

# ENERGY & POWER

## Time's Up To Set Fuel Mix Right

- Payra Power Plant: A National Benchmark
- LOAB Against Arbitrary Pricing, Not A Fixing Formula
- Open Cut Mining - Option for Domestic Coal Development

Special Issue



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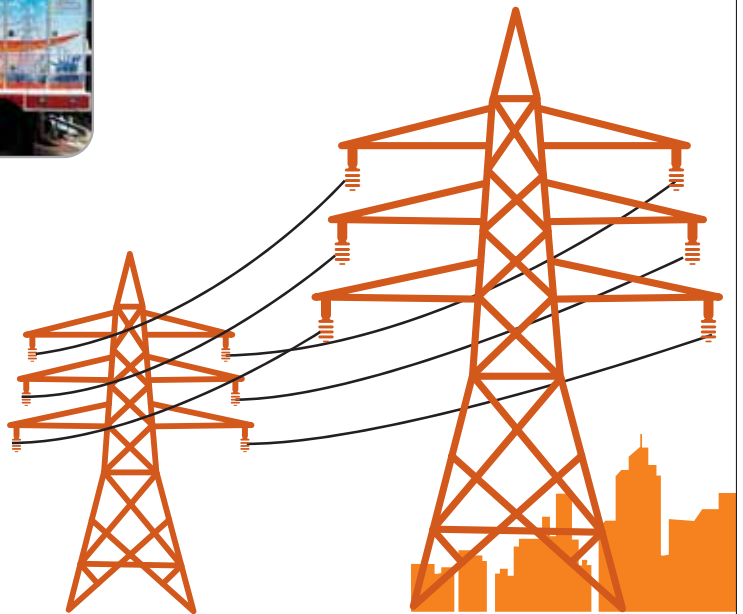
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**Price**  
Bangladesh: Tk 50, SAARC: US\$ 6,  
Asia: US\$ 8, Europe: US\$ 10, North  
America, Africa & Australia: US\$ 14



Fortnightly Magazine, Vol 18, Issue 14, January 1-15



## EDITORIAL

As Bangladesh steps into its 50th year of independence, it's time to recap on its achievements, primarily in the Energy sector. The power sub-sector has also been developing at an accelerated pace for the last 12 years. Prior to Awami League taking office in 2009, the power generation capacity was also growing but at a snail's pace. It was even slower than the electricity demand growth, and almost entirely dependent on domestic primary fuel resources, mainly natural gas.

By adopting necessary policy interventions, the government drive to increase power generation yielded expected results. This however, has come at an increase price since primary fuel supply has diversified to more expensive imports to supplant dwindling natural gas reserves. The nagging question of captive power generation is one of some of the pressing issues that still needs addressing.

Experts and policymakers at a recent discussion reached a general consensus that it is time to prioritize affordability of energy supply. The fuel mix requires restructuring through moving away from import-dependence to greater utilization of local resources, onshore and offshore natural gas exploration and to renewables to a lesser degree.

## h i g h l i g h t s



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The substations in Dhaka would get power supply from dual sources within a year and, at the same time, the utility companies are now focusing on upgrading and modernizing the distribution system while taking an initiative to lay cables underground in an attempt to ensure uninterrupted supply of quality electricity to the consumers, including industries...for more on Special Report

## COVER



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Considering the downside risks of the power sector development and for the sake of its sustainability, experts at a virtual discussion suggested making energy supply 'affordable' for ensuring overall sustainable development of the country. As a strategy, they suggested restructuring the fuel mix for power generation with local resources available, and expediting exploration activities in the onshore and offshore areas.



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Amid a government move to administer the price of LPG due to widespread allegations of manipulation, the LOAB President said they are not against automatic price formulation, but against fixing price arbitrarily. LOAB also wants the government to carefully examine applications for new licenses as the market is already oversaturated, creating unhealthy competition ...  
Azam Chowdhury tells the EP

*Individual's opinion does not necessarily reflect editorial policy of Energy & Power*

Published by the Editor from 187 Elephant Road (Raj Complex), Dhaka 1205  
& Printed at Ananda Printers, 166 Arambagh, Dhaka 1000, Bangladesh



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## Greenpage

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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Azam J. Chowdhury Founder & Chairman, East Coast Group, President, LPG Operators' Association of Bangladesh (LOAB)

## Poland Eyes Hard Split with Coal



Coal-dependent EU member Poland aims to shut its last mine by the bloc's 2050 target, but experts warn the move to go green comes late and faces many hurdles.

Despite three decades of successful market reforms and strong growth since its transition from communism to democracy, Poland still relies on coal for around 80 percent of its power.

Its massive Belchatow brown coal-fired power station is the European Union's "single largest greenhouse gas emitter", according to the EU and several global environmental associations.

A relic of the communist era, Belchatow is fueled by a vast nearby strip-mine and covers around 20 percent of Poland's energy needs.

Poland would have had to begun weaning itself off coal decades ago to meet EU net-zero emissions targets, according to Professor Piotr Skubala, from the Silesian University in the heart of the southern coal region.

## Gazprom Swings to Net Loss of \$3.3 bln in Q3

Russian gas giant Gazprom incurred a loss of 251.3 billion roubles (\$3.3

billion) in the third quarter due to the weak rouble, the company said recently, while it also raised its outlook for gas exports to Europe, a key source of revenue.

The loss is compared to a net profit of 211.8 billion roubles in the same three months of 2019.

Russian companies, which carry debt denominated in foreign currency, have suffered losses due to the devaluation of the Russian rouble, which fell due to the pandemic.

