

ENERGY & POWER

Offshore Exploration

Oil-Linked Pricing May Attract IOCs

- Access of Electricity to All Enhances BREB Duty
- Chevron Gets Nod for Bibiyana Field Expansion
- Indo-Bangladesh Relations: New Horizon in Energy Cooperation

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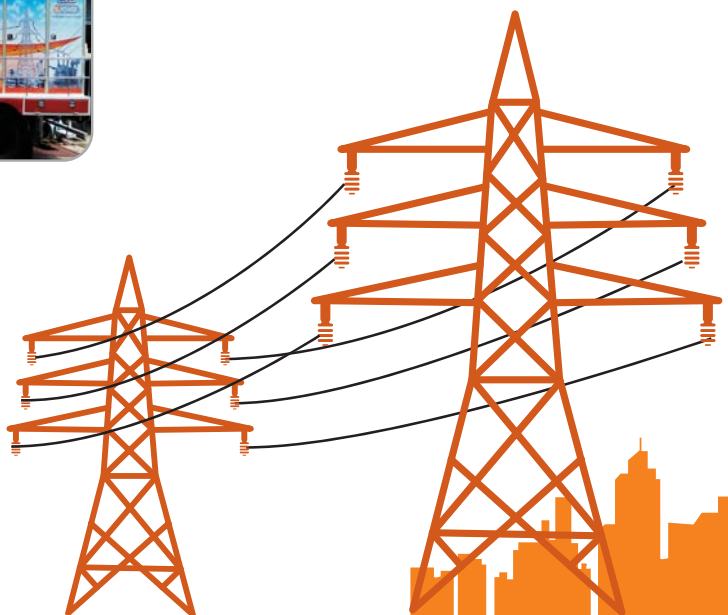
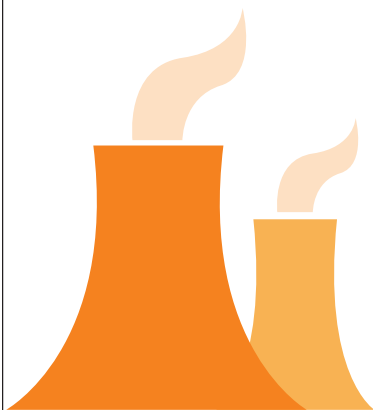
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EDITORIAL

Bangladesh has so far failed to explore offshore hydrocarbon potentials. It is not that the government did not take any initiative, but what it had taken was apparently not enough to attract the International Oil Companies (IOCs) to work in the Bangladesh territories of the Bay of Bengal. Hardly a few IOCs responded to bids earlier invited by the government. Of the IOCs, ConocoPhillips signed PSC, carried out seismic surveys, and got some indications of lead and prospects, yet it left Bangladesh failing to convince Petrobangla to revise gas prices up from the prices offered in the PSC. Posco-Daewoo also left Bangladesh failing to arrange investment funds. Only Indian Company ONGC is working in two shallow blocks. Meanwhile, the government revised the PSC a few times but again failed to attract the IOCs. Experts say the lack of appropriate incentives and inappropriate gas pricing formulas were the reasons. Of late, the government appointed a consultant to suggest how the country could attract the IOCs. The firm recently recommended following a crude oil-linked pricing mechanism. Few experts consider it risky, but most favor such a move as a better alternative amid the present energy crisis. The policymakers were in a dilemma over the suggested pricing formula.

While Bangladesh badly needs the energy to keep running its growth engine, it is equally important not to take any decision in this regard without examining its pros and cons. A misstep could result in devastating consequences.

h i g h l i g h t s

COVER



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The EZ works as a “stepping stone” for economic growth and prosperity, a “corner stone” for the sustainable development goals and boosting the employment opportunity in Bangladesh. A courageous, strategic and innovative blueprint is required to achieve the vision and plans. A sound and efficient regulatory framework can help make a healthy-investment environment in EZ development activities.
... More in Special Article



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Bangladesh is moving towards strategies similar to other countries including neighbors India and Myanmar in a bid to turn around from failures of offshore exploration. Petrobangla is proceeding towards a crude oil-linked pricing mechanism instead of remaining confined to floor and ceiling pricing as per the suggestion of Wood Mackenzie. It has not yet been decided whether Brent, Dubai Crude, or Japan Korea Marker will be the reference crude.



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The solar charging stations set up across Bangladesh are not getting popular. But solar irrigation is steadily getting popularity. Some challenges are still being encountered in site selection. However, farmers are still keen on using grid power. An initiative has been taken to supply additional power from solar irrigation to 11KV lines. This will make solar irrigation more attractive...
Md Selim Uddin Tells EP



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Encouraged by the readers and patrons, the EP would continue bringing out Green Pages to contribute to the country's efforts in its journey towards environment-friendly energy.



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Indo-Bangladesh Relations: New Horizon in Energy Cooperation

Russia to Respond to Oil Price Caps: Energy Minister



Russia will respond to price caps on Russian oil by shipping more supply to Asia, its energy minister Nikolai Shulginov told reporters at the Eastern Economic Forum in Vladivostok recently.

"Any actions to impose a price cap will lead to deficit on (initiating countries') own markets and will increase price volatility," he said.

Finance Ministers of the United States, Germany, Italy, Japan, Great Britain, France and Canada gave a green light last week to the idea of capping the price of Russian crude to reduce Moscow's revenue in response to its invasion of Ukraine.

Before Russia sent tens of thousands of troops into Ukraine in February, around half of Russia's crude and petroleum product exports went to Europe, according to the International Energy Agency.

Nord Stream Gas Supplies 'Fully Stopped' for Maintenance: Gazprom



Russian energy giant Gazprom said recently it had suspended all gas supplies to Germany through

the Nord Stream pipeline, as the conflict in Ukraine raises fears for energy supplies to Europe.

"Supplies via Nord Stream completely stopped as preventative work begins today at a gas compressor unit," the company said in a brief statement.

Germany Suffering from Coal Shortage

Electricity producers in Germany's Rhine region have warned that power supply may decrease amid the delays in coal deliveries to power plants due to low water levels in major rivers.

According to a report, a number of plants that operate on coal, including those run by

utilities EnBW AG and Trianel GmbH, issued notices recently warned that they are dealing with supply issues.

Trianel's Lunen station reportedly had to cut power generation over the weekend, while EnBW's Heilbronn plant was also "affected," though it didn't provide further details.

India LPG Cylinder Prices Up by 45% in 5 Yrs: Report

At a time when the domestic LPG prices rising across the country, burdening the common man, an interesting fact to understand is that cooking gas rates have been revised an astounding 58 times in the last five years and its data suggest that its prices have gone up by 45%.

According to official data from the Petroleum Ministry, between April 1, 2017 and July 6, 2022 LPG prices rose by 45 per cent through 58 upward revisions. An LPG



cylinder was priced at Rs 723 in April 2017, and by July 2022, rose by 45 per cent to cost Rs 1,053.

At the same time, this hike in cooking gas cylinder price was a huge 26 per cent in the 12 month period between July 1, 2021 and July 6, 2022.

Velesto Snags \$13.4M P&A Work at Petronas' Tembungo Field

Velesto Workover Sdn. Bhd. has received a work order award from Petronas Carigali Sdn. Bhd. for provision of plug and abandonment integrated services for Tembungo A & B offshore Sabah, Malaysia.

The work is for an estimated value up to RM60 million (US\$13.4 million) with salient terms.

The duration of the campaign



is for 21 months for Tembungo-A tentatively from May 2022 until January 2024 with an extension option of 12 months for Tembungo-B tentatively from January 2024 until December 2024.

A Trianel spokesman explained that due to the drought which brought about low water levels in key waterways, barges were forced to lower the amount of coal they carry to be able to navigate in shallow waters.

"This is the normal business these days. This situation will

only change when it rains more," he was cited as saying.

The news comes as Berlin is actively reviving shuttered coal power plants to lower natural gas consumption as the supply from Russia has significantly dropped due to EU sanctions.

Adani Pledges Power Supply to BD by Dec



Indian business tycoon Gautam Adani met Prime Minister Sheikh Hasina in New Delhi recently, pledging to start power supply to Bangladesh by December.

Adani praised Hasina for her "inspirational and stunningly bold" vision for Bangladesh, expressing confidence in the completion of the transmission line under the Godda power project to Bangladesh by December.

"It is an honor to have met Hon PM of Bangladesh Sheikh Hasina in Delhi. Her vision for Bangladesh is inspirational and stunningly bold," Adani, the world's third richest person, tweeted after the meeting.

"We are committed to commissioning our 1600 MW Godda Power Project and dedicated transmission line to Bangladesh by Bijoy Dibosh, 16 Dec 2022," he wrote.

A memorandum of understanding was signed by Adani Power and Bangladesh Power Development Board in 2015 after a joint declaration was issued during Prime Minister Narendra Modi's visit to Dhaka that year.

As per the MoU, the entire production from the 2x800-megawatt project will be supplied to Bangladesh through a dedicated transmission line.

Engr. Mahbubur Rahman Gets Extension as BPDB Chairman



Engr. Md Mahbubur Rahman has been reappointed Chairman of Bangladesh Power Development Board (BPDB) on a contract basis for one year. He took over the charge as Chairman for a new term on September 1, 2022.

Engr. Rahman was born in Shariatpur district on 1 September, 1963. He obtained B.Sc. Engineering (Civil)

degree from Bangladesh University of Engineering and Technology (BUET) in 1986. He did his M.Sc. Engineering (Hydro-Power) degree from the Norwegian University of Engineering & Technology, Norway in 1995 with a full scholarship from the Norwegian government.

He later obtained MBA degree from Bangladesh.

Nasrul for Setting Up Quality Filling Stations



State Minister for Power, Energy and Mineral Resources Nasrul Hamid recently asked the officials concerned to implement initiatives taken to

make filling station quality and aesthetic.

"It is a must to keep wash block clean and adequate in the filling stations," he said while speaking at a review meeting on GPS location-based filling station management system and layout/design/model preparation for new filling stations in light of existing policies at his ministry.

Nasrul said activities of filling stations have to strengthen to prevent fuel adulteration, adding, "Initiative for updating the overall status of filling stations based on GPS location is good. It can link with the ERP map of the BPC," he said.

The state minister said that a total of 2,297 filling stations in the country.

Lokman Hossain Joins as BIDA Executive Chairman

Lokman Hossain Mia recently joined Bangladesh Investment Development Authority (BIDA) as its Executive Chairman.

He replaces Md Sirajul Islam, said a press release.

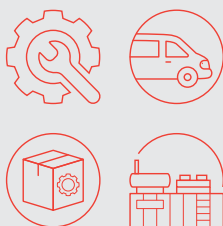
Earlier, Lokman Hossain Mia served as Senior Secretary of Health Services Department under the Health Ministry, Secretary of Textiles and Jute Ministry, Additional Secretary of Departmental Commissioner Information and Communication Technology Department of Khulna Division, Additional Secretary of Shipping Ministry, Director of Ministry of Labour and Employment, Member of Power Development Board (Admin) and as Deputy Commissioner and District Magistrate of Mymensingh district.

He retired from government service on 14 June this year. On 23 August, the government cancelled his post-retirement leave and appointed him as the next Executive Chairman of BIDA.

According to that notification, he will serve as the BIDA Executive Chairman in the rank of Senior Secretary for the next 3 years.



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Govt to Cut Fuel Prices Further: Mannan



Fuel oil prices will be reduced further in the country soon, Planning Minister MA Mannan said recently.

The minister made the comment while responding to a query

from journalists after his speech at an event, marking World Physiotherapy Day in Savar.

"The rate at which oil prices are falling in the world market now, it is safe to say that the price of fuel oil will fall further in the country soon," he said.

The prime minister has already proved it by reducing the prices of fuel oil to some extent, the minister said.

"I can tell you with the responsibility that the government has already shown its attitude as the prices of oil and gas are falling in the world market. Oil prices have reduced to some extent. I hope it will be lowered further soon."

However, it cannot be said at this moment in which process it will be reduced, he said. "If the prices increase in the world market, we will increase, and if it decreases, we will decrease."

Summit Supports Low-Wage Migrant Workers in Singapore



In an effort to fundraise for the Migrant Workers' Welfare Fund, HOME in Singapore, Summit with the Tagore Society Singapore organized a charity concert performed

by Shama Rahman, a global ambassador of Rabindra Sangeet.

All the proceedings were given to HOME to assist low-wage migrant workers in Singapore, who suffer abuse and exploitation such as unpaid salaries, excessive working hours, work injuries, physical and psychological abuse.

At the event Muhammed Aziz Khan, Founder Chairman of Summit Group of Companies remarked, "Today we all need a philosophical guru like Rabindranath Tagore in this world, where war mongers are gaining grounds, poverty is being self-created by nations and divisions of humanity are being built once again."

BGMEA Demands Uninterrupted Power Supply to Factories

Bangladesh Garment Manufacturers and Exporters Association claimed that even after introducing zone-wise weekly holidays to ensure continuous power supply in industrial units, readymade garment factories were not getting uninterrupted power supply.



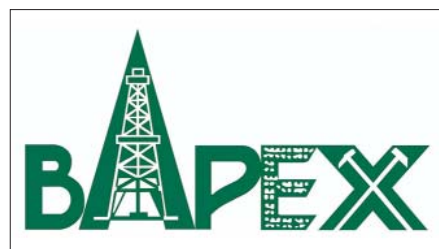
BGMEA in a letter to the state minister for power, energy and mineral resources said that considering the country's export earnings and livelihoods of millions of workers, the government should ensure uninterrupted supply of power to the readymade garment factories.

The trade body sent the letter on August 22 to the power and energy ministry saying that the government introduced zone-wise holiday on August 11 and the factory owners had been complying with the decision, but RMG factories were not getting the required power supply.

The letter said that zone-wise holidays do not have any impact in terms of resolving the power crisis as areas like Chandora, East Chandora, Shafipur, Kashimpur, Konabari, Gazipur Sadar and Gazipur Chowrasta area in Gazipur district, Ashulia, Savar, Dhamrai, Mirpur, Narayanganj, Bhaluka in Mymensingh were still facing severe loadshedding causing huge production losses.

BAPEX Hopes to Get 7MCF New Gas in Sylhet

Bangladesh Petroleum Exploration and Production Company (BAPEX) hopes to get seven million cubic feet of gas from an abandoned well at



Biyanibazar gas field in Sylhet as it started re-digging recently.

"We expect to get five to seven million cubic feet of gas per day from this Well No. 1," said a BAPEX official. In the meantime, seven to seven and a half million cubic feet of gas is being extracted daily from Well No. 2.

The re-digging of well No. 1 will be completed by early December. At present, the Sylhet Gas Fields Limited (SGFL) has five gas fields -- Haripur Gas Field, Rashidpur Gas Field, Chhatak Gas Field, Kailashtilla Gas Field and Beanibazar Gas Field.

Offshore Exploration

Oil-Linked Pricing May Attract IOCs

Mollah Amzad Hossain

Bangladesh is moving towards strategies similar to other countries including neighbors India and Myanmar in a bid to turn around from failures of offshore exploration. Petrobangla is proceeding towards a crude oil-linked pricing mechanism instead of remaining confined to floor and ceiling pricing as per the suggestion of Wood Mackenzie. It has not yet been decided whether Brent, Dubai Crude, or Japan Korea Marker will be the reference crude. Though a few experts consider it risky, most favor such a move as a better alternative in the present situation.



