south-eastern areas of the country especially covering ten districts of Khulna division and six district of Barisal division including Bhola district. As per Government decision, Petrobangla chairman inaugurated residential gas connection in Bhola on 28 August, 2013. The commercial activities of Bhola region are running on in full swing. The present gas demand of 2678 domestic customers and one 34.5 MW rental power plant is about 9.256 MMCFD. It is expected that by April, 2015 commissioning of a

225 M.W combined cycle power plant will be under taken. The gas demand may reach up to 35 MMCFD. Meanwhile, extension of gas distribution network in Bhola and Borhanuddin is under process.

"South-West Gas Distribution Network Project" financed by ADB (Loan No. 2622-BAN: Natural Gas Access Improvement Project, Part-C: Access Improvement in Southwest Region) and Bangladesh Government is being implemented under SGCL for construction of 845 kilometer pipeline in five south-western districts of Bangladesh (i.e Kushtia, Jheneidah, Jessore, Khulna and Bagerhat), 12 gas stations, five office buildings including Head Office at Khulna, and capacity building of SGCL personnel through international training.

### **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 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 private entrepreneurs have setup 587 CNG filling stations and 180 conversion workshops till June, 2014. These stations, located across the country, are supplying CNG to almost 220 thousand vehicles daily.

Approximately 3.58 BCF of CNG is being used every month from 587 CNG stations, which is 5%-6% of the total gas consumption of the country. Hence the Government has been able to save worth of about TK 11,200.0 million per month as foreign exchange in the sector against fuel import. Widespread use of CNG has reduced air pollution to a great extent. The latest data provided by the International Association of Natural Gas Vehicles (IANGV) indicates that Bangladesh holds the 8th position in Asia and the 14th in the world in respect to the total number of CNG vehicles and in terms of concentration of CNG driven vehicles, Bangladesh is ranked 2nd in Asia and 5th in the whole world.

In the FY 2013-14, the company has earned Tk 3,280.3 million as revenue from sales of CNG, LPG, MS and other sources. The company earned an amount of Tk 895.1 million as net profit before tax and made a payment of Tk 1,371.2 million to the National Exchequer.



RPGCL's Kailashtila LPG Plant (Unit-2) at Golapgonj, Sylhet

### **Barapukuria Coal Mining Company Limited (BCMCL)**



Barapukuria coal mine is the first and only coal mine in Bangladesh. In 1985 the 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 was established on 4 August, 1998. To maintain 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. 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 draft 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.

New M&P contract commenced on 11 August, 2011 and will remain effective for a period of 72 months. According to the new M&P contract a target of 5.50 million metric tons of coals production has been assumed. During the contract period, coal production from longwall face and new roadway development activities will continue simultaneously. In the FY 2013-14, total coal production and roadway development has been achieved by 9,47,124.57 metric tons and 2,894 metres respectively. The present commercial production rate is 4000-5000 metric tons/day.

During the FY 2013-14, the Company earned Tk 7,671.1 million by selling coal to Bangladesh Power Development Board (BPDB) and other buyers and Tk 608.0 million from other sources. The pre-tax profit stood at Tk 3,361.1 million and the company paid an amount of Tk 2,794.0 million to the National Exchequer in the FY.



Coal Stack Yard at Barapukuria Coal Mine

### **Maddhapara Granite Mining Company Limited (MGMCL)**

Maddhapara Granite Mining Company Limited (MGMCL) was formed on 4 August, 1998 to operate the then under-construction hard rock mine at Maddhapara in Dinajpur district. 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.

During FY 2013-14, a total of 1,87,342.05 metric tons of granite was produced and 1,68,329.51 metric tons sold. The Company earned Tk 236.9 million out of the sale of granite, which was Tk 472.1 million in the previous year. The company incurred an operating loss of Tk 83.7 million, while it earned an operating profit of Tk 42.8 million in the previous year. During the FY 2013-14 the company made a payment of Tk 61.4 million to the National Exchequer. However, after payment of interest expenses the company incurred a loss of Tk 195.2 million during the year, which was Tk 41.3 million in the previous year. Due to strike of the mine workers and delay in supply of explosive, production was completely stopped for 114 days and during the transition period of handing and taking over, the total production and sales turned out to be less than the previous year, as a result the loss was higher than the previous year. Effort has been made to carry out production in three shifts to enhance the volume of granite production.

The granite produced is used mostly as construction material and substitutes import. As a diversification, MGMCL is also studying the market potential and techno-economic feasibility of producing tiles from the colourful granite blocks, as a replacement of equivalent imported tiles.

### **Development Programmes for the Fiscal Year 2013-14**

The Annual Development Programme of Petrobangla for the fiscal year 2013-14 had an allocation of Tk17489.80 million which includes Tk 5681.10 million as project aid. The programme consists of 17 projects of which 10 are foreign-aided, 1 is under Japan Debt Cancellation Fund (JDCF) and 6 are GoBfunded. In addition, there are 11 projects financed by the Corporation/Companies themselves (Self Financing) for the fiscal year 2013-14 involving an allocation of Tk 6555.20 million, of which cash foreign exchange (CFE) involvement is Tk 403.00 million and local currency is Tk 6152.20 million. Moreover, there are 15 projects under Gas Development Fund (GDF) in the fiscal year 2013-14 with an allocation of Tk 11167.0 million, of which CFE involvement is Tk 7679.30 million and local currency is Tk 3487.70 million. List of ongoing projects and estimated total project costs, execution period and financing sources are as follows:

**Executing** 

**TGTDCL** 

SGCL

**GTCL** 

Sep'15

Existing Jan'13-

**Estimated** 

632.8

(424.6)

6000.0

(2850.0)

2940.0

(2402.4)

65396.5

(41079.4)

(Taka in Million)

**Development** 

**ADB** 

**ADB** 

**JICA** 

### Period **Agency** Cost (PA) Partners | 1 Installation of Compressor Stations at Ashuganj Jan'06-**GTCL** 14941.3 ADB and Elenga (Revised) Sep'15 (9191.2)Monohordi-Dhanua and Elenga-East Bank of Jan'06-4740.4 **GTCL ADB** Bangabandhu Bridge Gas Transmission Pipeline (2949.7)Project (30" dia x 51 km) (Revised) Hatikumrul-Bheramara Gas Transmission Jul'06-**GTCL** ADB 7268.5 Pipeline Project (30" dia x 98.10 km) (Revised) Jun'14 (4408.0)Bonpara-Rajshahi Gas Transmission Pipeline Jul'06-**GTCL** 1835.4 ADB Project (12" dia x 53 km) (Revised) Dec'14 (887.5)Bheramara-Khulna Gas Transmission Pipeline Jul'07-**GTCL** 9038.1 ADB Project (20" dia x 162.50 km) (Revised) Jun'14 (4752.7)Bakhrabad-Siddhirganj Gas Transmission Jul'07-**GTCL** 0.0008 World Bank Pipeline Project (30" dia x 60 km) (Revised) Jun'16 (5113.3)Gas Seepage Control and Appraisal and Jan'10-10000.0 **BGFCL ADB** Development of Titas Gas Field (Titas Well # 23, Jun'15 (8100.0)24, 25, 26)

Source: Planning & Monitoring Division, Petrobangla.