25 YEARS

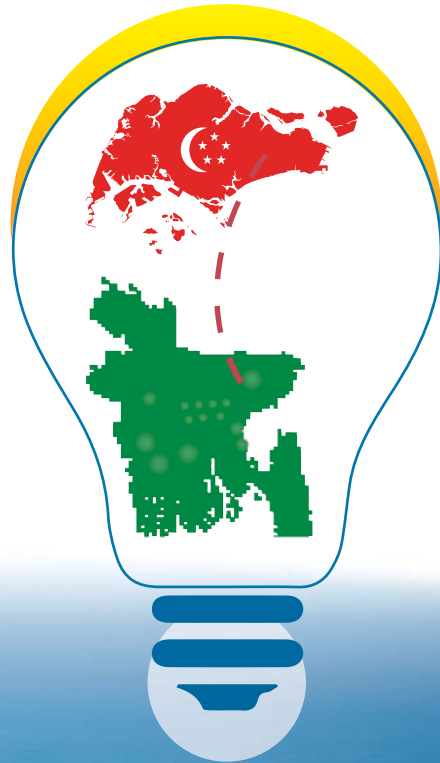
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According to most, such a move will benefit Bangladesh in the end if it attracts IOCs to make risky investments in Bangladesh's offshore exploration. Some observed that we have to see whether the IOCs will be attracted even after offering added incentives in the revised model PSC. IOCs are taking measured and conservative new ventures in oil and gas exploration against the backdrop of the energy world moving towards clean energy from fossil fuels. In such a situation time will tell whether adopting a new pricing strategy and inclusion of added financial as well as fiscal incentives will attract IOCs for Bangladesh offshore exploration.

The Bangabandhu-led Bangladesh government was the pathfinder of offshore exploration in South Asia. Following the gruesome murder of Bangabandhu in August 1975, the historic initiative ground to a halt. Shell Cairn discovered Shangu Gas Field in 1993 and later Australian company Santos operated it. But within a few years, Shangu depleted. Santos inherited the operation from Shell, Cairn left Bangladesh packing up their operation from Asia. French oil giant Totalgaz left Bangladesh before Santos after completing their preliminary preparatory works. Bangladesh offshore exploration suffered impediments from maritime boundary disputes with Myanmar and India. This was the reason behind the interim government in 2007 not going for bidding even after updating model PSC. Lack of appropriate perspective planning rendered successful resolution of maritime boundary disputes to a mere paper tiger. Leading IOC ConocoPhillips signed PSC, carried out seismic surveys, and got some indications of lead and prospects, yet they left Bangladesh failing to reach a meeting of minds with Petrobangla about revising gas prices. Likewise, Posco-Daewoo also left Bangladesh failing to arrange funds for making risky investments. Only Indian Company ONGC is working in two shallow offshore blocks. Over this period, IOCs



could not be attracted despite revising the model PSC a few times. According to some experts, the absence of appropriate fiscal and financial incentives similar to those provided in PSCs of India and Myanmar as well as inappropriate gas pricing formulas were the reasons for leading IOCs staying away from Bangladesh offshore. Bangladesh's model PSC was not considered a win-win similar to other countries in the region. The other reason, according to experts, is the ultraconservative attitude of Petrobangla keeping data and information wrapped up for reasons best known to them. This, according to many, is the main reason for failure in the initiative for developing the database of information through multi-client surveys initiated 8 years from now.

Bangladesh possesses 26 offshore blocks – 15 are in shallow waters and 11 are deepwater blocks. Indian company ONGC is now working in two shallow blocks. Exploration initiatives in other blocks got put paid for the outbreak of the COVID pandemic at a time when Petrobangla was well set for launching it. Schlumberger contracted for carrying out multi-client surveys but could not start their work. Consequently, Petrobangla is getting ready for another round of PSC bidding without an extensive database of information.

After prolonged delays, Petrobangla engaged Wood Mackenzie as a consultant for reviewing and updating offshore Model PSC 2019. They have submitted their report with specific recommendations. Incorporating their views and opinion, Petrobangla is updating the Model PSC 2019 for approval of the Energy and Mineral Resource Division (EMRD).

Petrobangla sources informed the EP that Wood Mackenzie while preparing their recommendations took into consideration the provisions of PSC of countries similar to the geology and geography of Bangladesh. Let us have a view of what the consultant suggested about cost recovery, the share of profit gas, tax, and other payments, and gas pricing. We may look at the provisions above in model PSC 2019 that provided different fiscal measures and gas pricing for gas from shallow and deepwater blocks. Wood Mackenzie proposed including the same provisions for both. The consultant argues that in a country like Bangladesh the IOCs will tend to invest in shallow blocks first and depending on success would look at deepwater.

Recommendations in model PSC 2019 about gas price linked with HSFO Singapore price, for shallow block, was US\$5.5/MSCF with provisions for floor and ceiling prices. There was no provision for escalation. For deepwater

blocks, it was US\$7.2/MCF. There was a provision for a 1.5% annual escalation. Following this, the price after 6-7 years of PSC operation would have escalated to US\$ 8.00/MSF, after 16 years to US\$9.00/MCF and after 20 years to US\$20.00/MCF. It was much lower than that of Myanmar and India. This necessitated revision of Model PSC 2019. Wood Mackenzie in their recommendation suggested no discrimination between shallow and deepwater blocks. Without prescribing any particular price the consultant observed that PSC bidding may not achieve a reasonable response if the price is capped below US\$10.00/MCF. In line with their recommendation, Petrobangla is considering linking the price to Brent Crude. Bangladesh is now importing LNG under longer-term contracts following indexation with Brent Crude. It may be mentioned here that Bangladesh is buying LNG from Qatar at Brent Crude (12.65% + Freight 0.5%)/MMBTU and from Oman at Brent Crude (11.90% + Freight .4%)/MMBTU. LNG suppliers are now proposing new rates for LNG supply under longer terms. For contracts to be effective in 2025-2026 they are offering a price of Brent Crude (13-14% + freight)/MMBTU. For any contracts to be immediately effective they are proposing indexation as high as 21-23%.

Taking all the above into consideration, Petrobangla has finalized the proposed pricing indexed with Brent Crude. A Petrobangla official on condition of anonymity informed the EP that it may take up to 2029-2030 for getting any gas from any offshore PSC to be concluded soon. In his opinion, the price of Brent Crude will stay between US\$80-85/bbl. Considering that 11-12% indexation of Brent Crude is being considered in formulating gas prices. Prof. Dr. M. Tamim, Dean of Engineering Faculty, BUET observed that linking price with Brent crude with floor and ceiling price provision will entail significant risk. He rather suggested considering the Japan S Curve price link. Former Professor of



BUET Dr. Ijaz thought that Bangladesh attracts investment by staying away from the global process. For the sake of investment, crude oil linkage sounds all right. But decisions must be taken after deep consideration and review. Bangladesh's economy may run into trouble if the gas price goes above US\$15/MMBTU.

Dr. Anwar Hossain Bhuiyan of Dhaka University also thought indexing gas prices with crude oil would be all right. Dr. Ahsan H. Mansur, Executive Director, Policy Research Institute Bangladesh, questioned whether there is any feasible alternative to fixing gas prices without indexation with crude following other countries. But he sounded skeptical about getting an encouraging response from IOCs even after these. According to him, IOCs appear not much interested in making a risky investment in oil and gas exploration in the changing paradigm of the global energy scenario. Dr. Badrul Imam, a former Professor at Dhaka University, said that there is no alternative to engaging IOCs in petroleum exploration. He found no harm to indexing gas prices to crude oil if that creates additional incentives.

As per MPSC 2019, Petrobangla was to pay corporate tax on behalf of IOCs but for shallow blocks, IOCs were required to pay it. Wood Mackenzie recommended that Petrobangla pay

corporate tax for shallow blocks as well. MPSC 2019 had provision of gas export from deep offshore blocks after the first right of refusal of Petrobangla. Wood Mackenzie suggested widening it for shallow blocks as well. Petrobangla is also considering incorporating this provision in the revised PSC.

MPSC 2019 provided for a maximum 55% per year cost recovery limit for shallow blocks and 70% per year for deepwater blocks. The consultant recommended providing a 70% per year or more cost recovery limit. Higher and quicker cost recovery may work as added incentives for IOCs.

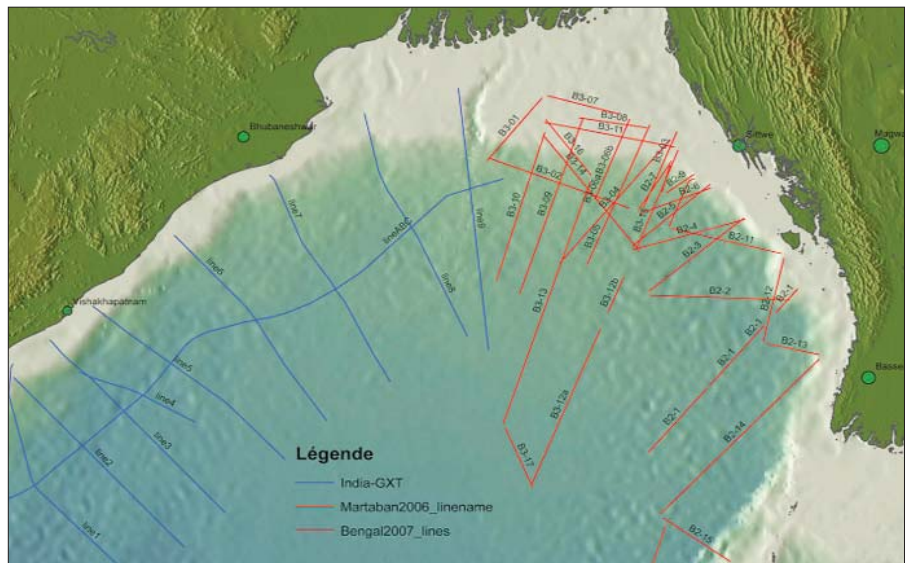
MPSC 2019 had provision of profit gas share after cost recovery. Up to 75 MMCFD, the Petrobangla-IOC share would be 50:50, up to 150 MMCFD 40:60, up to 250 MMCFD 65:35, and up to 350 MMCFD or more 70:30. Wood Mackenzie suggested revising profit gas share. For a minimum rate of production, the consultant suggested Petrobangla-IOC share 40:60. Petrobangla share should increase with the increase of production. Wood Mackenzie suggested keeping the profit share as a biddable provision. If any IOC proposes a higher profit split, the model PSC limit should get a higher marking in evaluation. They should be given preference in selection.

Wood Mackenzie thought that the

absence of a data package is a disadvantage for Bangladesh. They suggested releasing all data now available with Petrobangla or at the time of PSC bidding after the required review. This will act as an added incentive for IOCs for considering risk investments in Bangladesh offshore. Dr. M Tamim thought that by releasing the data, we may not bring many positive dividends. Rather waiting for data to be acquired through multi-client surveys would put Bangladesh in better stead during negotiations with IOCs. Dr. Badrul Imam thought that there is no time to wait. He suggested preparing a comprehensive database of information on what we have vetting these with an accredited company. IOCs will have at least some data for preparing proposals. Dr. Anowar Hossain Bhuiyan echoed the same that Dr. Badrul Imam said.

All other mandatory provisions of MPSC 2019 will remain unchanged. No green signal has been achieved from policymakers regarding gas price linkage with crude oil. Experts expect that policymakers will take a positive decision considering the prevailing and emerging scenario. Offshore exploration is now a priority of the government. Linking gas price with crude oil will increase the price of gas to some extent but when you consider the profit gas split this will come down considerably. In the case of a large discovery, the price will be much lower.

Reputed oil companies of the world have started showing interest in updating the next PSC bidding round. A team of Exxon-Mobil showed keen investment interest during a recent visit to Bangladesh. ConocoPhillips, BP, and ENI have also contacted Petrobangla, showing their interest. They have requested for making data accessible to all. They also requested providing a provision for at least a 15% rate of return on investment in the updated PSC. Otherwise, the IOCs will not be interested in risky investments in Bangladesh offshore. Murtaza Ahmed



Faruque, former Managing Director of BAPEX, said a difference should be there between shallow and deep offshore blocks. Moreover, a limit should be made for a particular bidder to bid for a maximum number of blocks.

Officials of Petrobangla and EMRD think it is possible to finalize the MPSC 2022 by the end of 2022. There is no objection to releasing data for intending bidders. All efforts are being directed towards launching PSC bidding by January 2023. A period of 180 days will be given for the preparation and submission of the bids. There is a thought and perception that if the MPSC is updated taking into consideration Wood Mackenzie's recommendation, there will be reasonably good responses.

The EP has noticed some sort of dilemma among the policymakers over linking gas prices with crude oil. Some think that this may create risks for Bangladesh. But most experts view it differently. It is high time for encouraging and engaging IOCs for offshore exploration. Bangladesh cannot remain isolated from global development. A too conservative model PSC will not attract any response at this moment. Experts suggested updating PSC in line with Wood Mackenzie's recommendations.

Bangladesh is now passing through the worst ever phase of the gas crisis in 51 years. The total available supply now is around 2800 MMCFD including 500 MMCFD imported LNG. Petrobangla itself states about 1200 MMCFD deficit. According to unofficial estimates, the deficit is 1700 MMCFD. State Minister for Energy Nasrul Hamid MP is perplexed about whether it will be possible to supply gas to industries in the future. In his opinion, the gas crisis will deepen with time. The BAPEX-alone policy in onshore exploration continues through various initiatives in enhancing gas supply from onshore prospects. Thoughts are there to utilize Chevron Bangladesh. Prime Minister's Energy Affairs Adviser Dr. Tawfiq E Elahi Chowdhury, BB, requested Chevron to invest in Bangladesh offshore during a program commemorating the 25th year of operation of Chevron in Bangladesh. He told Chevron to submit their conditions for consideration of EMRD. His request demonstrated the government's interest in expediting offshore exploration. Experts have a firm belief that an investment-friendly model PSC will definitely encourage major PSCs to invest in Bangladesh offshore. This must attain top priority national attention now.

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Dreams Remain Buried Under Deepwater

Saleque Sufi

Bangladesh, like the rest of the world, is struggling from the topsy-turvy global fuel market situation triggered by the COVID-19 pandemic and the Ukraine war. The circumstances of Bangladesh are a bit different. For many different reasons, it failed to expertly explore and exploit huge potential hydrocarbon resources believed to be buried below the bed of the blue waters of the Bay of Bengal. Neither could it exploit its potential resources in onshore frontier areas. The mission for importing fuel from the global market is constrained by the absence of a deep sea port and shallow coastal region. Volatile global fuel market and supply chain disruptions for regional and global geopolitics have also put paid to Bangladesh's endeavors for confronting the challenges emanating from the huge deficit of natural gas and fuel. Virtually nothing has been done to aggressively exploit the offshore potential. The present global situation may not encourage leading IOCs to commit fortunes to offshore exploration. But Bangladesh has no option but to go for a fresh round of PSC bidding by the end of 2022. The contractor engaged in carrying out multi-client surveys may also start working soon.

Relevant experts for a long time have been talking about the bright prospects of discovering significant petroleum resources in the deep and shallow water of the Bay of Bengal. But that possible or probable resource could not be harvested in the right earnest and remains buried for decades. Some large and small-to-medium gas fields were discovered from

the late 1960s to 2000 in the onshore areas and most of these were developed subsequently. Shangu is the only offshore gas field that was developed. That field got depleted after exploiting that reserve for a few years. For various reasons, offshore exploration did not get the required momentum through a major impediment- the maritime boundary disputes with Myanmar and India - got resolved a few years back. Shangu gas field was discovered by Cairn PLC and later developed and operated by Santos Australia. ConocoPhillips USA worked on some blocks for a few years and after conducting seismic surveys went back relinquishing their blocks. The same

thing happened with Posco-Daewoo. Though lack of data and information on deep water is sometimes quoted as the main reason for the lukewarm response of IOCs in Bangladesh offshore, the main reason remains unknown.

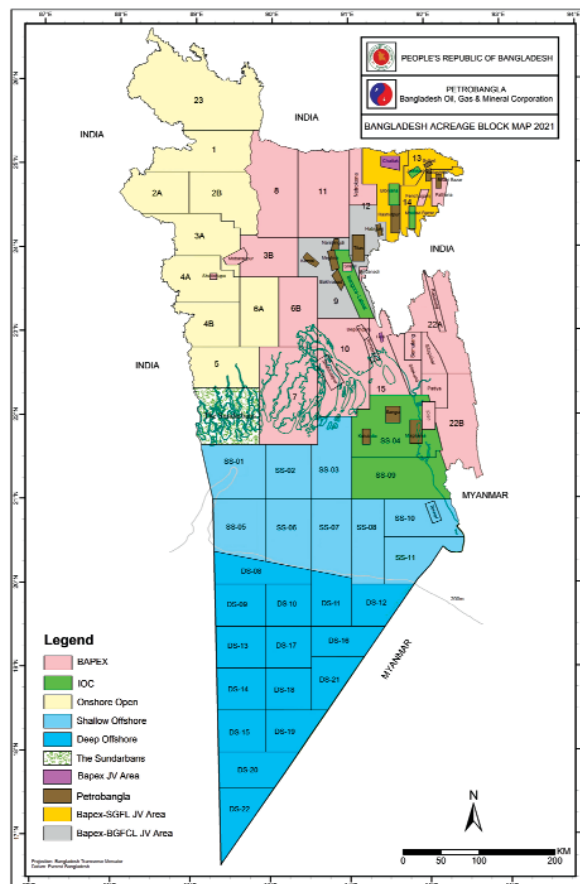
Following the oil shock triggered by the outbreak of the Arab-Israel war in 1974, the Bangabandhu government could launch exploration for petroleum in the Bay of Bengal as the first country in the region. The model PSC was developed, and approved, a bidding round was announced, and 6 IOCs were engaged for the exploration in 8 offshore blocks. All these were accomplished in the shortest possible time. Following the unfortunate killing of Bangabandhu, all

IOCs left the country one by one relinquishing their assigned blocks. The Kutubdia gas field was discovered by Union Oil Company.

Significant information and data on offshore resources were gathered from seismic surveys. Data from works of Cairn-Santos, ConocoPhillips, and Daewoo-Posco, we believe, can be packaged with the PSC bidding document. Some policymakers having no hands-on experience working as professionals in the energy sector are talking negatively about Bangladesh's gas prospects. We hope none will talk about matters about which he/she has no clues. Petroleum resources need exploring, testing, and assessing. Before doing all these in professional manners by experts none should indulge in uninformed academic debates.

Chronological Development of Offshore Exploration

Apart from the discovery of the Kutubdia gas field by Union Oil



Company in the 1970s, the Shangu offshore gas field was discovered by Cairn Energy PLC (Later assigned to Santos, Australia) in 1996. Starting production in 1998 the field got watered out on 1 October 2013. About 500 BCF gas has been produced from the field. Santos drilled 2 more wells at South East Shangu and South Shangu. It also drilled well at Magnama. But these works could not conclude in a commercial discovery.

PSC was signed with Total E&P Bangladesh on 18 January 1997 for explorations at block 17 (now block 10). It carried out 2065 line-kilometer 2D seismic surveys from 1997–99. Later in 2009, it also carried out 283 square Kilometer 3D surveys in Teknaf prospect. Total left Bangladesh finding no encouraging indications for further exploration.

Through another PSC bidding round in 2008, ConocoPhillips was awarded PSC for two deepwater blocks DES-10 and DS-11 on 16 June 2011. IOC carried out 5860 line-Kilometer 2D seismic surveys. Talks were there of identifying some potential structures. But ConocoPhillips left Bangladesh relinquishing the blocks after their parleys for changing some conditions of PSC and gas price review.

Two PSCs were signed with ONGC Videsh Limited (OVL Limited), Oil India Limited, and BAPEX for two blocks SS4 and SS9 on 17 February 2014 following the successful resolution of the maritime boundary dispute with Myanmar. The operators carried out 5081 line-kilometer 2D seismic surveys and upon an interpretation of data selected 2 drilling locations at SS4 and SS09. From September 2021, they started drilling at Kanchon 1. The work was completed in March 2022. But the exploration did not yield any positive dividend even after drilling up to 4228 meters in depth as per the plan. Exploratory wells will be drilled at Titli 1 at SS04 and Moitri 01 at SS09 by February 2023.

Through the same bidding round, another PSC was concluded with Santos Shangu Field Limited, Australia for SS11. Santos carried out 3146 Line-Kilometer 2D and 305 square kilometer 3D

Comparative Salient Features of the Model PSCs (Revised Model PSC 2012 and Proposed Model PSC 2019)

CONTRACT FEATURES	Revised MODEL PSC 2012	Proposed MODEL PSC 2019
Contract Term Exploration Period	4+3 = 7 years for onshore Blocks 5+3 = 8 years for Shallow and Deep Sea Blocks	4+3 = 7 years for onshore Blocks 5+3 = 8 years for Shallow and Deep Sea Blocks
Mandatory Work Program	Seismic + Drilling (Onshore and Shallow Sea Blocks) Seismic Only (Deep Sea Blocks)	Seismic + Drilling (For Onshore Only) Seismic Only (Both for Shallow and Deep Sea Blocks)
Biddable work Program	Shallow Water: Geology, Seismic, Drilling, Other Surveys Deep Water: Geology, Seismic, Drilling, other Surveys	Shallow Water: Geology, Seismic, Drilling, Other Surveys. Deep Water: Geology, Seismic, Drilling, other Surveys.
Cost Recovery	55% for Oil /Gas /NGL /Condensate produced from Onshore and Shallow Sea Blocks per calendar year 70% for Oil /Gas /NGL /Condensate produced from Deep Sea Blocks per calendar year.	55% for Oil /Gas /NGL /Condensate produced from Onshore and Shallow Sea Blocks per calendar year. 70% for Oil /Gas /NGL /Condensate produced from Deep Sea Blocks per calendar year.
Profit Split (Govt. Share)	Shallow Sea Blocks Oil/Condensate/NGL: Biddable from 55% to 80% on tranches from 12,500 to 100,000 bbl/day or above. Gas: Biddable from 55% to 80% on tranches from 75 to 600 mmscf/day or above. Deep Sea Blocks Oil/Condensate/NGL: Biddable from 50% to 75% on tranches from 5,000 to 100,000 bbl/day or above. Gas: Biddable from 50% to 75% on tranches from 75 to 600 mmscf/day or above.	Shallow Sea Blocks Oil/Condensate/NGL: Biddable from 55% to 80% on tranches from 12,500 to 100,000 bbl/day or above. Gas: Biddable from 55% to 80% on tranches from 75 to 600 mmscf/day or above. Deep Sea Blocks Oil/Condensate/NGL: Biddable from 50% to 75% on tranches from 5,000 to 100,000 bbl/day or above. Gas: Biddable from 50% to 75% on tranches from 75 to 600 mmscf/day or above.
Carried Interest	10% carried interest for Govt. for Onshore & Shallow Sea Blocks only.	10% carried interest for Onshore and Govt. for Shallow Sea Blocks only.
Import duty on Equipment	No duty	No duty
Corporate Tax	Tax imposed for Onshore and Shallow Sea Blocks. No Tax imposed for Deep Sea Blocks.	Tax imposed for Onshore and Shallow Sea Blocks. No Tax imposed for Deep Sea Blocks.

surveys. Upon interpretation, some potential structures were identified through interpretations. But for the decision to withdraw from operations in Asia, Santos quits Bangladesh, relinquishing the block.

Two rounds of PSC bidding were conducted following the resolution of the maritime boundary dispute with India. The first round did not achieve any response. Through the subsequent bidding round, PSC could be concluded

with Posco-Daewoo for exploration in deep water block DS12. IOCs carried out 3580 line-kilometer 2D seismic surveys. They completed their mandatory requirements but they left Bangladesh failing to reach a meeting of minds with Petrobangla for reviewing some fiscal incentives.

Petrobangla Initiatives for Offshore Exploration

Petrobangla after persistent efforts for 4 years could sign an agreement with TGS

Schlumberger JV to carry out non-inclusive multi-client surveys over 32,000 Kilometers in 22 offshore blocks of the Bay of Bengal on 21 March 2020. TGS Schlumberger has obtained Environment Clearance Certificate (ECC) as a stepping stone of their works but has not started survey works as yet. They informed Petrobangla that they could not start work as they have not received any pre-funding commitment from any international oil company. They also informed that greater interests can be attracted from IOCs if incentives of Model PSC can be increased. That will also pave the way for them in getting pre-funding commitments. However, they are continuing their parleys with IOCs for pre-funding and they expect to commence works in the ensuing dry season.

Model PSC 2012 was updated and replaced with offshore Model PSC 2019 adjusting and widening fiscal and financial incentives making it more investor friendly. Government approval was accorded. Time bound action program necessitated for inviting bidding round by September 2019 in print media and website. But the outbreak of COVID pandemic put paid to it.

Since 2010, three PSCs were signed for 3 deepwater blocks and two PSCs for 3 shallow water blocks. 17,767 line-kilometer 2D and 305 square kilometer 3D surveys have been carried out under the provisions of these PSCs. Two exploration wells in 2012 - one in 2015 and another in 2017 - were drilled. But these, however, did not lead to any commercial discoveries. Exploration onshore is continuing at its own pace. Commencement of exploration activities both at shallow and deep water will create fresh dynamism for a positive outcome.

Observations

Gas price fixing is a major disincentive for IOCs in Bangladesh offshore exploration. In the past, ConocoPhillips and Posco-Daewoo reportedly left Bangladesh failing to come to terms

Salient Features of Wood Mackenzie Recommendations

Variables	Brief Recommendations
Gas Price	<ul style="list-style-type: none"> Replace HSFO 180 CST with a more reliable international marker (Brent Dubai /medium sour crude, LNG Import etc.) or remove gas pricing mechanism altogether. Eliminate ceiling and floor price
Cost Recovery Ceiling	<ul style="list-style-type: none"> Set 80% for both shallow and deep water
Profit Sharing	<ul style="list-style-type: none"> Government share minimum 30-40 percent for both deep and shallow water Set Upper bound biddable
Other Fiscal factors	<ul style="list-style-type: none"> Remove corporate income tax pipeline fees for shallow and deep water.
Non Fiscal Factors	<ul style="list-style-type: none"> Limited data access Create data base Make available data accessibility

with Petrobangla over price revision in 2016, Monash University, RMIT administered a capacity enhancement program of Petrobangla officials at Adelaide in Australia, an exercise with a standard pricing model gas price was computed as US\$8.00/MMBTU for an imaginary discovery of a 2 TCF gas reserve 200 KM off Bangladesh coastal line. Now in 2022 even if we use that model gas price will not be less than US\$12.00/MMBTU. Other fiscal and non-fiscal adjustments that Wood Mackenzie proposed appeared acceptable.

Every IOC plans risk investments for making profits after recovering investments. They follow a financial model. None can prepare a win-win bid for a PSC lasting for 20 years while a model PSC contains ceiling and floor prices. We completely agree with Wood Mackenzie's recommendation for doing away with the gas pricing mechanism. It should be linked with alternate fuel prices (crude or LNG) and may be openly biddable. All available data must be immediately made accessible to all intending bidders. We do not understand what Petrobangla and EMRD gain from keeping these wrapped up. We believe that the data Bangladesh possess is good enough for attracting IOCs at least for preparing bidding document. It is like looking for a bridegroom hiding the site of the bride.

Conclusion

Through the resolution of the maritime boundary dispute with Myanmar, Bangladesh lost some potential gas blocks adjacent to Cox's Bazar where Myanmar made few discoveries. The chances of finding gas in adjacent blocks are bright. Woodside Petroleum Australia voluntarily proposed to invest in 5 blocks which government should have considered. Hope IOCs will be encouraged in bidding if fiscal and other incentives of the revised model PSC facilitate win-win prospects for risk investments. The IOC community is worried about prolonged delays in decision-making. Time is the essence of such ventures. Delays change the situation.

Bangladesh has made extraordinary delays in the exploration of petroleum in onshore frontier areas and offshore. Less than minimum exploration work is one of the main reasons for the present huge gas deficit. Offshore exploration could be started at least 4-5 years earlier if Petrobangla and EMRD could be more proactive. Relevant experts were pressing for it but they were not heeded. What has been done with the multi-client survey was a scam. There was no reason for waiting for it. Bangladesh already has enough data to start. No entertaining proposal of Woodside Petroleum for 5 offshore blocks was a huge mistake. ConocoPhillips and Posco-Daewoo proposals could be given more thought. Some persons at the decision-making level have wrong perceptions about Bangladesh's gas resources.

Bangladesh in near future may find it extremely challenging in accessing primary energy from the volatile global fuel market. Offshore exploration may take at least 7-8 years to bear fruits. But for that happening, we have no scope to keep our fingers crossed. Dream of Bangladesh cannot remain buried under the blue water of the Bay of Bengal for an indefinite period.

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Saleque Sufi,
Contributing Editor, EP



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Economic Zone

A Strategy for Sustainable Development

AKM Monowar Hossain Akhand

Economic Zone (EZ) plays an important role in the quest for economic growth with a view to national development, having primary objectives to attract Foreign Direct Investment (FDI) and local investment. It gears up the production of daily needed commodities to meet the market consumption (domestic, global), generate employment opportunities and share the policy reform activities. The EZs have already achieved success stories in the different global countries with multiple lessons: (i) how to attract companies that create jobs; (ii) how to ensure positive externalities; (iii) catalyzing economic reforms; (iv) upgrading structural transformation; and (v) ensuring sustainability from institutional, social, energy and environmental perspectives.

The Bangladesh EZ Act-2010 has led to the creation of semi-autonomous agency, the Bangladesh Economic

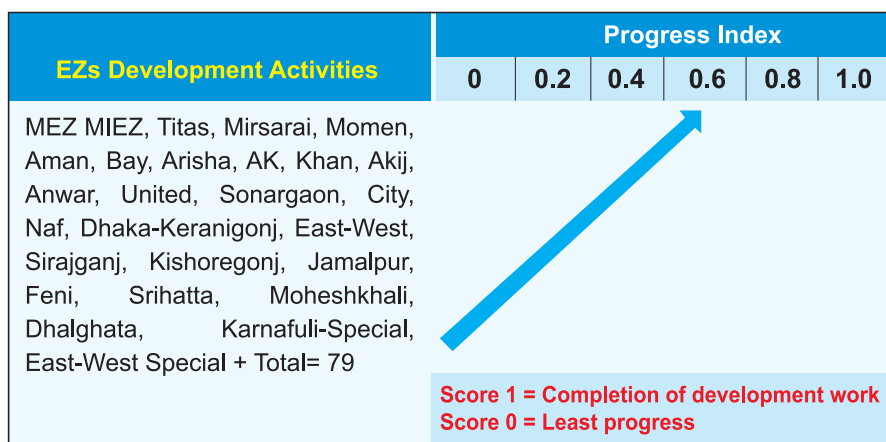
Zones Authority (BEZA), tasked with overseeing the establishment of 100 EZs by 2030, for creating 10 million job opportunities and generating additional US\$40 billion of export earnings, with the aim to transform Bangladesh into a middle-income country and free from economic disparities. Earlier, similar to BEZA, Bangladesh Export Processing Zones Authority (BEPZA) was established, aimed at spurring trade and industrialization by creating employment and attracting foreign investment. But the government is now moving away from the EPZ model to EZ due to its weaker domestic linkage, instead to bring more private participation in the country. BEZA is different in terms of ownership structure. At present, it has already got approval to establish 97 EZs countrywide, of which 68 are government-owned, and 29 privately owned.