Sub-Total (Foreign-Aided)

and

System of National Gas Grid under GTCL

Ongoing Projects (Foreign Aided): FY 2013-14

Name of the project

Supply Efficiency Improvement of Titas Gas Jan'10-

Transmission and Distribution Company Ltd. Jun'15

South-West Region Gas Distribution Network Jan'10-

Expansion

Supervisory Control and Data Acquisition (SCADA) Jun'16

of

(Revised)

Project (Revised)

Rehabilitation

### B. Ongoing Projects (under JDCF): FY 2013-14

(Taka in Million)

SI.	Name of the project	Project Period		Estimated Cost (PA)	Development Partners
1	TA to Review the Approach for Increasing the Efficiency of Gas Utilisation in Certain Major Users (Revised)	Jan'11- Dec'14	Petrobangla	45.3 (00.0)	JDCF
Sub-Total (JDCF)				45.3 (00.0)	JDCF

### C. Ongoing Projects (GoB Funded): FY 2013-14

(Taka in Million)

SI.	Name of the project	Project Period	Executing Agency	Estimated Cost (CFE)
1	Mobarakpur Oil/Gas Exploration Well Drilling Project (Revised)	Jan'06- Jun'15	BAPEX	892.6 (527.3)
2	Gas Transmission Capacity Expansion-Ashuganj to Bakhrabad (30" dia x 61 km) (Revised)	Jan'10- Jun'15	GTCL	7433.8 (3836.7)
3	Augmentation of Gas Production under Fast Track Programme (Drilling of 4 wells under BGFCL and	Jul'10- Jun'15	BGFCL	10537.0 (8262.0)
	1 well under SGFL) (Titas Well # 19, 20, 21, 22 and Rashidpur Well # 8) (Revised)		SGFL	1705.0 (1220.0)
4	2D Seismic Survey under Fast Track Programme	Jan'10- Jun'13	BAPEX	2302.8 (1947.2)
5	Salda # 3, 4 and Fenchuganj # 4, 5 Gas Fields Development Project (Revised)	Jan'10- Jun'15	BAPEX	3056.4 (2410.0)
6	Sylhet Gas Transmission Network Up-gradation Project (Revised)	Jan'12- Dec'14	JGTDSL	972.8 (312.7)
	Sub-Total ( GoB)			26900.4 (18515.9)

Source: Planning & Monitoring Division, Petrobangla.



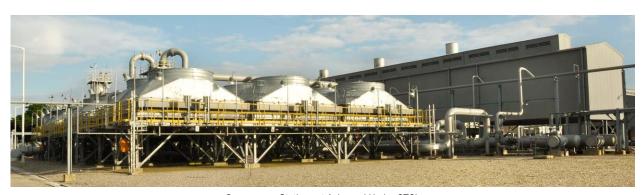
Bibiyana-Dhanua 36" diameter 137 km Gas Transmission Pipeline Project Work by GTCL

### D. Ongoing Projects (Self Financing): FY 2013-14

(Taka in Million)

SI.	Name of the project	Project Period	Executing Agency	Estimated Cost (CFE)
1	Re-development of Bakhrabad Gas Field (Phase-1) (Workover of well # 2 and 5 and Drilling of well # 9)	Jul'06- Jun'14	BGFCL	1275.0 (474.0)
2	Drilling of New Wells (Well # 17 and 18) at Titas Gas Field including Installation of Process Plant	Jul'07- Jun'14	BGFCL	2965.0 (1138.5)
3	Construction of BAPEX Bhaban	Jul'08- Jun'14	BAPEX	566.0 (00.0)
4	Installation of 5000 barrels/day capacity Condensate Fractionation Plant with Catalytic Reforming Unit (CRU) at Rashidpur	Jul'08- Jun'14	SGFL	6122.2 (4905.3)
5	Installation of 1500 barrels/day capacity Catalytic Reforming Unit (CRU) at RCFP to Convert Petrol into Octane	Mar'12- Jun'15	SGFL	1520.0 (1296.2)
6	Construction of 2 nos. Storage Tanks at Rashidpur Condensate Fractionation Plant (RCFP)	Sep'12- Dec'14	SGFL	213.1 (00.0)
7	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	Jul'12- Jun '15	GTCL	1084.8 (00.0)
8	Construction of Bibiyana-Dhanua Gas Transmission Pipeline (36 <sup>"</sup> dia x 137 km) (Revised)	Jul'13- Dec'15	GTCL	18126.3 (10339.4)
9	Construction of 10" dia x 1000 psig x 30 km Gas Transmission Pipeline from Sreepur to Joydevpur CGS	Apr'11- Jun'15	TGTDCL	1982.1 (693.1)
10	Feasibility Study for Coal Bed Methane at Jamalganj Coal Field	Jan'14- Mar'15	Petrobangla	204.0 (00.0)
11	Seismic Feasibility Study of Coal Deposit at Dighipara, Dinajpur	Jan'13- Dec'14	Petrobangla	83.4 (00.0)
	Sub-Total (Self Financing)			34141.9 (18846.5)

Source: Planning & Monitoring Division, Petrobangla.



Compressor Stations at Ashuganj Under GTCL

### E. Ongoing Projects (under GDF): FY 2013-14

(Taka in Million)

				(Taka in Million)
SI.	Name of the project	Project Period	Executing Agency	Estimated Cost (CFE)
1	Procurement of 1500 HP Rig	Jul'12- Dec'14	BAPEX	2117.8 (1880.1)
2	Sunamganj-Netrokona (Sunetro) Oil/Gas Exploration Well Drilling	Jan'11- Oct'13	BGFCL	802.5 (539.6)
3	Drilling of 5 (Five) Wells of BAPEX (Shahbazpur # 3 and 4, Begumganj # 3, Semutang # 6, Srikail # 3)	Mar'12- Feb'15	BAPEX	10139.7 (8233.1)
4	Procurement of Gas Process Plant for Shahbazpur Field	Jul'11- Jun'15	SGFL	953.4 (850.9)
5	Workover of Wells at Titas Gas Field Seepage Area (Workover of 5 Wells)	Jul'13- Jun'15	BGFCL	2400.0 (675.5)
6	Procurement of Standby Gas Process Plant	Sep'12- Jun'15	BAPEX	461.8 (392.3)
7	Drilling of One Appraisal Oil Well/Development Gas Well (Kailashtilla # 7) at Kailashtilla Structure	Sep'12- Dec'15	SGFL	2181.8 (589.9)
8	3D Seismic Project of BAPEX	Dec'12- Nov'17	BAPEX	1825.0 (914.0)
9	2D Seismic Project of BAPEX	Dec'12- Jun'17	BAPEX	711.3 (336.0)
10	Rupganj Oil/Gas Exploratory Well Drilling Project	Jul'12- Jun'15	BAPEX	970.0 (598.4)
11	Drilling of Titas Well no. 27	Jul'13- Jun'15	BGFCL	1070.0 (388.0)
12	Recompletion of Bakhrabad Well No. 5	Oct'13- Dec'14	BGFCL	427.5 (73.5)
13	Drilling of Well no. Kailashtilla-9 (Appraisal/ Development Well)	Nov'13- Dec15	SGFL	1400.7 (609.9)
14	Drilling of Well no. Sylhet-9 (Appraisal/ Development Well)	Dec'13- Jun'16	SGFL	1602.7 (558.0)
15	Drilling of Well no. Rashidpur-9 (Appraisal/ Development Well)	Jan'14- Jun'17	SGFL	2230.3 (665.4)
	Sub-Total (GDF)			29294.5 (17304.6)
	Grand Total (Foreign-Aided + JDCF + GoB + Self	Financing +	GDF)	155778.6 (95746.4)

Source: Planning & Monitoring Division, Petrobangla.

### **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 500 MMCFD of LNG by 2017. Initiatives have also been taken for the development of coal fields in line with coal policy being finalised.