EZ can be a useful model in tackling regional disparities and promoting regional development. Bangladesh has taken several steps towards bridging regional disparities and its own economic development. A number of EZs have already been established and inaugurated, and in operational activities. Among them, 6 government (BSMSN, Srihatta, Jamalpur, Feni, Dhaka-Keranigonj, Moheshkhali-Dhalghata), 11 private (Sirajganj, Monem, Aman, Bay, City, MEZ, MIEZ, Cumilla, Karnafuli-Special, East-West-Special, Kishoreganj), 5 G2G (Chinese, Japanese-Araihazar, Indian-Mirsarai, Indian-Mongla, Indian-Kushtia), 2 PPP (Mongla, Mirsarai-II), and 3 Special Tourism Parks (Sonadia, Naf-Jaliardwip, Sabrang). These EZs are expected to mobilize investments from both domestic and foreign sources.

EZ is an appealing one for regional development to confront a trade-off with balanced spatial distribution of economic activities and industrial production. The “new economic geography” thought by Nobel-Winner Paul Krugman is a clustering-force to generate balancing between the economic disparities. The present perception is that the socio-economic conditions in northern districts of Bangladesh are lagging behind from southern parts, as “north-south” (or, “east-west”) divided by some social and economic characteristics.

The economic growth is stimulated by productivity increases, which are driven by industrialization, and exhibit

Overall Progress Index of EZ



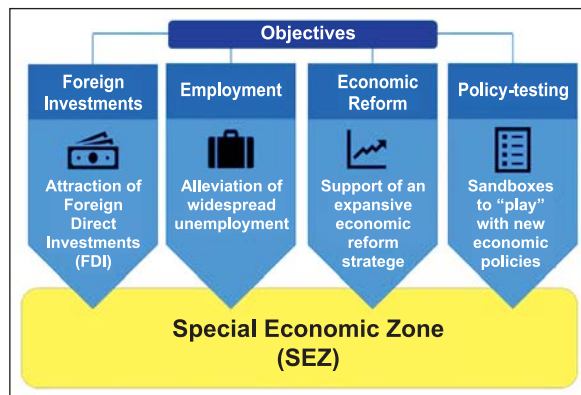
Source: Razzaque-2018

higher income opportunities. Bangladesh is a good example, where EZs are the main source of industrialization and urbanization, concentrating growth-centers for making regional balance, national security and political gains. Bangladesh has started an ambitious journey for industrial development and economic growth and has already earned remarkable progress in EZ activities. The development of EZs in Bangladesh is a priority project.

Bangladesh EZs - Development Activities

The increased agricultural productivity in the 1990s prompted millions of agricultural workers to move into manufacturing and services sectors in the urban cities, but a shortage of land for greenfield investments challenged this transformation. The government looked to economic zones for its industrial growth and to create more employment. Safety issues also became a high policy priority after a series of factory disasters including fire and building collapses in 2010-2012 that killed and injured thousands of workers. The shortages and tragedies both generated an urgent need for stronger mechanisms to promote socially and environmentally responsible industrial growth in Bangladesh and expedite the establishment of EZs.

There are some partner organizations



that came forward to assist in EZ development. The World Bank financed "Private Sector Development Support Project (PSDSP 2011-2021)" facilitated about US\$ 3.9 billion (received credits US\$ 170 million from IDA) to direct private investment and creation of 41,000 employments. It supported the regulatory reform process, helped the establishment of BEZA with the approach of industrial capacity building and infrastructure development including the issuance of license, development of 1,500 acres land, 14 km embankments, 26 km roads, 8 bridges, 3 electric sub-stations and 2 water-reservoirs.

The other partners, the UK-DFID/Foreign, Commonwealth and Development Office (FCDO) granted more than US\$20 million to finance development works and technical assistance, focusing on planning, investment promotion and skill development. DFID/FCDO also financed BICF-IFC to provide technical assistance to BEZA, BIDA, BEPZA,

BHTPA, BGMEA, and BKMEA. BEZA is working now aiming to establish economic zones in all potential, backward and underdeveloped or lagging behind regions.

Types of EZs: (a) public-private partnership, established jointly; (b) private-EZ, developed individually or jointly by local, NRB, or foreign investors; (c) government-EZ owned by GoB; (d) government-to-government (G2G) zone, established by foreign government countries in partnership with GoB; (e) specialized-EZ for certain kinds of special sectors/industries (e.g. tourism, agro); and (f) EZ in partnership with other GoB organizations (e.g. BEPZA).

BEZA is to provide elaborate incentive packages for companies located in EZs and to developers, ranging from income-tax exemptions to reductions in capital expenditure, no restrictions on the promotion of investment generated by FDI, duty-free imports of raw-materials, etc. The process of EZ development can be evaluated using the status on 4 key milestones: (i) land acquisition; (ii) preparation stages for feasibility study; (iii) infrastructural development; and (iv) investment in production units. The overall-work on delivering the EZ for industrial production is growing fast, but it seems that the development in the north-west and south-east region is slower.

Sectors of EZ: LPG, LNG, Power, LNG-Terminal and Petro-chemical plants, Chemicals, Textile, Garments, Shipbuilding, Steel-Rerolling, Light-Engineering, Pharmaceuticals, IT-Telecommunication, Jute, Leather, Agro-Fish processing, etc.

EZ-Incentive Packages: There are various incentive options: one stop services on license, government approval, clearance, NOC, e.g. exemption on tax, import duty, SD-Vat, electricity, gas, work-permit and remittance facilities for foreigners, etc.



Bangladesh - Key Environment for Investment:

(i) Access of market by developed and neighboring countries; (ii) Policy support (liberal FDI policy, treaties, industry oriented); (iii) Young workforce (demographic dividend, talented, qualified); (iv) Macro-economic parameters (trend of GDP growth 6.3%, increase in per-capita, rising FDI/foreign trade, no ceiling); (v) Strategic location (between India-China, well-connected with S-SE Asia, access to waterways, turn to big Trade-Hub); and (vi) low-cost business (among developing and S-SE-Asian countries).

EZ: The Challenges

- The most government regulatory offices have overlapping conditions that make difficulties for investors (foreign, domestic) to navigate through a reluctant type bureaucratic and regulatory environment that turns to worsen regulatory barriers.
- Political interference in site-selection poses a threat to investment decisions.
- Climate change and natural disasters, along with poor safety standards (e.g. fire, social, traffic, road-infrastructure, political), treat as a threat to EZ, mainly to riverside zones.
- The inadequate infrastructure and shortage of accessible land, discourages green-field investment and industries.
- The BEZA, BHTP, BEPZA and BIDA have overlapping mandates, and need to perform similar/duplicate efforts in doing business.



The Way Forward

- The challenges need to be addressed, a number of key steps must be taken, that can be enacted through sound policies and efficient regulations.
- A Task Force to review the regulatory agencies (BEZA, BEPZA, BIDA, BHTPA, etc.) and to minimize the barriers/harassment by taking "prompt action-tool mechanism".
- The regulatory environment needs to reform, and to create synergies between the public departments (to operate by methodical-guidelines and to avoid any duplication or complexity).
- The incentive-package needs to standardize to create an attractive environment, furnishing with more benefits and would step forward, or expedite the EZ policy targets.
- It is most important to make a Standard Integrated Safety Preparedness Plan (linked with the

safety agencies, e.g. FSCD, Factory Establishment, Boilers, Explosives, Environment, etc.), to focus on fire, social, traffic, irregular road infrastructures, political and climate-natural hazards.

- The integrated plan needs to be tailored with national sustainable goals and vision-2041 to build better infrastructure, a well-connected efficient sea and land ports, facilitate advanced technology and skill-workforce.
- To fix-up the priority, we need to focus on the exports of products, to move for quality goods, the level of country image and trust to participate in the regional competitive markets. Also needs to minimize any complexity while importing raw-materials for industries in the EZs. The government develops necessary infrastructures, and provides quick services by OSS in response-to delaying or complicated processes by some government agencies.



MGI Economic Zone - A Success Story

Meghna Group of Industries-MGI, one of the country's leading industrial conglomerates, playing an important role in sharing the quest for economic growth, engaged in attracting FDI, generating employment, and economic reforms activities by investing of 50 industries, located in its own 3 Private Economic Zones to meet the consumers daily basic needs, almost

30% of total food consumption of the country. The industries are using advanced technologies with cogeneration schemes, energy efficient, clean and automated mechanisms that make the green-environment and produce efficient healthy products.

The Meghna Economic Zone-MEZ, a concern of MGI with 68 acres of land, is the first private economic zone of Bangladesh, situated on the bank of river Meghna in Sonargaon Upazila of Narayangonj district. MEZ has at present 12 industries with 18,000 employment, and US\$ 1.2 billion investment.

The Meghna Industrial Economic Zone-MIEZ (the 2nd EZ of MGI) with 123 acres of land, situated at Mograpara under Sonargaon Upazila of Narayangonj district. MIEZ has 22 domestic and 12 foreign industries, with 20,000 employment and US\$2.2 billion investment. The foreign investors in MIEZ are: Siegwark BD, CHT BD Pvt, MV Solution (Germany), Sun Pharmaceuticals (India), Jotun BD Ltd (Norway), Sika BD Ltd (Switzerland), Sakata Ltd, DIC BD Ltd (Japan), TIC Manufacturing, TIC Industry Pvt Ltd (Australia), Ismarta Technology BD Ltd (China).



The Cumilla Economic Zone-CUZ, the 3rd and newly set-up of MGI EZ with 246 acres of land, is situated beside Meghna river in the Meghna Upazila of Cumilla district. CUZ is under process for more domestic and foreign industrial investment, with 50,000 employment opportunities, and has already US\$550 million investment, with more US\$2.5 billion to be invested.

The MGI EZs are equipped with all necessary utility facilities, such as electricity from own captive power plant, natural gas from Titas and underground pipelines, set-up with WTP, WMT, CSTP, ETP facilities, necessary fire extinguishing facilities, abundant skilled workforce, dedicated security services and other competitive advantages, to ensure environmental compliances. The CEZ

is designed by Som Bury Khalifa, the world renowned architect company, for a model of EZ in the world, where reserved for natural water-bodies, fixed for separate green-zone with adequate open-space, park, roadside green and solar plants to contribute the net-zero carbon economy environment. MGI is now a part of the most growing private sector in the country, shared with the

various socio-economic development activities, in terms of reducing unemployment, saving valuable foreign currency, reducing import dependencies and earning foreign currencies through exporting of its quality products to more than 25 countries.

Recommendations

- It is important that the provision of serviced industrial land infrastructure and reliable supply of power and energy sources have a significant impact on the success of EZ. Therefore, to make an attractive investment in the EZs, an appropriate, adequate, and well-functioning infrastructure with the availability of basic facilities (e.g. power, energy, water, transport, telecommunication). EZs should be well-connected to major urban-centers and ports, cost-effective transportation, linked with national and regional economic corridors (e.g. highways, rails, water, and air-linkage).
- A development strategy to address regional, socio-economic variations (e.g. north vs. south, east vs. west, or any lagging-parts), to get attractive incentives, opportunities and to develop appropriate, adequate and well-functioning infrastructures (including energy and power), industries with well-connectivity for a balanced-economy and to avoid a poor choice of location.



- Coordination is needed to ensure the efficient delivery of incentive packages and support systems declared by BEZA and BSCIC, e.g. cash assistance for export, supporting product development and standards, and exporting promotional measures abroad.
- The one-stop service (OSS) system should be developed in dynamic means, to align the incentives and practices across the coordinating agencies promptly and efficiently.
- To ensure a fair access of entrepreneurs/investors to EZs including small and medium-sized industries, the ambitious projects by a less-financed, or a less-sound business investor must be avoided.
- A need for “quality data” on a regular basis to analyze the overall EZ development activities for better policy options.

Conclusions

Bangladesh has undertaken an ambitious and challenging vision of setting up 100 Economic Zones (already have success stories), despite a mixed success in the other developing countries. The EZ-based industrialization strategy can thus accelerate our economic growth, employment generation and poverty reduction. The EZ is a policy tool for developing the lagging behind regions, incorporated with the national development plans. A proactive policy option will mean attracting these dynamic investments.

The options for understanding challenges to achieve the EZ strategy, there is a need for making simplification of policy guidelines and OSS facilities effectively. The valuable cross-country experiences and best practices are to be carefully reviewed and followed lessons and appropriate policy measures may be

taken into consideration in Bangladesh.

The EZ works as a “stepping stone” for economic growth and prosperity, a “corner stone” for the sustainable development goals and boosting the employment opportunity in Bangladesh. A courageous, strategic and innovative blueprint is required to achieve the vision and plans. A sound and efficient regulatory framework (without administrative barriers) can help make a healthy-investment environment in EZ development activities. BEZA can develop a “quality data bank” for reviewing EZ projects, and take better steps for further scope in the country.

(Sources: BEZA Report-2022, World Bank-2021, Razzaque-2018, Ahsan-Lightcastle-2019)

EP

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মোফাজ্জল হোসেন জয় ০১৭১২ ৬৭৭৬০৯
E-mail: rangberang2020@gmail.com

রঙ বেরঙ

বিজ্ঞাপন হার	টাকা
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ভেতরে পুরো পাতা (রঙিন)	৩০,০০০.০০
ভেতরে অর্ধেক পাতা (রঙিন)	২০,০০০.০০
ভেতরে ১ কলাম (রঙিন)	১০,০০০.০০
ওয়েব সাইট প্যানেল প্রতিমাসে	২০,০০০.০০
ওয়েব সাইট স্পট প্রতিমাসে	১০,০০০.০০

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Mir Moinul Huq's Second Death Anniversary Observed

Mortuza Ahmad Faruque

Mir Moinul Huq was an eminent geoscientist and an icon of unshakable integrity. He was thoroughly a professional and dedicated to his work. The legendary scientist of Bangladesh is an inspiration to generations to come. He passed away on 26 August 2020.

A global virtual condolence meeting was organized on 28 August 2022 to observe his 2nd death anniversary. The session was arranged through zoom and participated by around 40 geoscientists including former colleagues and family members. The participants joined the meeting virtually from the USA, Canada, Peru, UK, UAE, Brunei, and Bangladesh. The Session Chair was Naz Hossain, who joined from Houston. The meeting was anchored by Md. Jasim Uddin and the Chief Coordinator was Nazim Ahmed from Calgary.

Mr. Mortuza Ahmad Faruque, former MD of BAPEX, made a presentation on the last two years' activities carried out by this informal global platform of geoscientists. He informed the meeting that after the death of Mir Moinul Huq, the forum conducted a global virtual condolence meeting on 5th September 2020, followed by publishing a printed memoir titled "Memories of Mir Moinul Huq Masud: Remembering the Legend" in December 2020 which highlighted his achievements. Observed 1st death anniversary on 28 August 2021 when more than a hundred

geoscientists, engineers, colleagues, friends and family members took part.

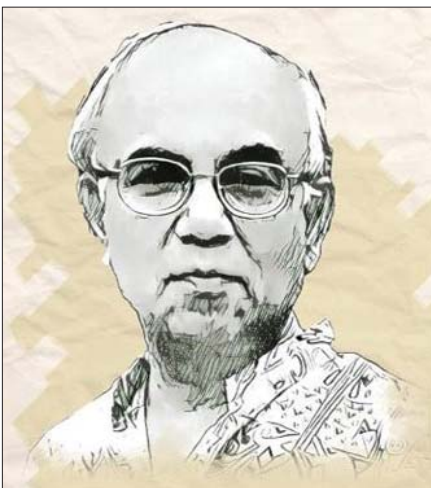
This Lecture Series is carried out every month in honor of Mir Moinul Huq. This forum arranged 16 memorial technical sessions so far, including twelve sessions on hydrocarbon exploration. Apart from these, it organized four sessions on groundwater depletion and contamination, prospects of atomic-rich minerals, arsenic contamination & mitigation, and analysis of the published book "Quaternary Geology of Bangladesh" by the author.

In honor and remembrance of Mir Moinul Huq, "Our Pride: Mir Moinul Huq", a digital publication has been prepared and sent to the group members which is a compilation of published reports. This forum of global geoscientists decided to have technical sessions preferably every month to

keep his memory alive and started in November 2020. Through this lecture series, geoscientists are sharing their knowledge and awareness among them mostly in the field of exploration geology. The geoscientists joined the memorial sessions from the USA, Canada, UK, Norway, Peru, Malta, Brunei, UAE, Australia and Bangladesh.

Different topics were presented and discussed by the keynote speakers so far in the Mir Moinul Huq Memorial Technical Lecture Series which are as follows:

- "Bangladesh Beyond Conventional Exploration Targets" by Prof. Dr. Badrul Imam, Prof of Geology, Dhaka University, held on 28 November 2020.
- "Extent of Ground Water Depletion and Contaminations in Bangladesh" by Dr. Kazi Matin Ahmad, Professor, Department of Geology, Dhaka University, held on 9 January 2021.
- "Identification of Stratigraphic Trap to Increase Gas Reserves and Production" by Dr. Mahbub Alam, Staff Geologist, Bears paw Petroleum, Calgary, held on 23 January 2021.
- "Bangladesh's Geological Setup Rich in Atomic Minerals" by Dr. Eunuse Akon, Ex-Chief Geologist & Director, Bangladesh Atomic Energy Commission, held on 27 February 2021.



- “Tectonics of Bengal Basin with a Portrayal to Earthquake Zones” by Mir Fazlul Karim, Director, Geological Survey of Bangladesh held on 27 March 2021.

- “Hydrocarbon Exploration in Stratigraphic Traps” by Newaz Khalis Ahmad, an Independent Hydrocarbon Consultant, Calgary, Canada, held on 22 May 2021. Mr. Abul Kalam Azad, former Principal Secretary and Special Envoy of Climate Vulnerable Forum was present in the session as Special Guest and expressed appreciation in his remarks for creating such a unique forum of geoscientists worldwide and arranging the lecture series in the re-membrance of Mir Moinul Huq. He pointed out that the government agencies responsible for gas exploration may be in touch with the experts at national and international level for facilitating gas exploration in the country.

- “Petroleum Exploration & Promotion Through PSC”, Farid Uddin, Consultant of BAPEX, Former VP, UMIC, held on 26 June 2021. Mr. Muqtadir Ali, Ex-Chairman of Petrobangla and BPC was present in the session as the Guest of Honor.

- “Hydrocarbon Prospect at Eastern Fold Belt of Bengal Basin” by Dr. Arif Mohiuddin Sikder, Ph.D., Associate Professor, Center for Environmental Studies, Virginia Commonwealth

University, USA, held on 31 July 2021. Mr. Anisur Rahman, Sr. Secretary, Energy and Mineral Resources Division, Ministry of Power Energy and Mineral Resources was present in this session as the Guest of Honor. He expressed his deep appreciation for arranging this kind of regular technical session for geoscientists in the remembrance of Mir Moinul Huq. He appreciated the organizer and geoscientists community at home and abroad for remembering him with due respect and honor.

- “Clastic Sequence Stratigraphy: Standard Methodology & Application of Seismic & Sequence



Stratigraphy” by Dr. Abu Yousuf, Ex-Staff Geologist, ConocoPhillips & Husky Energy and “Application of Seismic & Sequence Stratigraphy” by Mr. Abid Lodhi, Consultant, Petroleum Geologist which was held on 25 September 2021. This session is also remembered with great honor to Dr. Habibur Rahman 1st Chairman of Petrobangla who was a great freedom fighter and a very respectable geoscientist.

- “New Exploration Targets in Bengal Basin” by Dr. Md. Aminul Islam, Associate Professor & Head of Dept. of Geosciences, University of Brunei Darussalam, held on 30 October 2021.

- “Stratigraphic Research in the Bengal Basin” by Dr. Jürgen K. Lietz, a Geoscientist from the Federal Ministry for Economic Cooperation and Development of Germany, held on 27 November 2021.

This session was also remembered with due respect to Professor Dr. M.A. Latif who was 1st Chairman of the Geology Department, Dhaka University. He was a very dignified person and an honorable teacher.

- An analysis and discussion on the book titled “Quaternary Geology of Bangladesh” by its author Dr. Hussain Monsur, Professor of Geology, University of Dhaka and Ex-Chairman,

Petrobangla, held on 29 January 2022.

- “Thin Bed Pay Hydrocarbon Prospects in Bangladesh” by William Shatterfield, Director of Special Projects, Canacol Energy, held on 26 February 2022. This session also remembered Mr. M.A Zaher who was an internationally reputed geologist and former Director General of the Geological Survey of Bangladesh. A mineral was named after him as “Zaherite” by International Mineralogical Association in 1977.

- “A Strategy for Sustainable Arsenic Mitigation” by Dr. Muhammad Hossain Tipu, Ex- Geologist, Researcher, and Consultant in the field of Groundwater and Environment, held on 26 March 2022.

- “Bangladesh at a Cross Road of Energy Transition” by Dr. Badrul Imam, Retd. Professor of Geology, University of Dhaka, Bangladesh, held on 28 May 2022; and

- “Exploration Geophysicist for Hydrocarbon: Will it be an Extinct Intellectual Species” by Dr. Mostafa Sarwar, Professor Emeritus, University of New Orleans, Dean and Ex-VC of Delgado Community College, USA, held on 25 June, 2022.

Some of the very important recommendations were given to the government from the above-mentioned lecture sessions to expedite oil and gas exploration in Bangladesh.

Participants Condole Death of Geoscientist Dr. Humayun Ashraf

Participants of the meeting expressed deep shock at the death of geoscientist Dr. Humayun Ashraf on 22 August 2022 in Dhaka. He was 77.

A Retd. General Manager of Petrobangla, Dr. Ashraf was a brave freedom fighter. Dr. Ashraf played a key role in the oil and gas

exploration carried out under Petrobangla and in conducting seismic surveys as a geophysicist in the German Geological Advisory Group. Besides, he was associated with US Geological Survey, and made an important contribution to the resource assessment work.

A condolence message was read out on behalf of the participants by Mr. Abdul Aziz Khan, former Member of BERC and Managing Director of Titas Gas. In the message, the participants prayed for the salvation of the departed soul and expressed sympathy to the bereaved family members.

Dr. Ashraf obtained his Master's degree in Geology from the University of Dhaka (Batch-1970), followed by M.Sc. and PhD from Indian School of Mines. He started his career at Petrobangla as a Geophysicist. He was a pioneer of digital multi-fold data survey in Bangladesh and the Party Chief of Prakla Seimos. These data were used to select drilling locations and helps discover new gas field. He was a member of the Bangladesh Geological Society and contributed to organizing this society along with Mir Moinul Huq and Dr. Khalilur Rahman Chowdhury, Prof of Geology (Retd.) in Jahangir Nagar University. Dr. Ashraf was involved in the entire spectrum of geophysical surveys and their study in Petrobangla. The geoscientists around the globe were discussed and remembering Mir Moinul Huq and also about Dr. Humayun Ashraf.

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Mortuza Ahmad Faruque;
Former Managing Director,
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নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিমিটেড

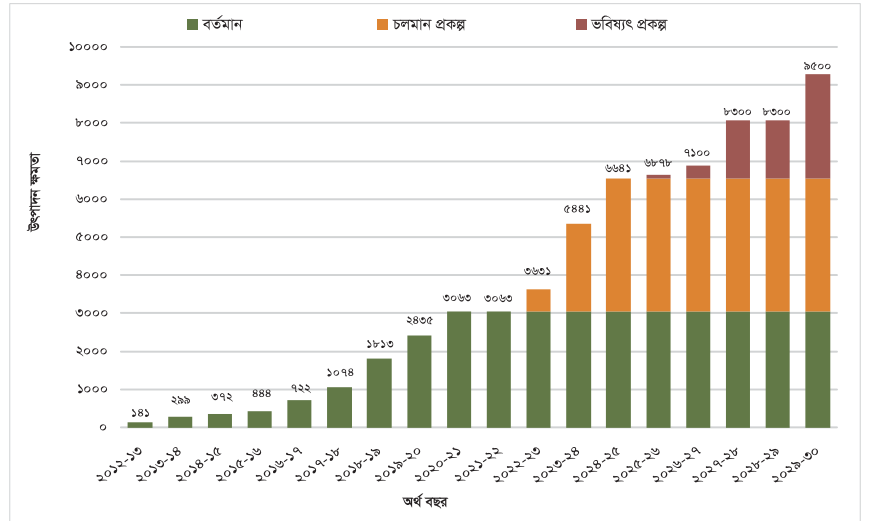
দেশের উন্নয়ন অগ্রযাত্রায় গর্বিত অংশীদার



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শেখ হাসিনার
হাত থেকে
পুরস্কার
গ্রহণ করছেন
নর্থ - ওয়েস্ট
পাওয়ার জেনারেশন
কোম্পানি লিমিটেড
এর প্রধান নির্বাহী
কর্মকর্তা প্রকৌঃ
এ.এম. খোরশেদুল আলম

এক নজরে কোম্পানির সার্বিক চিত্র

- মোট বিদ্যুৎ কেন্দ্র - ৯ টি
- বিদ্যুৎ উৎপাদন ক্ষমতা - ৩০৬৩ মেঃ ওঃ
- বাস্তবায়নধীন প্রকল্প - ৩৫৮২ মেঃ ওঃ
- পরিকল্পনাধীন প্রকল্প - ২৮৫৫ মেঃ ওঃ
- ২০৩০ সাল নাগাদ বিদ্যুৎ উৎপাদন লক্ষ্যমাত্রা - ৯৫০০ মেঃ ওঃ



নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিঃ

আইএসও ৯০০১:২০১৫, আইএসও ১৪০০১:২০১৫ এবং আইএসও ৪৫০০১:২০১৮ সনদপ্রাপ্ত

(বাংলাদেশ বিদ্যুৎ উন্নয়ন বোর্ডের একটি প্রতিষ্ঠান)

ইউটিসি ভবন (৪র্থ তলা), ৮ পাছপথ, কাওরান বাজার, ঢাকা-১২১৫

ফোন : ৮৮১২২১১৭-১৮, Website : www.nwpgcl.gov.bd

US Oil Giant Chevron Marks 25 Years in Bangladesh



Chevron Bangladesh has secured approval for the expansion of the Bibiyana gas field on its northern flank, augmenting the existing contract zone by 60 square kilometers. Report UNB.

Senior secretary of the Energy Division Mahbub Hossain disclosed the development while addressing a function to celebrate the US oil giant's

Chevron 25th year of operations in Bangladesh at the InterContinental Hotel on Tuesday.

"The government has approved Chevron's proposal to allow Chevron to add a 60-square-kilometre "flank" area outside its existing contract zone in the north of the Bibiyana gas field," said Mahbub.

The senior secretary said it may add an additional 1.5 trillion cubic feet of gas to the country's current stock.

Dr Tawfiq-e-Elahi Chowdhury, BB, Advisor on Energy Affairs to the Prime Minister, Petrobangla Chairman Nazmul Ahsan and Chevron Bangladesh's managing director Eric Walker also addressed the function.

Chevron is currently producing around 1481.3 million cubic feet of gas per day (mmcf/d) from three gas fields - Bibiyana, Jalalabad and Moulvibazar- which is about 60 percent of the country's total gas production.

The new extended area will be drilled under the same production sharing contract (PSC) now applicable for the three gas fields.

Dr Tawfiq Elahi Chowdhury urged Chevron to participate in the upcoming bidding round for the country's offshore blocks.

He said Bangladesh wants Chevron's cooperation to address its energy crisis.

"We want our partnership with the American company to continue," he said.

Eric Walker, president of Chevron Bangladesh, said the country has been producing and supplying gas for the country safely and reliably.

"We want the partnership with Bangladesh to continue for its development as the country made excellent economic progress," he added.

EP

Russia Pockets \$158b in Energy Exports After War: Report



Russia has raked in a whopping 158 billion euros (\$158 billion) in energy exports in the six months following its invasion of Ukraine, with the EU accounting for more than half, a think tank said recently.

The Centre for Research on Energy and Clean Air called for more effective sanctions against Moscow after the invasion sent oil, gas and coal prices soaring.

"Surging fossil fuel prices mean that Russia's current

revenue is far above previous years' level, despite the reductions in this year's export volumes," said the Finland-based organization.

Natural gas prices have recently soared to record levels in Europe as Russia chokes off supplies. Crude oil prices also jumped following the invasion, although they have since pulled back.

"Fossil fuel exports have contributed approximately 43 billion euros to Russia's federal budget since the start of the invasion, helping fund war crimes in Ukraine," said CREA.

The figures concern the six months following Russia's February 24 invasion of Ukraine.

EP

Goldman Sees \$2T Surge in Europe Energy Bills by 2023

Energy bills for European households will surge by 2 trillion euros (\$2 trillion) at their peak early next year, underscoring the need for government intervention, according to Goldman Sachs Group Inc. utilities analysts.

At their height, energy bills will represent about 15% of Europe's gross domestic product, the analysts, led by Alberto Gandolfi and Mafalda Pombeiro, wrote in a recent note.

"In our view, the market continues to underestimate the depth, the breadth and the structural repercussions of the crisis," they wrote. "We be-



lieve these will be even deeper than the 1970s oil crisis."

Stock investors are too pessimistic about the effect of regulatory efforts, Goldman said. Some of the steps being considered -- including price caps and a so-called tariff deficit -- could ease the overhang on stock prices by smoothing the increase in tariffs, limiting the near-term drop in industrial production, and largely defusing regulatory risk, the analysts wrote.

EP

12kg LPG Cylinder Price Raised to Tk 1,235



Faruque said though the LPG price has substantially come down in the global market, consumers are not getting full advantage of the downward trend due to the high dollar price in the local market.

The price of LPG, marketed by state-owned LP Gas Company, will remain as usual as it is locally produced with a market share of less than 5.0 per cent.

The LPG price went up to the highest Tk 1,439 (a 12kg cylinder) in the local market, following the start of the Russia-Ukraine war in February this year.

The LPG price was the lowest at Tk 1,225 for a 12 kg cylinder in January this year and it witnessed continuous hikes in February, March and April. **EP**

The Bangladesh Energy Regulatory Commission on Wednesday hiked the price of liquefied petroleum gas by Tk 1.33 per kg.

This effectively means that a 12kg container will now cost a household Tk 1,235 instead of the earlier Tk 1,219, up by Tk 16.

'Five to 45kg LPG containers will be rationally sold as per the new rates,' said BERC acting chairman ABM Faruque.

As per announcement, the price of gas for motor vehicles has been increased to 57.55 per liter instead of the earlier Tk 56.85 per liter.

Draft Energy Master Plan Ignores Key Issues: Experts



The draft Integrated Energy and Power Master Plan contains the same old flaws that may plunge Bangladesh into its current energy crisis, power and energy experts said at a recent workshop.

The draft IEPMP ignored the need to explore domestic gas resources,

viewing the power sector's future in imported energy, and lacked a roadmap to reduce power sector system losses, which experts said would

impose a fiscal burden on the Power Development Board and raise power sector subsidies.

The draft IEPMP, which is supposed to be formulated every five years, also does not have a roadmap for phasing out the current

Chevron Gets Nod for Bibiyana Field Expansion



Chevron Bangladesh has received approval for expansion of the Bibiyana gas-field with an additional 60 Square Kilometers "flank" area, aimed at producing low-cost gas from local fields to meet a severe energy crisis in the country, a top official said.

The approval came up from the Energy and Mineral Resources Division (EMRD) after Prime Minister Sheikh Hasina approved a summary to extend the areas of the Bibiyana field ahead of the US company's 25th anniversary in Chevron Bangladesh venture.