In view of the above various strategies including but not limited to the following ones 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 MMCFD

	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
	Total Gas Demand	3444	3870	4042	4211	4256
	Overall Countrywide Total Gas Demand	3274	3664	3823	3979	4023

Source: Production & Marketing Division, Petrobangla.

### **Plan for Production Augmentation**

Over the last five and a half years, gross gas production capacity was enhanced by 1,308 MMCFD. Due to natural decline of deliverability of some wells, depletion of one field and absence of adequate evacuation facilities, net capacity added to the network amounted to be 706 MMCFD. About 479 MMCFD capacity is expected to be added from the existing fields after completion of ongoing and upcoming augmentation projects during next five years. A list of ongoing augmentation projects is shown below:

### **Gas Production Augmentation Programme**

January, 2015 - June, 2015

SI No.	Gas Fields and Wells	Well type	Completion	Flow (MMCFD)
1.	Shahbazpur # 4	Development	Completed	25
2.	Bibyania (7 wells)	Development	June	220
			Total	245

### July, 2015 - June, 2016

SI No.	Gas Fields and Wells	Well type	Completion	Flow (MMCFD)
1.	Titas # 25	Development	Dec-15	20
2.	Kailashtila # 9	Development	Dec-15	25
3.	Kailashtila 1, 5	W/O	Jun-16	15
4.	Titas # 23	Development	Jun-16	20
5.	Begumganj # 4	Development	Jun-16	15
6.	Srikail # 4	Development	Jun-16	20
7.	Titas # 26	Development	Mar-16	20
8.	Salda # 4	Development	Jun-16	15
			Total	150

### July, 2016 - June, 2017

SI No.	Gas Fields and Wells	Well type	Completion	Flow (MMCFD)
1.	Titas # 24	Development	Sep-16	20
2.	Sundalpur # 2	Development	Dec-16	8
3.	Semutung #7	Development	Dec-16	8
4.	Semutung # 8	Development	Jun-17	8
5.	Rashidpur # 9	Development	Jun-17	10
6.	Sylhet # 9	Development	Dec-16	10
7.	Rashidpur # 10, 11	Development	Dec-17	20
			Total	84

### Year - 2019

SI No.	Gas Fields and Wells	Well type	Completion	Flow (MMCFD)
1.	Bakhrabad # 10	Development	Jun-19	10
			Total	10

Total Gas Augmentation during January 2015 to June 2019 = 489 MMCFD from 26 well. Source: Production & Marketing Division, Petrobangla.

# Natural Gas of Bangladesh Chemical Composition, Specific Gravity and Calorific Value

				Chemical	Composi	ition of Na	tural Gas	Chemical Composition of Natural Gas (Volume Percent)	ercent)		:	Gross	
SI No.	Gas Fields	Water Content (Lb/MMSCF	Methane	Ethane	Propane	Iso- Butane	N-Butane	High Comp.	N N	C02	Specific Gravity	Calorific (Btu/cft)	Hydrogen Sulphide
-	Sylhet	1.200	95.349	2.542	0.974	0.247	0.296	0.165	0.247	0.180	0.5896	1056.878	Ξ
2	Chhatak	n/a	97.900	1.800	0.200	'	'	'	'	1	0.5500	1005.710	Ī
က	Rashidpur	1.200	98.489	0.802	0.148	0.053	0.028	0.046	0.338	0.096	0.5637	1017.234	Ē
4	Kailashtilla	0.700	96.217	2.588	0.674	0.098	0.075	0.019	0.310	0.018	0.5773	1042.726	Ī
2	Titas	4.500	96.587	1.900	0.406	0.099	090.0	0.166	0.343	0.440	0.5790	1032.000	Ī
9	Habiganj	4.200	97.650	1.543	0.006	0.000	0.000	0.002	0.790	0.008	0.5648	1014.000	Ē
7	Bakhrabad	4.800	93.700	3.790	0.834	0.246	0.116	0.233	0.495	0.585	0.5989	1057.000	₹
∞	Semutang	n/a	96.079	2.499	0.415	0.103	0.056	0.096	0.209	0.542	0.5818	1037.080	
6	Begumganj	n/a	95.460	3.190	0.640	0.170	0.040	ı	1	0.300	0.5800	1045.610	Ē
10	Kutubdia	n/a	95.720	2.870	0.670	1	0.310	ı	0.360	0.070	0.5900	1041.660	Ē
Ξ	Beanibazar	4.400	93.536	3.499	1.324	0.309	0.274	0.603	0.354	0.099	0.6089	1086.418	Ē
12	Feni	n/a	95.710	3.290	0.650	0.150	0.050	1	'	0.150	0.5800	1049.840	Ē
13	Kamta	n/a	95.360	3.570	0.470	0.090	1	ı	'	0.510	0.5700	1043.130	Ξ
14	Fenchuganj	n/a	97.264	1.452	0.135	0.036	0.012	0.070	0.212	0.819	0.5743	1018.390	Ē
15	Jalabad	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	Ξ
17	Meghna	4.400	95.185	3.050	0.667	0.169	0.096	0.209	0.390	0.234	0.5878	1050.000	Ē
18	Shahbazpur	n/a	94.553	3.555	0.569	0.159	0.058	0.062	0.201	0.842	0.5913	1044.570	Ξ
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	Ē
21	Bibiyana	n/a	94.880	2.442	0.873	0.280	0.253	0.926	0.195	0.153	0.6107	1060.000	Ē
22	Bangura	2.110	95.482	2.564	0.661	0.146	0.146	0.194	0.309	0.664	0.5884	1049.200	Ē
23	Moulavibazar	n/a	98.198	1.002	0.160	0.042	0.022	0.087	0.356	0.131	0.5673	1020.220	Ē
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	Ξ Ž
25	Srikail	n/a	95.928	2.452	0.527	0.135	0.078	0.134	0.130	0.616	0.5847	1041.050	ΞZ
							ĺ						

file: natural gas chemical composition

Source: Production & Marketing Division, Petrobangla.

### **Natural Gas Tariff in Bangladesh**

Taka/MCF

											ıka/MCF
Effective	Power	Ferti-	Industry.	Comme-	Tea	Cap.	CNG	Brick field		Domestic	
From	1 Owei	liser	Industry	rcial	estate	Power	feed gas	(seasonal)	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				-
Source : Accounts	Division D	trobonala									

Source : Accounts Division, Petrobangla.

### Gas Fields in Production (As in December, 2014)

Gas in MMCF. Condensate in BBL

					Gas in MMCF, Condensate in BBI	
Company	0	Total Wells	No of Producing	Production Capacity	Prod	uction
Company	Gas Field	(No.)	Wells	(MMCFD)	Gas	Condensate
1. BGFCL	Titas	23	21	518	515.2	397.0
	Bakhrabad	9	7	43	41	12.0
	Habiganj	11	7	225	225.1	10.7
	Narsingdi	2	2	30	28.1	53.9
	Meghna	1	1	11	10	16.7
	Sub-Total	46	38	827	819.4	490.3
2. SGFL	Sylhet	3	2	11	8.4	71.5
	Kailashtila	6	4	80	73.5	679.4
	Rashidpur	8	5	64	60.7	57.7
	Beanibazar	2	1	14	9.6	154.6
	Sub-Total	19	12	169	152.2	963.2
3. BAPEX	Salda	3	1	20	12	1.7
	Fenchuganj	4	3	40	38.7	26.3
	Shahbazpur	3	2	30	7.9	0.5
	Semutung	5	2	12	4.6	1.0
	Sundalpur	2	1	10	3.6	0.0
	Srikail	3	2	44	38.7	31.5
	Sub-Total	20	11	156	105.5	60.9
	Sub-Total (1+2+3)	85	61	1152	1077.1	1514.4
4. IOCs						
	Jalalabad	4	4	246	246.2	1600.1
CHEVRON	Maulavibazar	9	6	60	62.6	5.0
	Bibiyana	24	18	960	1006.7	4239.6
TULLOW	Bangora	6	4	100	110	396.0
	Sub-Total	43	32	1406	1425.5	6240.6
	Grand Total (1+2+3+4):	128	93	2518	2502.6	7755.1

Source: Production & Marketing Division, Petrobangla.