"The EMRD has decided to allow Chevron in the 60-square-kilometer "flank" area outside its existing contract zone at the north of the Bibiyana gas field," said a Petrobangla official.

"We are expected to sign a side letter agreement (SLD) with Chevron Bangladesh to

explore the flank area under Bibiyana gas field within 15-20 days," he said recently.

Currently, the Bibiyana's lifespan is expected to continue till 2037 whereas Jalalabad and Moulvibazar will end in 2034 and 2039 respectively.

Chevron plans fresh investment to initially drill wells no B27 and well no B28 at the existing areas and it will also drill well B29 at flank area, sources at Bibiyana Gas Field said.

The flank area will for the first time eyewitness horizontal drilling at eight kilometers depth from surface or from 8000 meters of surface soil. Existing wells will require drilling only 3500-4000 meters from surface soil. **EP**

power overcapacity and renewable electricity expansion, they added.

It was developed on GDP growth that the experts found ambitious and potentially exaggerated, generating a wrong electricity demand.

'It lacks economic rationale,' said Centre for Policy Dialogue research director Khondaker Golam Moazzem, after explaining that the draft was prepared based on the plan to turn Bangladesh into a developed country by 2041.

A massive supply of energy will be required to meet electricity demand in an economy with a per capita GDP of \$12,000.

The topic of renewable energy was discussed with doubts and suspicion cast on its technology, he said after making the keynote presentation at a session at the workshop organized jointly by 11 organizations, including CPD, Bangladesh Working Group on External Debt, Waterkeepers Bangladesh, and BELA in Gazipur. **EP**

Power Supply Improved in August: Nasrul Hamid



State Minister for Power, Energy and Mineral Resources Nasrul Hamid has claimed that the power supply situation has been better in August than that in the previous month.

"The power supply situation will further improve in the next month," he told a virtual discussion organized by Bangladesh Power Development Board (BPDB) to observe the 15th August National Mourning Day on August 27.

He said the Russia-Ukraine war made the global economic situation vulnerable and created huge uncertainty in the global energy market.

With BPDB chairman Mahbubur Rahman in the chair, the event was also addressed by former principal secretary to the Prime Minister Kamal Abdul Naser Chowdhury and power secretary Habibur Rahman.

Nasrul mentioned that there were 16-18 hours of loadshedding across the country before Awami League assumed office in 2009.

EP

Germany Reveals New Energy Limitations



The German government has approved a package of measures aimed at reducing gas consumption during the upcoming heating season, Economy Minister Robert Habeck told reporters after a cabinet meeting in Berlin recently.

The measures include reducing the heating temperature in offices and public institutions – with the exception of social institutions like hospitals – from 20 to 19 degrees

Celsius (68 to 66 degrees Fahrenheit).

Also, outdoor advertising and the lighting of storefronts and monuments will be turned off from 10pm to 6am local time. Moreover, store owners will be urged to refrain from keeping the doors to their premises open for too long at a time to preserve heat, reports RT.

The measures are expected to be put into effect gradually from September 1 through October 1. There are also plans to turn off the heat in the corridors, foyers, and technical rooms of public buildings, and ban private home pools from being heated with gas.

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Wärtsilä Expertise Centers - The Power of Knowledge

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Expertise Centre has set up a benchmark into Fourth Industrial Revolution providing centralized support to valued customers.

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Digital enablers such as expert insight, asset diagnosis and data-driven predictive maintenance service will ensure reliability of equipment. This includes artificial intelligence-based detection thus optimizing the lifecycle value; ultimately cost savings.

Wartsila recently established remote connectivity with RPCL Gazipur 110MW, North-West Power Generation Company Ltd. Madhumati 110 MW and Desh Energy Chandpur 200MW by remote monitoring system (RMS). These power plants are now being centrally monitored by Wartsila to enhance performance reliability.

Caption: Top Left - Rural Power Company Ltd (RPCL) Gazipur 110 MW connected remotely with Expertise Centre Top Right - North West Power Generation Company Ltd. Madhumati 110 MW remotely connected with Expertise Centre Bottom - Desh Energy Chandpur 200 MW remotely connected with Expertise Centre

EP

Russian Fuel Oil Samples in Dhaka

Some 50-liter Russian heavy crude oil has reached Dhaka by airfreight as specimen to check whether it can be refined in Bangladesh's decades-old lone refinery.

"We got the crude oil and will test in the country's lone refinery -Eastern Refinery Ltd (ERL)," says a senior official of the state-run Bangladesh Petroleum Corporation (BPC).

If the ERL in the port city of Chattogram can refine the crude, Bangladesh might initiate negotiations on import-

ing this sort of Russian crude oil for the first time, he adds.

Separately, BPC is considering importing refined petroleum products, too, as Russian Rosneft Oil Company has offered Bangladesh to supply gasoil (diesel), jet fuel and gasoline (octane) at much lower prices than international market rates.

"We took the offer seriously and initiated work to import petroleum products for the first time from Russia," says

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Chevron Sponsored AUW Summer School 2022 Closing Event Held



The Asian University for Women (AUW) Math & Science Summer School 2022 concluded with a Closing Ceremony held at the Asian University for Women campus in Chittagong recently.

In 2019, Chevron Bangladesh launched a pioneering partnership with the Asian University for Women (AUW) and it has been resumed again in 2022 after two years of Covid pandemic.

Overcoming the challenges of the pandemic, The Asian University for Women (AUW) resumed its Summer School after two years in 2022 to inspire young women in the field of Science, Technology, Engineering, and Mathematics (STEM).

The summer school program aimed at enhancing the skills and competencies of these students to stand out in STEM-oriented further studies and careers. The Summer School 2022 was held from 17 July to 11 August 2022.

Mr. Muhammad Imrul Kabir, Corporate Affairs Director, Chevron Bangladesh, and Ms. Nafeesa Hossain Monali, Human Resources Director, Chevron Bangladesh attended the event as guest of honor. **EP**

Japan Signals Shift Back to Nuclear Energy



naled a change of heart.

Chairing a recent meeting of the Green Transformation Implementation Council, Kishida instructed govern-

With the nation's energy security under threat and prices rising, Tokyo is making plans to extend aging reactors' lifespans and develop new nuclear power plants.

Experts are mulling the extension of reactors' operational lifetimes from the present limit of 40 years to 60 years

Eleven years after the disaster at the Fukushima Daiichi Nuclear Plant and successive Japanese governments adopting a cautious line on atomic energy, Prime Minister Fumio Kishida has sig-

ment officials and energy experts to step up the resumption of operations at more nuclear plants, to look into significantly extending the operational lifetimes of reactors, and to explore development and deployment of next-generation nuclear power facilities.

The changes are a crucial policy reversal, demonstrating both the negative impact that the Russian invasion of Ukraine is having on energy prices in Japan and the slow-but-steady reversal in anti-nuclear attitudes among the Japanese public. **EP**

EU Ministers Seek Ways to Face Energy Shock

EU energy ministers recently will attempt to forge a united response to the energy shock from Russia's war on Ukraine that has sent prices for electricity and heating skyrocketing.

Moscow's invasion has seen the price of natural gas hit record levels, throwing the EU economy into deep uncertainty with all eyes on whether Russian President Vladimir Putin will cut off the energy flow entirely.

Before the war, 40 percent of the EU's gas imports came from Russia, with most of the supply going to Germany, the bloc's economic powerhouse that is now scrambling to come up with new ways to heat homes and power factories.



The European Commission, the EU's executive, will ask the ministers meeting in Brussels to consider a series of highly complex proposals designed to ease the burden.

The main drive will be to find ways to compensate households and businesses that are struggling to pay their bills and keep activity going.

The EU executive will propose a mechanism that would see non-gas electricity companies, such as nuclear, solar or renewable firms, share windfall revenues won on the back of high prices for electric power. **EP**

Pvt Power Plants Seek Remedy



Pprivate oil-fired power plant owners have sought compensation for fluctuations in the exchange rates of foreign currencies. They are now claiming to have incurred losses on account of import of furnace oil used for running the power plants.

The owners are seeking 'true-up payments' from the state-run Bangladesh Power Development Board (BPDB) and eyeing a 'side letter

agreement' with it in addition to existing deals to ensure the payments.

True-up payment is to reconcile or match the balance of two or more items.

Bangladesh has some five dozens of oil-fired plants that have the power-generation capacity of an estimated 5,500 megawatt (MW).

The BPDB has agreed to pay compensation to the privately-owned oil-fired plant owners and sent a letter to power division to allow true-up payment to power-plant sponsors, acknowledges a senior BPDB official. **EP**

Where is the Oil Price Heading in 2022 and 2023?

The U.S. Energy Information Administration (EIA) has released its latest short term energy outlook (STEO), which offers the organization's latest Brent crude oil price forecasts for this year and the next.

According to the September STEO, the EIA sees the Brent spot price averaging \$104.21 per barrel in 2022 and \$96.91 per barrel in 2023.

Broken down quarterly, the STEO forecasts that the commodity will average \$103.89 per barrel in the third quarter of this year and \$97.98 per barrel in the fourth quarter of 2022.

In its previous STEO, which was released in August, the

EIA projected that the Brent spot price would average \$104.78 per barrel in 2022 and \$95.13 per barrel in 2023.

The EIA's August STEO forecasted that the Brent spot average price would come in at \$105.82 per barrel in the third quarter of 2022 and \$98.30 per barrel in the fourth quarter of 2022.

"The monthly average Brent front-month futures price was \$98 per barrel in August, about \$7 per barrel lower than in July," the EIA stated in its latest STEO, adding that the lower prices in August "likely reflected overall increases in global petroleum inventories". **EP**

Energy May Become Bangladesh's Biggest Problem: Salman F Rahman

Power and energy will become the country's biggest problem if prices of gas and fuel in the global market do not come down in the next six months, says Prime Minister's Adviser for Private Industry and Investment Salman F Rahman.



He made the remarks while addressing a discussion session with the leaders of the Overseas Correspondent Association of Bangladesh (OCAB) at the Bangladesh Investment Development Authority (Bida) office in Agargaon, Dhaka recently.

However, he believes that Bangladesh has so far managed to avert any major

crisis regarding energy.

He also said that the frequency of loadshedding will go down in the coming winter.

Salman F Rahman also highlighted the various measures taken by the government to address the fuel and gas scarcity.

Besides, the government is not considering mining coal, he said, adding, "Even if we start now, it will take at least 4/5 years for us to benefit from the initiative." **EP**

Import Demand for Diesel High

The Bangladesh Petroleum Corporation imports fuel for power production based on demand from the Bangladesh Power Development Board.

In October last year, the BPDB had placed a demand for about 42,140 tonnes of diesel and 1.46 lakh tonnes of furnace oil for the third quarter of this year.

On August 8, amid a flurry of government measures to tamp down fuel demand, that plan was revised upwards to 3.91 lakh tonnes of diesel and 2.90 lakh tonnes of furnace oil.

Anticipating a price spiral in the global market in future, BPDB is frontloading its

diesel imports, said one official.

Besides, when the government mothballed all diesel-run power plants on July 18 as part of its austerity measures, it anticipated two coal-fired power plants would join the grid in October, which would bring down load shedding.

"Optimistically speaking, those power plants would not be ready for transmission before December," said another BPDB official on the condition of anonymity.

So all the diesel-run power plants are firing again, giving some respite to common people and industries alike from the prolonged power cuts. **EP**

Unit-1 of Rampal Power Plant to Start Commercial Run in October



The unit-1 of the 2x660MW Maitree Super Thermal Power Project at Rampal will go into commercial run in October, raising further the country's electricity generation capacity, as all necessary steps, including successful synchronization with the national grid, have already been completed.

In a major step in further

strengthening India-Bangladesh Power Sector Cooperation, Unit-I of the 2x660 MW Maitree Super Thermal Power

Project was successfully synchronized with the national grid on August 15, 2022 providing 91.7 MW of electricity to the national grid.

Being built at an estimated cost of Taka 16,000 crore, the plant aims to produce a total of 1,320 MW of electricity in its two units (660 megawatts in each). **EP**

Nepal to Export 50MW Power to Bangladesh Initially

Bangladesh has informed Nepal that it would be concluding the deal to buy 500MW electricity from 900MW Upper Karnali hydropower project which will be developed by India's GMR Group, by September



Bangladesh and Nepal have decided to request India to allow export of 40-50MW of electricity from Nepal to Bangladesh in the initial phase utilizing the high-voltage direct current power systems in Bheramara of Bangladesh.

The secretary-level Joint Steering Committee (JSC) formed for energy coopera-

tion between Nepal and Bangladesh took the decision recently, according to a report published recently.

Mohammad Habibur Rahman, secretary to Power Division under the Ministry of Power, Energy and Mineral Resources of Bangladesh, led the Bangladesh delegation in the JSC meeting. Nepal's Energy Secretary Sushil Chandra Tiwari chaired the meeting. **EP**

Fuel Price Re-adjustment to Reduce Pressure on Economy: FBCCI



The Federation of Bangladesh Chambers of Commerce and Industries (FBCCI) has welcomed the decision for price re-adjustment of fuel oil as it would decrease the pressure on the national economy despite the global crisis.

Therefore, FBCCI president Md Jashim Uddin welcomed the decision of price reduction of diesel, petrol, octane and kerosene just after a day of cut in import duty and withdrawal of advance tax.

Jashim thanked Prime Minis-

ter Sheikh Hasina for re-adjustment of fuel oil prices in public interest, said a press release here today.

Earlier on August 14, FBCCI wrote a letter to the Prime Minister requesting a duty and tax cut and adjusting the price of fuel.

On August 28, the National Board of Revenue (NBR) issued a gazette notification reducing import duty on diesel from 10 percent to five percent and withdrawing five percent advance tax.

The FBCCI President feels that to avoid pressure on the economy, the NBR has taken this economy-friendly decision in accordance with the timely directives from the Premier. **EP**

Govt Mulls Diesel Subsidy on Boro Irrigation

The government is seriously thinking of subsidizing diesel fuel for farmers during Boro season, agriculture minister Md Abdur Razzaque said recently.

"If the Russia-Ukraine war prolongs and diesel price continues to surge globally, we have to find a way so that the farmers' production costs don't rise," he said.

Mr Razzaque made the comment while addressing a seminar on the sustainable management of underground water for food security in the country's north-western region.



The Institute of Water Modelling (IWM) with the Bangladesh Agricultural University, and Commonwealth Scientific and Industrial Research Organization of Australia (CSIRO) hosted it at BRAC Centre in Dhaka.

The minister said the price of diesel oil is now very high which may raise Boro production costs as the crop is almost dependent on supplementary irrigation. **EP**



পাওয়ার গ্রিড কোম্পানি অফ বাংলাদেশ লিঃ
POWER GRID COMPANY OF BANGLADESH LTD.
(An Enterprise of Bangladesh Power Development Board)

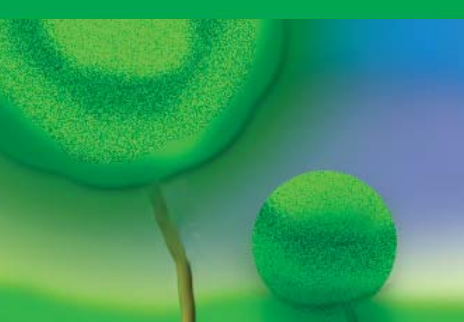


PGCB Bhaban, Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212 Web : www.pgcb.gov.bd

মানসম্পন্ন বিদ্যুৎ নিরবচ্ছিন্নভাবে দেশের সকল মানুষের নিকট পৌঁছে দেয়াই আমাদের অঙ্গীকার

- * গ্রিড উপকেন্দ্র, গ্রিড লাইন ও টাওয়ার জাতীয় সম্পদ, তা রক্ষা করা সকলের দায়িত্ব।
- * গ্রিড উপকেন্দ্র, সঞ্চালন লাইন ও বৈদ্যুতিক টাওয়ারের গুরুত্বপূর্ণ যন্ত্রাংশ চুরি প্রতিরোধে সহায়তা করুন, বিদ্যুৎ বিপর্যয় থেকে দেশকে বাঁচান।
- * উচ্চ ভোল্টেজের বৈদ্যুতিক টাওয়ার ও লাইন হতে নিরাপদ দূরত্ব বজায় রাখুন।
- * বিদ্যুতের গ্রিড লাইন ও টাওয়ার হতে নিরাপদ দূরত্বে স্থাপনা নির্মাণ করুন।
- * বৃক্ষ রোপনে গ্রিড লাইন ও টাওয়ার হতে নিরাপদ দূরত্বে স্থান নির্বাচন করুন।
- * বিদ্যুৎ ব্যবহারে সাশ্রয়ী হোন। আপনি বিদ্যুৎ সাশ্রয় করলে তা অন্য একজন ব্যবহার করতে পারে। এমনকি সাশ্রয়কৃত বিদ্যুৎ গুরুতর অসুস্থ কারও জীবন বাঁচানোর কাজে লাগতে পারে।
- * বিদ্যুৎ অপচয় রোধে সচেতনভাবে ফ্যান, বাতি ও অন্যান্য বৈদ্যুতিক যন্ত্রপাতি ব্যবহার করুন।
- * বিদ্যুৎ সাশ্রয়ী (LED/CFL/T5) বাল্ব ব্যবহার করুন।
- * যথাসম্ভব দিনের আলো ব্যবহার করুন।
- * বিকাল ৫:০০ টা হতে রাত ১১:০০ টা পর্যন্ত সময়ে বিদ্যুতের চাহিদা বেশী থাকে। এ সময় দোকান, শপিংমল, বাসা-বাড়ীতে আলোকসজ্জা হতে বিরত থাকুন।





BPDB, NCC Sign Deal to Set Up 2nd Waste-Based Power Plant with U&D



An agreement was signed recently between the Bangladesh Power Development Board, the Narayanganj City Corporation, and Chinese firm U&D to develop the country's second waste-based power plant.

The power plant will generate 6 MW of electricity from the garbage of Narayanganj city and adjoining areas.

Welcoming the deal, LGRD and Cooperatives Minister M Tajul Islam said

that more such projects will be set up in different city corporation areas.

Earlier, a similar agreement was signed in December last year between the BPDB, Dhaka North City Corporation and the Chinese firm CMEC to

develop the country's first-ever waste-based power plant in Dhaka with an electricity generation capacity of 42.5 MW from the garbage in the capital.

As per the agreement, Narayanganj City Corporation will supply 600 metric tons of garbage to U&D plant to generate 6MW electricity, which the BPDB will purchase at a rate of US\$20.19 cents (about Tk 20 per unit) for a period of over 25 years. **EP**

BPCL Targets Net Zero, 10 GW of RE by 2040

Bharat Petroleum Corporation Ltd (BPCL), India's second-largest oil refining and fuel retailing firm, plans to scale up its renewable energy portfolio to 10 GW by 2040 – the year it is targeting net-zero carbon emission, chairman Arun Kumar Singh said recently.

Addressing the company's annual shareholders' meeting, he said BPCL is diversifying and expanding into adjacent and alternate businesses, which will not only provide additional revenue streams but also offer a hedge against any decline in the oil and gas business.

"The company has identified six strategic areas – petrochemicals, gas, renewables, new businesses, that is, consumer retailing, e-mobility and upstream – which will serve as pillars of future growth and create sustainable value for all stakeholders, while the core business of refining and marketing of petroleum products continues to provide stability and funding bandwidth," he said.

This is with a view to achieving net-zero emissions by 2040, he added.

In the renewable energy space, BPCL plans to scale up its portfolio from less than 50 megawatts today to 1 gigawatt (GW) by 2025 and 10 GW by 2040. The firm has also decided to expand its reach and presence in the non-fuel business to offer consumables, durables and services by leveraging its pan-India network of over 20,000 fuel stations and more than 6,200 LPG distributors. **EP**

Intraco Switches on 30MW Solar Plant



Intraco Solar Power has completed a 30 MW grid-tied solar power plant in Bangladesh.

On Aug. 25, the Bangladesh Power Development Board (BPDB) revealed that a 30 MW solar project began operating in northern Bangladesh. The project is owned by Intraco Solar Power Ltd. (ISPL), a unit of publicly listed Paramount Textile Ltd. (PTL), which is

mainly involved in textile production. Recently, it started to diversify its investment portfolio.

The BPDB will buy electricity from the power plant at a rate of \$0.16/kWh over a period of 20 years. The company invested \$55

million in 110 acres of land to set up of the power plant. It used around 78,764 solar panels.

"We expect \$9 million per annum as revenue from the power plant," a senior PTL official said, adding that the company has plans to further expand its investments in the renewable energy sector. **EP**



JOULES POWER LIMITED (JPL)

Joules Power Limited (JPL) is A Privately Owned Renewable Energy Company Operating in The Power Sector of Bangladesh. JPL Has Been Formed With A Fundamental Core Value Towards Sustainability and is Committed to The Country's Nationally Determined Sustainability Targets. Through Our Presence in The Power Sector We Not Only Strive to Achieve A Greener and More Sustainable Future for Bangladesh, But We Also Hope That JPL's Contribution Towards The Country's Green Infrastructure Will Lead to A Brighter, More Prosperous and Sustainable Future.



Joules Power Limited - Future Enabled

Current Portfolio

- 20MW Solar Ground Mounted Project IPP Basis
- 3.23MWp Rooftop Solar project in OPEX Model
- 1.7MWp Rooftop Solar Project in OPEX Model
- 0.325MWp Rooftop Solar Project in OPEX Model
- 2.00MWp Rooftop Solar Project in OPEX Mode

MCCI Workshop on Industrial Rooftop Solar System



The event was chaired by Sharifa Khan, Chairman, IDCOL and Secretary of the Economic Relations Division (ERD), said a press release.

Secretary Md. Habibur Rahman pointed out that the industrial rooftop solar system could be an excellent defense against global warming being embraced all over the world, especially by the high carbon-emitting nations.

In his welcome speech, Habibullah N. Karim mentioned that Bangladesh would need uninterrupted power to continue its development trajectory.

As uncertainty and price fluctuations of imported oil and gas keeps increasing, he said a workable industrial rooftop solar system could be very useful for ensuring the country's energy security.

EP

The Metropolitan Chamber of Commerce and Industry (MCCI), in collaboration with Infrastructure Development Company Limited (IDCOL), organized a workshop titled "Installation of Industrial Rooftop Solar System" at the MCCI office in the capital's Gulshan area recently.

Md. Habibur Rahman, Secretary of Power Division and Director, IDCOL, graced the event as the chief guest. Habibullah N Karim, vice-president, MCCI, attended the event as a special guest.

Deal to Set Up 55MW Wind Power Plant at Mongla



power plant on build-own-operate basis. As per the proposal of the Consortium of Envision Energy, Co. Ltd.,

China, SQ Trading and Engineering, Bangladesh and Envision Renewable Energy Limited, Hong Kong will develop the plant under a new special project vehicle company Mongla Green Power Ltd.

The project cost is expected to be around \$96.597m.

State-owned BPDB will purchase electricity from the plant at a levelized tariff of 13.20 Cents, equivalent to Tk13 per kilowatt hour.

According to BPDB officials, the government will pay a total of more than Tk 2035.12crore for the entire contract period against its purchase of electricity from the maiden private wind power project.

The Chinese-Bangladeshi consortium was the lone bidder to participate in the tender process invited for the project, said a BPDB official.

EP

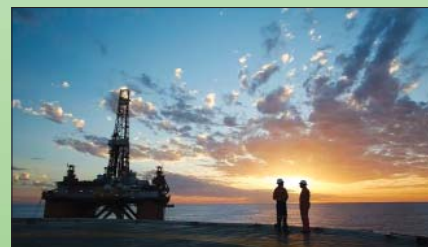
Greenpage

Santos, Chevron Team Up for Carbon Capture Studies Offshore Australia

Santos has secured permits from the conduct evaluation and appraisal work for the potential storage of CO2 offshore Western Australia.

The company has a 50% operated share of the G-9-AP permit in the Carnarvon Basin, covering an area of 3,589 sq km, in partnership with Chevron Australia (50%).

As for the 26,239-sq-km G-11-AP permit in the Bonaparte Basin, Santos Offshore operates with 40% supported by



Chevron Australia (30%) and SK E&S (30%). The partners will assess the storage potential based on understanding of the subsurface geology.

Managing Director and CEO Kevin Gallagher said, "Santos is working toward developing its three-hub CCS strategy across our operating footprint in Australia and Timor-Leste, and the award of these permits represents further demonstration of our commitment to that strategy."

"In the Carnarvon Basin, the [G-9-AP] permit creates potential new acreage for CCS beyond our Reindeer fields. This is particularly significant as our plans for a WA CCS hub at Reindeer and Devil Creek develop."

Santos' first CCS project will be at Moomba onshore Queensland. It is 20% complete, with 100 MM metric tons of CO2 capacity and contingent resources already booked.

EP

India's Firm to Set Up 100MW Solar Plant in Mymensingh

Anand Energy - an Indian company in partnership with Total Erin of France and Amber Kinetics from USA, is looking to set up a 100 MW solar plant in Mymensingh in Bangladesh.

"Renewables are cheaper and come with more stable prices. This can help regain control over the power sector, cut capacity payments and meet growth expectations," Anand Energy Director Krishn Anand Tripathi, told an Indian news channel recently.

Bangladesh can greatly reduce

dependence on imported fuel required for power generation by faster adoption of renewable for avoiding the power crisis which are feared to be lingering on global issues like Ukraine war.

"Given the current situation, we believe that we can help bring that change. Our model is to build a solar power plant over 400 plus acres of land and sign a PPA with the government for the next 25 years. That's a long-time commitment that we hope to fulfill it," Krishn added.

EP

JERA to Invest in Gia Lai Electricity Joint Stock Company



JERA Co., Inc., through its subsidiary JERA Asia Pte. Ltd., has signed a share purchase agreement with International Finance Corporation (IFC) and Armstrong S.E. Asia Clean Energy Fund Pte. Ltd to acquire all their equity interests in Gia Lai Electricity Joint Stock Company's (GEC)'s outstanding shares such that, after the completion of the acquisition, JERA will indirectly hold approximately 35.1% of the Shares.

The acquisition is expected to be completed after the necessary regulatory approvals.

GEC, an affiliate of the TTC Group, is a leading renewable energy power company in Vietnam, listed on the Ho Chi Minh City Stock Exchange. The company owns and operates mainly hydro, solar, and wind power projects

with a capacity of approximately 600MW (including projects under construction).

Vietnam has abundant renewable energy sources and has experienced significant growth in renewable power generation in recent years.

The Vietnamese Government is expected to continue this growth by setting ambitious targets for renewable energy in the next national Power Development Plan.

In order to support the country's growing electricity demand and decarbonization, GEC aims to become a leader in the renewable energy sector in the country by expanding its power generation assets to 1.7 GW by 2025, comprising mainly solar and wind power.

JERA recently established a new corporate vision for 2035, "to scale up its clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world."

EP

Greenpage

First Solar to Invest \$1b in New US Module Factory



First Solar plans to invest more than \$1.2 billion to build a new module manufacturing facility, and increase capacity at its existing operations, in response to credits for U.S. solar manufacturing that were included in the Inflation Reduction Act, the company announced.

First Solar plans to invest up to \$1 billion in a new, 3.5 GW module factory in the Southeast, while an additional \$185 million will be dedicated to adding nearly 1 GW of new manufacturing capacity to the company's facility in Ohio.

Pending regulatory approvals, First Solar said it expects the new factory to come online in 2025. First Solar expects the investment to create "at least" 850 new manufacturing jobs, bringing the company's U.S. employment total to more than 3,000 people in four states by 2025.

"In passing the Inflation Reduction Act of 2022, Congress and the Biden-Harris Administration has entrusted our industry with the responsibility of enabling America's clean energy future and we must meet the moment in a manner that is both timely and sustainable," First Solar CEO Mark Widmar said in an August 30 statement.

EP

Govt Working to Phase Out Single-Use Plastic in Coastal Region: Shahab



Environment, Forest and Climate Change Minister Shahab Uddin recently said the government has approved a roadmap to phase out single-use plastic in coastal areas.

"The government of Bangladesh has also finalized the Towards a Multisectoral Action Plan for Sustainable Plastic Management in Bangladesh," he told the National Stakeholder Consultation Workshop on Plastic Free

Rivers and Seas for the South Asia (PLEASE) Project.

Speaking as the chief guest, Shahab Uddin said 'The National Action Plan for Sustainable Plastic Management' has focused on circular use of plastic, based on a 3R strategy: Reduce, Reuse, Recycle.

This will help create new value chains, skills, innovative products and green jobs while addressing social and environmental challenges, he said. **EP**

Australia Passes Landmark Climate Change Bill



Australia recently passed its first major climate change bill in over a decade, codifying emissions targets and enshrining into its law for the first time a goal to reach net zero by 2050.

The legislation, a key election promise of

Australia's new center-left Labor government, aims to slash emissions in the carbon-intensive economy by 43 percent from 2005 levels.

While the new targets are more ambitious than the previous government's planned 26-28 percent cut by 2030, the legislation has been criticized by some for not doing enough and for failing to ban new coal and gas projects. **EP**

African Leaders Demand Funds to Adapt to Climate Change

The leaders of two dozens of African countries have urged wealthier nations to uphold their aid pledges so the continent can tackle climate change impacts for which it shares little blame.

They made the call after African leaders recently lashed out at industrialized nations for failing to show up to a summit in the Netherlands on helping African nations adapt to these changes.

We urge "developed countries to fulfil their pledges in relation to climate and development finance, and deliver on their commitments to double adaptation finance, in



particular to Africa," the 24 leaders said in a statement as they wrapped up an international conference in Cairo.

The three-day forum came two months before Egypt hosts the crucial COP27 climate conference in Sharm El-Sheikh in November.

The African continent emits only around three percent of global CO2 emissions, former UN chief Ban Ki-moon noted this week. **EP**

Risk of Climate Tipping Points Escalates at 1.5C Warming: Study

Failing to achieve the Paris agreement goal of limiting global warming to 1.5C could trigger multiple dangerous "tipping points" where changes to climate systems

become self-sustaining, according to a major new study published in Science.

Even current levels of warming have already put the world at risk of five major tipping points -- including the collapse of the Antarctic and Greenland ice sheets -- but it's not too late to change course, the authors stress.

"The way I think about it is it'll change the face of the world -- literally if you were looking at it from space," given long term sea-level



rise, rainforest death and more, senior author Tim Lenton of the University of Exeter said.

Lenton authored the first major research on tipping points in 2008.

These points are defined as a reinforcing feedback in a climate system that is so strong it becomes self-propelling at a certain threshold -- meaning even if warming stopped, an ice sheet, ocean or rainforest would keep changing to a new state. **EP**

Chevron New Energies, Crowley Lead First Close of Series A Funding Round for Zero Emissions Industries



integrated marine power system and scale quickly to meet the demand within the maritime industry for their zero emission propulsion solutions.

Zero Emission Industries (ZEI), a leading hydrogen technology company Press-Release-Image ZEI small.png for maritime, announced recently the first close of its Series A funding round. The round is led by Chevron New Energies with additional investment from U.S.-based shipping and logistics company Crowley.

The new funds are expected to enable ZEI to roll out their next generation fully

“We believe hydrogen is the best path to energy security and decarbonization of the maritime industry. Chevron and Crowley bring a wealth of global experience and an ability to scale deployment across the marine market. We’re excited to leverage this partnership with our industry-leading technology to achieve exponential growth of the marine hydrogen market,” said ZEI CEO Dr. Joseph Pratt. **EP**

RFL Houseware Introduces Campaign to Raise Awareness on Waste Management



RFL Houseware, a household products brand of country’s one of the leading business conglomerate RFL Group, has launched a campaign named ‘Bins of Change’ to create awareness among the common people on waste management.