Re-location works of Titas Well No.2 by BGFCL

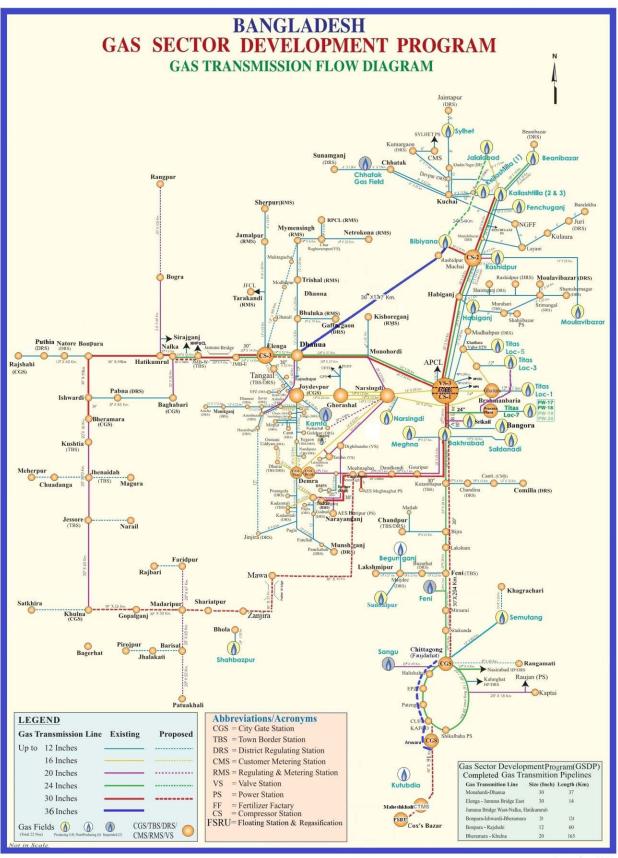
		Growth T	rajectory of	Customer		
Year	TGTDCL	BGDCL	JGTDSL	PGCL	KGDCL	TOTAL
1989-1990	330698	59937	32355	-	-	422990
1990-1991	346473	68129	34968	-	-	449570
1991-1992	364403	75028	37844	-	-	477275
1992-1993	386226	87741	40556	-	-	514523
1993-1994	414833	100402	43247	-	-	558482
1994-1995	453922	112118	47285	-	-	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
up to Dec,14	1807784	346480	200883	103277	505137	2963561

Source: Production & Marketing Division, Petrobangla.



Condensate Fractionation Plant at Rashidpur Under SGFL

	N	lajor Gas Transmission I	Pipelines	and Flow	/ Capacity	/
Compan	у	Name of The Line and Route	Diameter (Inch)	Length (Km)	Oper. Pres. (Psig)	Max. Flow Capacity (MMCFD)
TGTDCL	01	TITAS-DHAKA	14	81.80	1000	175
	02	TITAS-NARSHINGDI	16	46.31	1000	265
	03	NARSHINGDI-JOYDEVPUR	14	37.51	1000	220
	04	NARSHINGDI-GHORASAL	14	10.30	1000	220
	05	HABIGANJ-ASHUGANJ	12	57.75	1000	85
	06	MONOHARDI-NARSHINGDI	20	24.5	1000	300
	07	MONOHARDI-KISHORGANJ	4	35.00	1000	6
	80	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		KAILASHTILA-ASHUGANJ	24	175	1135	330
		ASHUGANJ-BAKHRABAD	30	59	1135	400
		RASHIDPUR- ASHUGANJ	30	82	1135	425
		BEANIBAZAR-KAILASHTILA	20	18	1090	-
		ASHUGANJ-ELENGA	24	125	1000	270
	_	BAKHRABAD-CHITTAGANG	24	175	960	350
		BAKHRABAD-DEMRA	20	68	1000	150
		DHANUA-AMINBAZAR	20	60	1000	200
		ASHUGANG-MONOHARDI	30			
	_			37	1000	400
		ELENGA-BAGHABARI	20/24/30	73	1000	200
		NOLKA-BOGRA	20/30	60	1000	166
		MONOHARDI-DHANUA	30	51	1135	300-750
		BONPARA-RAJSHAHI	12	53	1000	45
		BHERAMARA-KHULNA	20	165	1000	
	27		36	137	1000	
BGDCL		COMILLA LATERAL	10	28.17	350	30
		CHANDPUR LATERAL	8	46.28	960	35
		MAIJDEE LATERAL	10	44.76	150	10
	31	FENI GAS FIELD HOOK-UP LINE	8	5.04	960	35
	32	MEGHNA-BAKHRABAD	8	27.62	1000	20
	33	LAKSHMIPUR LATERL	6	26.98	150	
	34	SALDA-BAKHRABAD	10	34.80	1000	35
	35	CHANDPUR 150 MEGAWATT	10	48.00	960	35
		TRANSMISSION LINE				
KGDCL	36	CHITTAGONG RING MAIN	24/20/16	59.48	350	451
	37	KPM SPAUR	8	36.15	350	18
	38	CHITTAGONG-RAUZAN	20	18.00	350	150
	39	SEMUTANG-CHITTAGONG	10	56	960	70
JGTDSL	40	HARIPUR-NGFF	_	43.00	1000	62
	41	KAILASHTILA-KUCHAI	8	13.00	1000	62
		KUCHAI-CHATAK	6	39.00	1000	36
	_	DEVPUR-KUMARGAON	6	11.00	1000	36
	_	HABIGANJ-SHAHJI BAZAR	8	2.00	1000	53
		SHAHAJI BAZAR-SHAMSHER NAGAR	6	65.00	1000	11
		SRIMONGAL-MOULOVI BAZAR	6	26.00	1000	11
		CHATAK-TENGRATILA	4	19.00	1000	10
		TENGRATILA-SUNAMGANJ	4	13.00	1000	10
	40	TENGRATILA-SUNAWIGANJ	4	13.00	1000	



SOURCE: PETROBANGLA

Modification Date: 15 January 2015 Modified by: Planning Division, GTCL

December-2008

		Nat	ural Ga	ıs Re	eserv	e In Ba	nglade	sh		
					ecember		<u> </u>			Figure in BCF
			Reser				verable Re	serve		
SL No.	Fields	Year of Discovery	Estimate		GIIP	Proved (1P)	Proved + Probable (2P)	Proved + Probable + Possible (3P)	Cumulative Production (Dec, 2014)	Remaining Reserve w.r.t 2P (Jan, 2015)
A. P	roducing									
1.	Titas	1962	RPS Energy	2009	8148.9	5384.0	6367.0	6517.0	3851.33	2515.67
2.	Habiganj	1963	RPS Energy	2009	3684.0	2238.0	2633.0	3096.0	2109.19	523.81
3.	Bakhrabad	1969	RPS Energy	2009	1701.0	1052.9	1231.5	1339.0	775.16	456.37
4.	Kailashtilla	1962	RPS Energy	2009	3610.0	2390.0	2760.0	2760.0	596.40	2163.60
5.	Rashidpur	1960	RPS Energy	2009	3650.0	1060.0	2433.0	3113.0	543.21	1889.79
6.	Sylhet/Haripur	1955	RPS Energy	2009	370.0	256.5	318.9	332.0	205.26	113.64
7.	Meghna	1990	RPS Energy	2009	122.1	52.5	69.9	101.0	53.06	16.84
8.	Narshingdi	1990	RPS Energy	2009	369.0	218.0	276.8	299.0	160.40	116.40
9.	Beani Bazar	1981	RPS Energy	2009	230.7	150.0	203.0	203.0	87.72	115.28
10.	Fenchuganj	1988	RPS Energy	2009	553.0	229.0	381.0	498.0	124.79	256.21
11.	Shaldanadi	1996	RPS Energy	2009	379.9	79.0	279.0	327.0	81.56	197.44
12.	Shahbazpur	1995	Petrobangla	2011	677.0	322.0	390.0	488.0	10.50	379.50
13.	Semutang	1969	RPS Energy	2009	653.8	151.0	317.7	375.1	9.67	308.03
14.	Sundulpur Shahzadpur	2011	BAPEX	2012	62.2	25.0	35.1	43.5	8.00	27.10
15.	Srikail	2012	BAPEX	2012	240.0	96.0	161.0	161.0	25.43	135.57
16.	Jalalabad	1989	D & M	1999	1491.0	823.0	1184.0	1184.0	902.85	281.15
17.	Moulavi Bazar	1997	Unocal	2003	1053.0	405.0	428.0	812.0	267.49	160.51
18.	Bibiyana	1998	D & M	2008	8350.0	4415.0	5754.0	7084.0	1880.81	3873.19
19.	Bangura	2004	Tullow	2011	1198.0	379.0	522.0	941.0	281.00	241.00
			Sub-to	tal A:	36543.6	19725.9	25744.9	29673.6	11973.82	13771.10
B. Non-Producing										
20	Begumganj	1977	BAPEX	2014	100.0	14.0	70.0		0.00	70.00
21	Kutubdia	1977	HCU	2003	65.0	45.5	45.50	45.5	0.00	45.50
22	Rupganj	2014	BAPEX	2014	48.0		33.60		0.00	33.60
			Sub-to	tal B:	213.0	59.5	149.1	45.5	0.00	149.10
C. Pi	roduction Suspen	ded								
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
			Sub-to	tal C:	2195.6	984.7	1227.1	1591.0	597.9	629.2
	G	rand Total	(A+B+C) in	BCF	38952.2	20770.1	27121.09	31310.1	12571.69	14549.40
	G	rand Tota	l (A+B+C) ir	TCF	39.0	20.8	27.12	31.31	12.57	14.55

Note: Reserve of Chattak gas field is under reevaluation due to excessive seepage caused by two successive blowouts. Source: Reservoir & Data Management Division, Petrobangla.

				Cate	egory-	Category-wise Annual Gas Sales	nual G	as Sal	es				
					ت	(FY 1980-81 to FY 2013-14)	FY 2013-14)				Gas Vol	ume In Billion (	Gas Volume In Billion Cubic Feet (BCF)
	Gas		BULK SALES	٠٥.			Non Bulk Sales	k Sales			Total		Total
Year	Production	Power	Ferti- Iizer	Sub. Total	Industry	Domestic	Comme- rcial	Tea/ CNG	Brick Field	Sub Total	Sales	OFG	Production
1980-81	49.95	13.30	17.90	31.20	8.10	3.40	1.30	0.00	00.0	12.80	44.00	5.95	49.95
1981-82	64.85	18.00	26.60	44.60	9.10	4.20	1.70	00.00	0.00	15.00	29.60	5.25	64.85
1982-83	72.16	22.00	25.80	47.80	9.80	5.20	1.90	0.00	0.00	16.90	64.70	7.46	72.16
1983-84	83.29	22.90	29.40	52.30	10.40	5.80	2.10	00.00	0.00	18.30	70.60	12.69	83.29
1984-85	94.59	38.30	27.20	65.50	12.60	6.30	2.20	0.00	0.00	21.10	86.60	7.99	94.59
1985-86	106.66	39.80	33.70	73.50	16.40	6.80	2.70	00.00	0.00	25.90	99.40	7.26	106.66
1986-87	125.32	51.80	34.90	86.70	18.70	6.80	3.40	0.00	0.00	28.90	115.60	9.72	125.32
1987-88	147.50	62.10	51.00	113.10	16.70	7.60	3.60	00.00	0.00	27.90	141.00	6.50	147.50
1988-89	155.93	65.50	53.40	118.90	15.00	9.30	3.20	0.00	0.00	27.50	146.40	9.53	155.93
1989-90	167.83	75.60	55.90	131.50	14.30	10.20	3.10	00.00	0.00	27.60	159.10	8.73	167.83
1990-91	172.84	82.60	54.20	136.80	13.20	10.50	2.90	0.70	0.00	27.30	164.10	8.74	172.84
1991-92	188.48	88.10	61.60	149.70	13.40	11.60	2.90	0.70	0.20	28.80	178.50	9.98	188.48
1992-93	210.98	93.30	69.20	162.50	15.20	13.50	2.40	0.70	0.20	32.00	194.50	16.48	210.98
1993-94	223.76	97.30	74.50	171.50	20.26	15.40	2.87	0.70	1.10	40.33	212.13	11.63	223.76
1994-95	247.38	107.40	80.50	187.90	24.24	18.86	2.88	09:0	1.10	47.68	235.58	11.80	247.38
1995-96	265.51	110.90	90.98	201.88	27.31	20.71	3.00	0.72	0.99	52.73	254.61	10.90	265.51
1996-97	260.99	110.82	77.83	188.65	28.62	22.84	4.49	0.71	0.48	57.14	245.79	15.20	260.99
1997-98	282.02	123.55	80.07	203.62	32.32	24.89	4.61	0.74	0.39	62.95	266.57	15.45	282.02
1998-99	307.48	140.82	82.71	223.53	35.79	27.02	4.71	0.71	0.35	68.58	292.11	15.37	307.48
1999-00	332.35	147.62	83.31	230.93	41.52	29.56	3.85	0.64	0.35	75.93	306.86	25.49	332.35
2000-01	372.16	175.27	88.43	263.69	47.99	31.85	4.06	0.65	0.44	85.00	348.75	23.22	372.16
2001-02	391.53	190.03	78.78	268.81	53.56	36.74	4.25	0.726	0.53	92.806	364.62	26.91	391.53
2002-03	421.15	190.54	95.89	286.43	63.75	44.80	4.56	0.744	0.527	114.38	400.81	20.34	421.15
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	486.64	*249.42	93.97	343.39	52.28	52.60	4.84	4.49	0.00	114.21	457.60	29.04	486.64
2005-06	527	273.3	89.09	362.39	63.3	29.7	3.3	7.6	0	130.9	493.29	33.71	527
2006-07	562.70	*283.28	93.46	376.74	77.41	63.13	5.64	12.73	0.00	159.01	535.75	26.95	562.70
20 07-08	98.009	*314.5	78.66	393.16	92.19	69.02	6.59	23.51	0.00	191.31	584.47	16.39	98.009
2008-09	653.57	*351.84	74.83	426.67	104.60	73.38	7.48	31.80	0.00	217.26	643.93	9.64	653.57
2009-10	703.00	*395.73	64.71	460.44	118.80	80.20	8.11	38.91	0.00	246.02	706.48	(3.48)	703.00
2010-11	708.90	*395.00	62.80	457.80	121.5	87.40	8.50	39.30	0.00	256.7	714.50	(2.60)	708.90
2011-12	743.7	*427.9	58.4	486.3	128.5	89.2	8.6	39.4	0	265.7	752	(8.3)	743.7
2012-13	9.008	*462.9	09	522.9	135.7	89.7	8.8	41	0	275.2	798.1	2.5	9.008
2013-14	820	*481.2	53.8	535	141.9	101.5	8.9	40.9	0	293.2	828.2	(8.2)	820
July – Dec,14	429.8	*205.8	21.7	227.5	8.09	43.6	3.7	22.6	0	130.7	358.2	71.6	429.8
Source: Production & Marketing Division Petrobandla	n & Marketing Di	ivision Petrob	plone										