The main objective of the campaign is to create a clean environment by raising

awareness through separating compostable and non-compostable waste and recycling the waste into two parts.

RN Paul, managing director of RFL Group, inaugurated the campaign at the head office of RFL Group at Badda in the capital today.

At the program, RFL Houseware’s new product named Twin Bean, with two sections, was unveiled. Decomposable waste can be put on one side of this bin, non-biodegradable or recyclable waste can be put on the other side of the bin, said a press release. **EP**

Adani to Build 3 Giga Factories as Part of \$70b Green Investment

Gautam Adani has said his conglomerate will build three giga factories for manufacturing solar modules, wind turbines, and hydrogen electrolyzers as part of a \$70 billion investment in clean energy by 2030.

Adani group is stepping up investments across the green energy value chain as it aims to become the world’s top renewable energy producer by 2030.

“The Adani Group has already committed \$70 billion (for climate change and green energy). This will see us building three giga factories in India leading to one of the world’s most integrated green-energy value chains,”



he said after receiving the USIBC Global Leadership Award recently.

These giga factories will “extend from polysilicon to solar modules, complete manufacturing of wind turbines, and the manufacturing of hydrogen electrolyzers,” he said.

This, he said, will generate an additional 45 GW of renewable energy to add to Adani group’s existing 20 GW capacity, as well as 3 million tons of hydrogen by 2030. **EP**

Bangladesh Seeks UK Support to Implement NAP

Minister for Environment, Forest and Climate Change Md. Shahab Uddin said Bangladesh requires US\$230 billion till 2030 to implement 113 activities under 8 thematic areas identified in newly formulated National Adaptation Plan (NAP).

Certainly, we shall mobilize domestic resources, however without International and bilateral support, it would be very difficult for us to implement and attain climate resilience.

So we are promoting and encouraging cooperation and support from developed country like United Kingdom.

Environment Minister Md. Shahab Uddin said these



things on August 28 in the conference room of the Ministry while a delegation led by Robert Chatterton Dickson, British High Commissioner to Bangladesh called on Minister of Environment, Forest and Climate Change.

British High Commissioner Robert Chatterton Dickson said Britain will provide necessary assistance to Bangladesh in related activities to combat the effects of climate change, medical waste management and technical and research. **EP**

Invent Climate Tolerant Crop Varieties: Shahab Uddin



Environment, Forest and Climate Change Minister Md Shahab Uddin recently stressed inventing new crop varieties tolerant to changing climate and developing new agriculture technologies aiming to meet the country's future food and nutritional demand.

"At the same time, we must be aware of the use of chemicals and pesticides, which are harmful to public health and environment, during agricultural production and marketing. We have to work for the development of the overall

environment by protecting the country's biodiversity," he said.

The environment minister was addressing the 17th National Conference and Seminar of the Bangladesh Agricultural Economists Association held at Bangladesh Agricultural Research Council (BARC).

Shahab Uddin said the present government has taken effective mitigation and adaptation initiatives to address climate change impacts.

He said Bangladesh has determined the target of reducing carbon emission by 21.85 percent in the updated Nationally Determined Contribution (NDC) where the agriculture sector has been included.

EP

Carbon-Neutral Buildings Accelerated Through New ABB, Caverion Collaboration

ABB and Caverion, a Northern & Central European-based expert for smart and sustainable built environments, recently announced an agreement to strengthen their collaboration to advance energy efficiency and sustainability.

The shared aim of the collaboration is to address carbon reduction challenges in select markets by providing advanced, joint offerings in line with evolving customer needs that drive down carbon, faster and more efficiently.

ABB provides technology solutions, including Mission

to Zero™, a blueprint developed to help customers achieve their carbon-neutral ambitions using energy management solutions linked to electrification, distributed energy resources technologies and the integration of renewable energy sources.

Combining ABB and Caverion's sustainable solutions, integration capabilities and expertise, will not only accelerate the development of carbon-neutral buildings and customer 'Mission to Zero' projects, but also enhance occupant wellbeing and comfort.

EP

IRENA, Industry Leaders Launch Alliance for Industry Decarbonization

The International Renewable Energy Agency (IRENA), co-founding partner Siemens Energy and 13 companies across all industry sectors have launched the global Alliance for Industry Decarbonization.

The new Alliance aims to accelerate net-zero ambitions and the decarbonization of industrial value chains in pursuit of the Paris Agreement climate goals.

The new coalition was officially launched by adopting the Bali Declaration in the presence of IRENA's Director-General Francesco La Camera and the Executive Board Member of Siemens Energy, Karim Amin, during IRENA's Investment Forum on Energy Transitions in Bali, Indonesia.



Co-founder Siemens Energy has been a major driver for the creation of the Alliance and will co-chair the Alliance leadership. The first Alliance meeting is planned to take place at COP27 in Sharm El Sheikh, Egypt.

The participation of leading industries can benefit business opportunities for green industrialization and highlights the importance of collaboration in developing strategies and sharing best practices to cut industry emissions.

EP

Webb Telescope Finds CO2 for First Time in Exoplanet Atmosphere

The months-old James Webb Space Telescope has added another major scientific discovery to its growing list: detecting for the first time signs of carbon dioxide in the atmosphere of a planet outside our solar system.

Although the exoplanet would never be able to support life as we know it, the successful discovery of CO2 gives researchers hope that similar observations could be carried out on rocky objects more hospitable to life.

"My first thought: wow, we really do have a chance to detect the atmospheres of ter-



restrial-size planets," tweeted Natalie Batalha, a professor at the University of California at Santa Cruz and one of hundreds who worked on the Webb project.

Their study of exoplanet WASP-39, a hot gas giant closely orbiting a star 700 light years away, will soon be published in the journal Nature.

EP

ONE OF THE VERY FEW
26" CUTTER SUCTION DREDGER
IN BANGLADESH



Access of Electricity to All Enhances BREB Duty

Bangladesh Energy Regulatory Commission (BERC) does not have the sole responsibility to ensure quality electricity to all on an interruptible basis. For this, supply per demand needs to be ensured from generation to distribution utilities through the transmission grid at the right frequency all the time. The power transmission company must ensure this guaranteed supply to the BREB, the capacity of which already has grown to 16,000MW – more than double the peak demand of 8,000MW. This is being further expanded and modernized now. This will need nearly four years to accomplish.

Md Selim Uddin, Chairman of Bangladesh Rural Electrification Board (BREB), observed in an exclusive interview with Energy & Power Editor **Mollah Amzad Hossain**.

Power to all is a milestone achievement of Bangladesh. BREB is a proud partner of this. How do you evaluate this?

“Power to All” is indeed a great achievement for Bangladesh. The honorable Prime Minister has championed this happening. This has consolidated people’s confidence in BREB and at the same time increased the responsibilities many times. Ensuring quality power to all is now a major challenge for BREB. We are optimistic and confident about overcoming the challenge. At the same time, new challenges

have been created. The new challenge is supplying quality power to all on an uninterruptible basis.

Ensuring quality power to all on an uninterruptible basis is indeed a major challenge. You have also acknowledged that. How long may it take to achieve that?

Please note that by setting 2025 as the deadline, we are implanting our plan for achieving it. But remember that BREB is one of the segments in the power supply chain. The success of BREB alone will not be enough to ensure quality power supply to all. Power supply for meeting the full demand must be ensured at all times and the transmission grid must efficiently deliver this power to the BREB network. Judging from the present situation it appears that this may not be achieved before 2028. Works are ongoing in constructing new lines, repairing existing lines, upgrading existing substations, and setting up new substations. Works for bringing all consumers under the prepaid meter and smart meter are also ongoing. Remote monitoring of the distribution system under Enterprise Resource Planning (ERP) is also going on. The demand for BREB now is 8,000MW. Against that the capacity to supply an 11KV network is 17,000MW, and 33KV is 16,000MW. Works for expanding the capacity are also progressing. The entire BREB network



Md Selim Uddin

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will be brought under SCADA in phases. In the first stage, an initiative has been launched for setting up SCADA at Narshingdi for bringing 11 PBS adjacent to Dhaka under a real-time monitoring system. The entire power distribution system in Bangladesh will be brought under SCADA.

There are allegations that some PBSs including Narayanganj cannot cater to the demand for the respective franchises. Why is it happening after achieving the ‘power to all’ milestone?

The allegation is not untrue. Narayanganj PBS 1 and 2,

Mymensingh 2 PBS are not capable of giving connections to new industries despite having the capacity for that. The reason for this is that the grid substations do not have enough capacity to meet the demand. We are helpless in such a situation. The PBSs mentioned above are also under stress for not supplying electricity to new industries due to the reason. BREB has no possibility to supply electricity to new industries until the power transmission system increases its capacity.

Most of the 80 PBSs have turned into losing concerns. What initiative have you taken for making each one profitable?

You are very correct. Only 15 of the 80 PBSs are running at profit. The reason for that is selling power at a lower price than what it purchases. BREB now has 3.34 crore customers. Of them, 1.74 cores are lifeline customers. We purchase every unit of power from BPDB at Tk 4.66 and sell to lifeline customers at Tk 3.75. We lose Tk 0.91 for every unit of power we sell to lifeline customers. It is a matter of great joy for us that most of the Special Economic Zones now under implementation by the government are in the BREB franchise area. Consequently, scenarios will change for the better in the future. There is no chance of making PBSs profitable by adjusting tariffs. We have social obligations for supplying power to all at an affordable price. Despite this situation, BREB is regularly making repayment of loans.

The financial obligation of BREB has grown significantly due to huge investments made for extending the power grid to facilitate power supply to all. What plans does BREB have to meet such obligations?

True that huge investment has already been made for achieving the 'power to all' milestone. Still,

significant investment is being made in infrastructure development and upgrading. But this will not create any impediment in paying off loans. Increased economic activities and a growing trend of industries in the rural area have started increasing the revenue of BREB. An improved lifestyle of rural masses has also increased the demand for lighting loads. We are optimistic about BREB's financial future in the given circumstance.

Rural masses are the worst sufferers of the present diabolic power supply situation. What actions have you taken to relieve them?

People in urban areas are getting better treatment than rural masses for sensitivity and other priorities. The feeder lines are also comparatively longer in rural areas. In many areas supply from the transmission grid is way below demand. We are endeavoring to manage the deficit through demand-side management. About 30 lakhs battery-driven three-wheelers are the major source of demand in the rural areas. We are trying to ensure an uninterrupted supply of power between midnight and 6 am for the benefit of the battery-driven transport and irrigation. Consumers will derive benefits if they pay heed to our request.

BREB is not working on solar irrigation, solar charging, and other relevant areas. What is your plan for alternative energy?

The charging station is not getting popular. No good news about charging stations set up across Bangladesh. But solar irrigation is steadily getting popular. Some challenges are still being encountered in site selection. But farmers are still keen on using grid power. However, an initiative has been taken to supply additional power from solar irrigation to 11KV

lines. This will make solar irrigation more attractive. Six contracts have been signed with Bengal Solar for the installation of 2,000 solar pumps by December next. The BREB's plan is to replace the diesel-run pumps with solar ones.

RPCL is a company of BREB. Is it working with coal power in addition to gas and liquid fuel? What is the status?

RPCL, an entity of BREB, is efficiently generating power. The journey started with a gas-fired combined-cycle power plant. For the present gas crisis, the full capacity cannot be used. There is a liquid fuel-based power plant at Kodda. A 1320MW coal-based power plant is being built at Patuakhali. Commercial operation is set to start in December 2023. RPCL has taken an initiative for solar power generation alongside fossil fuel-based plants. Grid solar power plants will be set up in the adjacent areas of the Patuakhali coal-based power plant.

Efficient human resources are a major asset of any organization. What are your plans for recruitment and human resource development?

BREB has planned for human resource development based on lessons learned from long-time operations. Managerial excellence has already been developed. An initiative has been launched for enhancing efficiency. But the present challenge is recruiting manpower expeditiously and developing their skills through appropriate training for handling modern technologies. In addition to in-house training, BREB officials are being sent to BPMI for customized skill development. If necessary, some of them will be sent abroad. We have plans for arranging training programs in the future.

EP

INDO-BANGLADESH RELATIONS

NEW HORIZON IN ENERGY COOPERATION

Reverse Swing



Farid Hossain

Prime Minister Sheikh Hasina's recent visit to India has once again brought into focus the state of relations between Dhaka and New Delhi. It's warm, they say. How much is the warmth? It's more than just friendship and strategic partnership, it is said. It's special. In spite of these narratives, especially those in the governments in both the countries, the questions remain about the bilateral relations. Is it a win-win situation? Has there been a balance in the friendship? Are we getting as much (or less) as we give them?

During her post-India visit press conference on September 14 at her official residence Ganobhavan this writer had an opportunity to ask the prime minister this question: What did we get from India from your visit? Her reply was: it's relative. It depends on how one looks at it. India, she said, is our closest next-door neighbor surrounding Bangladesh by land on three sides and by sea also. The relations marked by a wide range of issues, from trading to culture to political and history, have been exceptional in the sense that our giant neighbor stands by our side always in

times of our need. Well, many in Bangladesh may not agree with the prime minister's assessment, but that Bangladesh's ties with India are deep no one can doubt.

For long Bangladesh's relations revolved around the issues of security and sharing of water of the 54 rivers shared by the two countries, notably of the major ones like the Ganges and the Teesta. Bangladesh has ensured that Indian separatists operating in the northeast don't get any support or indulgence in the form of using its territory. During her first term (1996-2001) Sheikh Hasina expelled the Indian separatists from Bangladesh territory and dismantled all the training camps the separatist groups such as ULFA used to operate clandestinely with backing from the then-non-Awami League governments which were in power from 1976 to 1996. The issue is resolved that it now hardly figures in the official talks or joint statements. Not even the media shows any interest. The credit goes to Sheikh Hasina who acted with great resolve in ending the issue. Similarly, India helped Bangladesh in ending the long-running hit-and-run campaign of Shanti Bahini in the country's southeastern hilly

districts, known as Parbatya Chottogram.

In another landmark success the Awami League government in its first term could finally bring India to the table of fruitful talks and sign a 30-year treaty on a fair sharing of the waters from the Ganges River ending a long-standing bilateral dispute that often cast shadows on the domestic politics stoking anti-India sentiments in Bangladesh. The resolution of the Ganges dispute has brought into focus the contentious issue of fair and equitable share of River Teesta, the fourth largest river in Bangladesh. Originating from the Indian state of Sikkim (in the Himalayas) the 414-kilometer Teesta River runs through West Bengal before streaming into Bangladesh through its northwest, where at least 21 million people depend on its water for farming and irrigation during the dry season. As upper riparian country India has not been really cooperative in granting Bangladesh its due share making it a central and sensitive issue between the two countries. Even though the prime minister has highlighted the signing of a MoU on the sharing of Kushiara River allowing Bangladesh to lift 153 cusecs of water for irrigating 5,000 acres of land in Sylhet district, it has hardly been seen as a fair compensation of the losses Bangladesh suffers for lack of a deal on Teesta, which was also most done in 2011. The two countries failed to resolve it due to last moment opposition from West Bengal chief minister Mamata Banerjee, a hurdle getting bigger since then.

Well, Hasina in her talks with her Indian counterpart Narendra Modi, however, added to the list of successes the growing energy cooperation between the two countries. Perhaps, there lies the new light in the relations.

EP



বদলেছে পৃথিবী বদলাচ্ছে জ্বালানী



আবাসিক



বাণিজ্যিক



ইন্ডাস্ট্রিয়াল



অটোগ্যাস

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