### **Payment To The National Exchequer**

Taka in Million

Year	SD+VAT	DSL	Income Tax	Dividend	CD/VAT	Royalty	Total
1997-98	8431.1	2745.7	862.8	1000.1	404.1	-	13443.8
1998-99	9116.9	2984.9	1030.6	1500.0	168.0	-	14800.4
1999-00	8618.9	3253.3	1105.1	1150.0	131.9	-	14259.2
2000-01	11049.2	2503.8	1142.1	1058.6	93.0	-	15846.7
2001-02	10541.3	3327.3	917.2	1428.9	122.6	-	16337.3
2002-03	15576.4	3395.9	1456.8	1499.8	684.7	-	22613.6
2003-04	18235.2	3708.9	1620.4	1750.0	393.5	-	25708.0
2004-05	18481.0	3681.1	2530.6	2000.0	596.2	-	27288.9
2005-06	18526.7	3440.0	3597.8	2154.8	383.2	12.5	28115.0
2006-07	18801.5	4145.5	3665.1	2500.0	329.2	12.6	29453.9
2007-08	17900.6	3223.4	6490.5	-	350.1	60.9	28025.4
2008-09	19313.5	3533.0	7507.6	1715.3	554.7	6.3	32630.3
2009-10	20064.7	3331.2	10057.5	3281.6	2211.1	655.3	39601.3
2010-11	21625.5	3209.0	11050.9	4198.4	884.2	714.0	41682.0
2011-12	26668.1	2989.3	9378.9	3875.8	1470.6	1000.6	45383.3
2012-13	23861.6	3350.1	14257.2	8395.8	4596.4	1404.7	55865.8
2013-14	31616.1	2856.3	11854.2	4460.8	1443.0	1549.1	53779.4

Source: Accounts Division, Petrobangla.



RMS Maintenance Work by KGDCL

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Consolidated Balance Sheet For The Year Ended 30 June, 2014

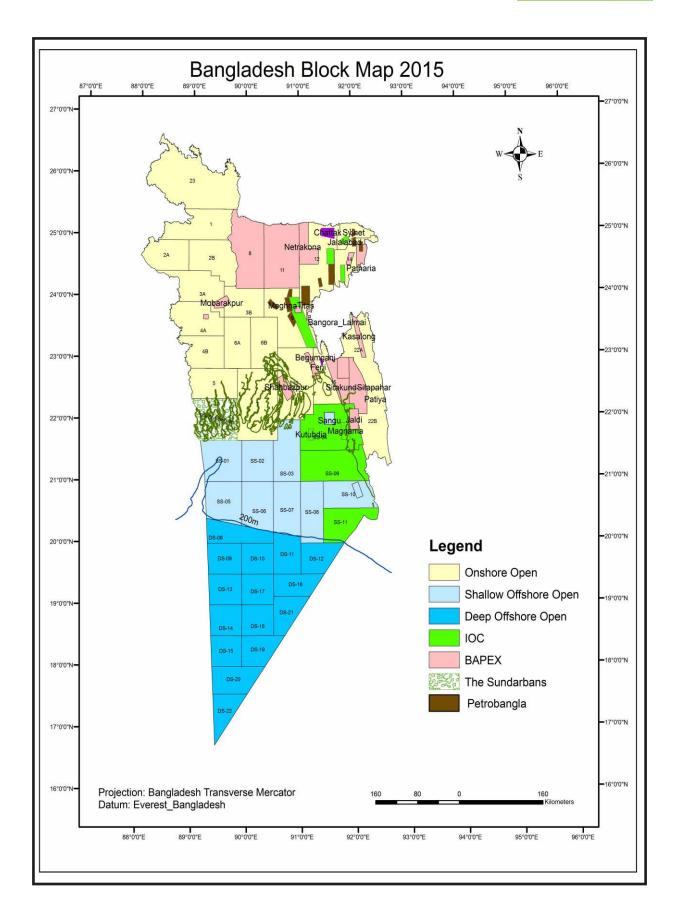
														Figure	Figures in lac Taka
ITEM HEADING	R.No.	BGDCL	JGTDSL	TITAS	KGDCL	PGCL	BGFCL	SGFL	BAPEX	RPGCL	GTCL	MGMCL	BCMCL	æ	TOTAL
Capital and Reserves	-														
Share Capital	2	39,783.87	7,320.57	99,312.48	0.01	9,290.11	56,349.11	9,599.21	5.00	7,856.69	70,000.00	175.01	39,163.04	15.00	338,870.09
Capital Reserves	l I	22,138.94	2,556.22	30,201.26	٠		17,314.00	35,590.41	182,105.72		104,440.23	31,470.84		157,942.71	583,760.33
Revenue Reserves/retained Earnings	4	80,369.79	50,167.89	396,052.99	57,050.09	11,107.60	132,344.62	232,871.60	17,314.29	30,505.67	218,286.98	(6,276.22)	65,216.25	590,695.62	1,875,707.17
Total Capital And Reserves (2 To 4)		142,292.60	60,044.68	525,566.73	57,050.10	20,397.71	206,007.73	278,061.22	199,425.01	38,362.36	392,727.21	25,369.63	104,379.29	748,653.33	2,798,337.59
Long Term Borrowiings	9														
Unsecured Loans - Local Sources	7	4,644.56	634.96	172.55		2,768.30	54,835.09	14,871.93	104,599.51		202,434.92	61,3	44,222.22	392.76	495,684.22
Unsecured Loans - Foreign Sources	œ	,	1,843.46	11,455.53		3,756.51	16,014.99	3,764.41			218,793.44		5,619.62		268,317.49
Toal Long Term Borrowings (7 To 8)	ත	4,644.56	2,478.42	11,628.08		6,524.81	70,850.08	18,636.34	104,599.51	11,758.91	421,228.36	61,418.04	49,841.84	392.76	764,001.71
Other Long Term Liabilities:	우 :														
Pension Fund	=			10,516.68		٠	١								10,516.68
Provision For Gratuity/leave Pay	12		583.06	2,404.92			٠	137.66						1,117.18	4,242.82
Provident Fund	13	,		6,014.92											6,014.92
Customer's Security Deposits	4	16,725.31	19,906.59	87,929.70	16,947.48	٠				36.11					141,545.19
Other Long Term Liabilities	15	11,752.00				2,734.88	113,864.43		(1,340.46)	13,204.21		37,966.90			178,181.96
Total Other Long Term Liabilities (11 To 15)	÷	28,477.31	20,489.65	106,866.22	16,947.48	2,734.88	113,864.43	137.66	(1,340.46)	13,240.32	- 040	37,966.90	1 100	1,117.18	340,501.57
Total Capital Employed (5+9+16)	÷	1/5,414.4/	83,012.75	644,001.03	73,997.38	29,657.40	390,722.24	22.058,082	302,064.00	63,301.59	813,925.57	124,734.37	154,221.13	750,163.27	3,902,840.88
Represented By:	φ,														
Fixed Assets:	<u> </u>	200	000	7000	000	U + U U	11	7000	00000	11	114	0	0	000	700 77
Fixed Assets At Cost or Valuation, Less Depreciation	200	45,421.10	16,983.28	104,183.07	20,388.69	18,551.55	57,510.95	16,357.10	29,836.70	17,122.50	1/4,/89.32	113,120.56	1,259.31	3,190.83	708,714.96
Proved Properties Less Depietion	L7 6	. 007			100		135,493.01	35,257.68	38,307.47			200	0	11 ,	209,058.16
Capital Work-in-progress	22	409.85	1,677.60	1,534.49	435.71		93,778.56	26,521.04	81,237.67	3,071.88	499,791.28	5,488.55	78.6	27.73	713,984.23
I otal Fixed Asstes (20 1022)	23	45,830.95	18,660.88	105,717.56	20,824.40	18,551.55	286,782.52	78,135.82	149,381.84	20,194.38	674,580.60	118,609.11	91,269.18	3,218.56	1,631,757.35
Intangible Asstes at Cost Less Amortisation	24		İ			٠				00.66		13.28			112.28
Other Assets:	52														
Bank Deposits (Fdr)	56	64,584.19	42,527.25	365,662.04	68,398.50	11,487.81	49,353.83	169,266.47		26,622.28	94,450.08	2,407.50	49,300.78	514,128.11	1,458,188.84
Customers Securities	27	7,654.43	14,659.46			'				'					22,313.89
Loans To Employees	28	2,491.04	2,326.80	16,919.22	1,938.42	249.60	1,558.47	1,178.07	•	719.31	2,527.89		334.30	2,631.33	32,874.45
Other Assets/hydrocurban Dev. Fund	d	32,949.41		37,800.00	•	٠	13,427.99	287.27	39.54	3,903.20	8,206.57		7,711.58	184.82	106,628.98
Total Other Assets (26 To 29)	ij	107,679.07	61,632.11	420,381.26	70,336.92	11,737.41	64,340.29	170,731.81	39.54	31,244.79	105,184.54	2,407.50	57,346.66	516,944.26	1,620,006.16
Current Assets:	31														
Inventories Of Stores & Other Materials	32	2,474.78	2,029.83	14,391.86	3,476.44	1,765.34	5,259.30	15,173.05	72,999.11	2,891.78	4,313.95	7,819.12	22,840.14		155,434.70
Advances, Deposits And Prepayments	33	16,229.84	25,972.97	3,989.70	216.27	1,711.89	1,922.02	3,837.39	12,935.81	_	23,399.79	7,730.01	16,637.09	4,985.98	135,365.31
Trade Accounts Receivable(Exc Group A/cs)	34	34,169.77	23,932.81	231,993.80	24,850.54	6,781.56	15,220.32	27,745.72	23,928.98	8,067.34	21.00		5,684.09	350,824.99	753,220.92
Inter Project Accounts	32	,	٠						1				0.52		0.52
Advance Payment Of Income Tax	36	,				1			1					,	
Cash And Bank Balances	37	27,909.04	3,240.40	90,051.96	17,995.26	5,772.28	18,440.56	15,553.44	19,550.15	4,556.04	31,597.88	3,230.14	6,036.80	117,010.70	360,944.65
Other Current Assets	88	3,838.33		23,475.15	3,863.83		49,326.37	36,229.34	50,336.12	3,215.96		(3.85)	-		170,281.25
Total Current Assets (32 To 38)	36	84,621.76	55,176.01	363,902.47	50,402.34	16,031.07	90,168.57	98,538.94	179,750.17	34,527.67	59,332.62	18,775.42	51,198.64	472,821.67	1,575,247.35
Group Company Accounts: Gas Purchases & Transmission	40	(28 654 14)	(17,932,14)	(119 942 79)		(8.270.78)	,		,		18 895 45				(155.904.40)
Banex & Hydrocarbon Dev Fund Transfers	Ĺ	1	(4 617 03)	(28,860,39)		(3 931 11)	ŀ	ŀ						ŀ	(42,765,06)
Fourty Share	43	(00:000(0)	(00:110;1)			(1.1.00(0)		ŀ						41.97	41.97
Other Current Account	i.	(1.588.53)	(879.74)	9.522.71		6.42	63.668.90	30.411.58	(286.01)	58 43	(72.89)	(643.98)	(526.02)	95.723.49	195.394.36
Total Group Company Account (41 To 44)	i.	(35,599,20)	(23,428,91)	(139.280.47)		(12.195.47)	63.668.90	30.411.58	(286.01)	58.43	18.822.56	(643.98)	(526.02)	95.765.46	(3.233.13)
Current Liabilities:	i.			(		,			(: ) )			()	()		-
Trade Creditors & Accruals (Exc Group A/cs)	47	8,146.55	3,362.93	97,378.66	50,403.65	1,086.77	69,033.38	51,502.99	16,344.56	6,950.09	11,234.62			64,856.26	380,300.46
Workers Profit Participation Fund	48	1,125.15	704.36	7,257.85	2,527.52	286.84	1,636.68	3,853.59		471.11	2,459.52		1,769.01		22,091.63
Current Portion Of Long Term Loans	49	0.05	103.66	2,023.28		1,140.98	3,668.25		3,246.79		8,533.66				18,716.67
Interest Payable	20	0.42					40.06				777.33				817.81
Provision For Taxation	21	17,356.96	24,801.36		(4,982.78)	1,907.45	11,626.56	25,626.35	5,285.01	15,341.48	20,959.62		11,763.92		129,685.93
Other Current Liabilities	25	488.98	55.03		19,617.69	45.12	28,233.11		1,325.12			14,406.76	31,534.40	273,730.42	369,436.63
Total Current Liabilities (47 To 52)	23		29,027.34	106,659.79	67,566.08	4,467.16	114,238.04	80,982.93	26,201.48		43,964.75	14,406.76	45,067.33	338,586.68	921,049.13
Net Current Assets (39+45-53)	i		2,719.76	117,962.21	(17,163.74)	(631.56)	39,599.43	47,967.59	153,262.68		34,190.43	3,724.68	5,605.29	230,000.45	620,965.09
Total Net Assets(23+24+30+54)		175,414.47	83,012.75	644,061.03	73,997.58	29,657.40	390,722.24	296,835.22	302,684.06	63,361.59	813,955.57	124,754.57	154,221.13	750,163.27	3,902,840.88

## A.Matin & Co. CHARTERED ACCOUNTANTS

### S.F.Ahmed & Co. CHARTERED ACCOUNTANTS

		Banglade	desh (	ish Oil, Gas and Mineral Corporation (Petrobangla Consolidated Income Statement For The Year Ended 30 June, 2014	s and one one of the search of	Miner ed Inco r Endec	Gas and Mineral Corporat Consolidated Income Statement For The Year Ended 30 June, 2014	oratio ment , 2014	n (Pet	roban	gla)				
														Figure	Figures in lac Taka
ITEM HEADING	R.No.	BGDCL	JGTDSL	TITAS	KGDCL	PGCL	BGFCL	SGFL	BAPEX	RPGCL	GTCL	MGMCL	BCMCL	PB	TOTAL
Sales:	-														
Gas Sales: Inter Group	CV C	1 20 07		. 000	0 0	1 10	228,257.18	39,607.61	10,245.93					326,344.54	604,455.26
Gas Sales: End Customers	٥ ا	130,172.03	94,362.43	7.000,000	148,838.83	48,105.54	20 845 10	15.4 087 20	9 770 6	33 948 40	.	2 360 56	76 711 05	85 753 58	38,331.42
Dh's Share Of Po	t rc	1	.   .			·   ·	22,045.19	- 104,901	2,017.00	0,00	1	6,009.00	20.1	237,859,51	237 859 51
Ph's Share Of Pc	9	į.	j.	j.			ŀ	į.	j.	ŀ	į.			73.789.55	73.789.55
Supplementary Duty & Vat/ Royalty	7			j.			(209,559,34)	(56,274,63)		(4,327.69)		(59.24)		1	(270.220.90)
Transmission Charges, Inc Line Rent	ω		ŀ			ŀ	( )	-	,		56,239.07	(			56,239.07
Contributions From Group Companies For Exploration	စ	ŀ	ŀ	ļ.				ļ.	5,193.02						5,193.02
Successful Wells and Fileds Transferred To Group Companies			į.	-		•		į.							
Management Charge To Co's & Projects	Ξ	ŀ	į.	ļ,		•		į.	ŀ					3,804.47	3,804.47
Other Operational Income	12	3,751.52	2,863.31	13,658.17	998.03	68.95		į.	12,378.31	120.89		į,		98.63	33,937.81
Total Revenue (2 To 12)	!_	133,924.35	97,445.76	783,208.45	149,856.88	49,174.49	51,543.03	138,320.28	29,894.94	32,803.07	56,239.07	2,310.32	76,711.05	727,650.28	2,329,081.97
Cost of Sales	4							,							
Gas & Condensate Purchases : Inter Company	12	83,691.52	65,505.96	524,050.17	79,303.97	27,759.58	13,578.18			23,289.11					817,178.49
Gas & Condensate Purchase From loc	16	•	'	'		•	1	'	•	1	•			613,541.29	613,541.29
Contribution To Bapex For Exploration	17	2,003.29	1,423.34	5,047.11	818.79	1,058.18	,	,						,	10,350.71
Contribution To Gas Development Fund	18	8,102.93	4,222.02	49,119.03	8,670.64	3,192.82									73,307.44
Unsuccesful Exploration	19	,	,	,		1			,	,				,	
Production Cost Inc Depreciation/depleciation	20						5,681.30	75,251.53	12,696.45	1,155.61		1,576.61	40,528.39		136,889.89
Transmission Charges: Inter Company	51	9,333.35	2,233.05	33,960.92	6,668.48	3,317.01								103,865.15	159,377.96
Transmission Costs, Inc Depreciation	22	,	1,424.86	,		1		•	,	,	16,436.58			,	17,861.44
Distribution Cost, Inc Depreciation	23	2,272.42		9,531.45	1,214.18	2,700.72									15,718.77
Distribution Cost Of Condensate & Other Product	24	•	,	•		'	•	1,383.80		199.63	٠			,	1,583.43
Price Deficit Fund	25	11,899.41	9,089.40	37,984.98	7,290.43	6,508.21	1	1	•	•	٠			,	72,772.43
Group Service Charges	56	265.62	120.00	1,200.00	677.11	61.19	247.47	1,060.76	277.46	100.00	00.009				4,609.61
Administrative Cost/hcdf	- !	5,031.50	4,483.91	26,306.17	5,196.31	•	9,160.52	4,085.86	1,926.87	1,600.86		1,571.08	3,699.58	4,321.14	67,383.80
Total Cost of Sales (15 To 27)	_ !	122,600.04	88,502.54	687,199.83	109,839.91	44,597.71	28,667.47	81,781.95	14,900.78	26,345.21	17,036.58	3,147.69	44,227.97	721,727.58	1,990,575.26
Operational Profit (13-28)	-!	11,324.31	8,943.22	96,008.62	40,016.97	4,576.78	22,875.56	56,538.33	14,994.16	6,457.86	39,202.49	(837.37)	32,483.08	5,922.70	338,506.71
Other Income	30	2,577.54	504.49	5,057.72	2,012.74	297.50	4,124.80	59.75	80.39	29.01	945.49	81.54	6,080.10	,	21,851.07
Financial Cost :	31														
Interest Expense	32	185.78	79.82	567.48		399.28	467.02	٠	2,491.08	607.79	1,760.24	1,302.12	3,182.98		11,043.59
Less Interest Income	- 1	8,786.88	4,719.24	44,747.69	8,520.64	1,261.71	6,200.32	20,473.66	5,660.65	3,543.15	11,222.48	112.88		17,910.55	133,159.85
Net Interest (32 -33)	- !	(8,601.10)	(4,639.42)	(44,180.21)	(8,520.64)	(862.43)	(5,733.30)	(20,473.66)	(3,169.57)	(2,935.36)	(9,462.24)	1,189.24	3,182.98	(17,910.55)	(122,116.26)
Translation Of Exhange Rate Of Loans	32				j	1					(0.18)	j			(0.18)
Intangibles Provided For Previous Year Written Off	- !			•											•
Net Profit Before Contribution(29+30-34-35-36)	-!	22,502.95	14,087.13	145,246.55	50,550.35	5,736.71	32,733.66	77,071.74	18,244.12	9,422.23	49,610.40	(1,945.07)	35,380.20	23,833.25	482,474.22
Less Worker's Participation In Profits	- 1	1,125.15	704.36	7,262.33	2,527.52	286.84	1,636.68	3,853.59	912.20	471.11	2,459.52	1	1,769.01		23,008.31
Net Profit Before Taxation (37-38)	- !	21,377.80	13,382.77	137,984.22	48,022.83	5,449.87	31,096.98	73,218.15	17,331.92	8,951.12	47,150.88	(1,945.07)	33,611.19	23,833.25	459,465.91
Tax On Profit	- 1	7,482.23	4,683.97	35,295.03	16,807.99	1,907.45	6,836.21	25,626.35	5,285.01	3,356.67	4,562.99	7.69	11,763.92		123,615.51
Net Profit For The Year After Taxation (39 - 40)	- !	13,895.57	8,698.80	102,689.19	31,214.84	3,542.42	24,260.77	47,591.80	12,046.91	5,594.45	42,587.89	(1,952.76)	21,847.27	23,833.25	335,850.40
Add: Profit Brought Forward From Previous Year	45	68,433.99	43,342.79	328,073.13	39,166.20	7,902.02	116,457.37	j	6,426.79	26,728.31	189,853.71	(7,153.20)	50,768.98	(332,746.45)	537,253.64
Add: Profit Brought Forward From Previous Year Psc	43							198,376.96							198,376.96
Add/deduct: Prior Year Adjustment	- 1	148.23	118.72	(86.57)	(4,928.95)	6.42	(987.34)	212.62	3,805.16	(29.09)	(182.62)	2,829.74	1	224.33	1,130.65
Distribtable Profit (41 To 44)	_ !	82,477.79	52,160.31	430,675.75	65,452.09	11,450.86	139,730.80	246,181.38	22,278.86	32,293.67	232,258.98	(6,276.22)	72,616.25	(308,688.87)	1,072,611.65
Less: Dividend Paid	46	2,108.00	2,891.00	34,622.76	8,402.00	450.00	4,417.00	16,820.00	1,597.00	1,788.00	13,972.00		7,400.00		94,467.76
Less: Provision For Deferred Tax			, 000			(106.74)	4,513.89	(3,510.22)		, 10		1 0		1 0	896.93
Balance Transfer To Balance Sheet (45-46)	48	80,369.79	49,269.31	396,052.99	57,050.09	11,107.60	130,799.91	232,871.60	20,681.86	30,505.67	218,286.98	(6,276.22)	65,216.25	(308,688.87)	977,246.96

# S.F.Ahmed & Co. CHARTERED ACCOUNTANTS



### Annual Report 2014 Publication Committee

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