## Putin Says Russia Reducing Dependence on Oil, Gas

President Vladimir Putin said recently that the Russian budget was becoming less dependent on oil and gas, key exports for one of the world's dominant petro-economies.

Putin told reporters during a marathon end-of-year press conference it was clearly positive that, "70 percent of the Russian budget is not formed by oil and gas revenues".

"We are not completely there, but still we are starting to get off the so-called oil and gas needle," he said.

The Russian leader acknowledged however that his country's dependence on hydrocarbons was "still very high".

Russia is the world's second largest oil exporter after Saudi Arabia and its budget is heavily reliant on hydrocarbons.

## Wärtsilä Retrofit to Lower Offshore Vessels' Emissions

Norwegian operator Østensjø Rederi has selected Wärtsilä's Hybrid Upgrade solution for retrofitting two offshore construction vessels.

The upgrades should lead to reduced use of the ships' engine, correspondingly lower levels of exhaust emissions while operating in DP mode, and lower emission levels in all other operational modes.

Both the Edda Fauna and Edda Flora were built in 2008. Wärtsilä's solution will include its new electronic DC bus-link, said to allow a vessel to operate in DP-2 and -3 modes with a closed DC bus in hybrid, and an open bus on the AC system.

Reduced running of the engines saves fuel and lessens the carbon footprint, the company added, while engine maintenance requirements are also alleviated.

All equipment should be delivered in January.

## Millions Facing Winter Power Shortage in China

Tens of millions across China are facing power shortages in below-freezing winter temperatures, as three provinces impose curbs on electricity use due to surging demand and a squeezed coal supply.

Residents, factories and businesses in Hunan, Zhejiang and Jiangxi provinces have been ordered to ration electricity with some areas citing a shortfall in coal supplies, according to local media reports and government notices.

China's rebound from the Covid-19 pandemic has been driven by energy intensive industries such as construction, heaping pressure on the power grid and coal supplies, said Lauri Myllyvirta, lead analyst at the Centre for Research on Energy and Clean Air.

Earlier this month, Hunan authorities ordered all billboards and outdoor lighting on buildings to power off for long periods each day and a temperature cap on indoor heating at entertainment venues.

## Oil Marketing Companies Continue to Hold Petrol, Diesel Price Rise

Oil marketing companies continued to hold back any change in the retail price of petrol and diesel continuing with their wait and watch stance that has kept the prices of the two auto fuels static for the past seven days.

Accordingly, there was no change in the retail price of auto fuels on Monday with the price of petrol remaining at Rs 83.71 a liter and diesel Rs 73.87 a liter in Delhi. Across the country as well the price of the two petroleum products remained unchanged.



## BSMRMU Holds Webinar on Blue Economy

A webinar on Blue Economy in Post Covid-19 Era: Resilience Strategies for the Coastal States organized by Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) was held on the campus recently, says a press release.

Foreign Minister Dr AK Abdul Momen was present as the chief guest at the event while Deputy Education Minister Barrister Mohibul Hasan Chowdhury attended it as special guest.

BSMRMU Vice Chancellor Rear Admiral M Khaled Iqbal delivered welcome speech.



The Foreign Minister in his speech stressed the importance of regional vision of the blue economy.

## PM's Principal Secy Kaikaus Gets Extension for 2 Yrs

The government has extended the appointment of Ahmad Kaikaus, principal secretary to the Prime Minister, for the next two years.

The Public Administration Ministry issued a notification in this regard recently.

On December 29, 2019, the government appointed Dr Kaikaus as the Principal Secretary to the Prime Minister.

## BAPEX Posts Tk 13.99cr Net Profit in 2019-20

The 31st Annual General Meeting (AGM) of Bangladesh Petroleum Exploration and Production Company Ltd. (BAPEX) recently announced a net profit after tax of Tk. 13.99 Crore.

The AGM was held at Bapex Board Room (Online Platform), at Kawran Bazar in the capital, says a press release.

The Shareholders and members of Board of Directors of the company attended the meeting presided over by Mr. Md. Anisur Rahman, Chairman of BAPEX Board and Senior Secretary, Energy & Mineral Resources Division.

The Audited Accounts for the fiscal year 2019-2020 of the Company was approved by the Shareholders at 31st AGM. During the financial year total Income & Expenditure of the Company was Tk 482.21 Crore and Tk 460.39 Crore respectively.

## Energy Supply Monitoring to be Strengthened Amid Boro Season

Prime Minister's Energy adviser Dr Tawfiq-e-Elahi Chowdhury instructed for intensifying monitoring to ensure uninterrupted supply of energy during feed Boro irrigation season.

The instruction came up at an inter-ministerial meeting chaired by state minister for power and energy Nasrul Hamid.

"Agriculture is our economic lifeline. So, timely supply of oil and natural gas has to be ensured for electricity generation to feed the irrigation," said Elahi, who attended the meeting as the chief guest.

He said, "It's necessary to intensify monitoring where there is possibility of disruption of supply."

He asked to adopt the energy saving equipment in agriculture.

Attended at the meeting, state minister for power and energy Nasrul Hamid said our farmers have activated the economic wheel amid COVID-19 crisis.

He assured of ensuring uninterrupted supply of electricity and fuel for irrigation purpose.

## Summit Power Approves 35% Cash Dividend

Summit Power Limited (SPL) has approved a total 35% cash dividend i.e. inclusive of 15% interim cash dividend and 20% final cash dividend to its shareholders for the year ended on 30th June 2020.

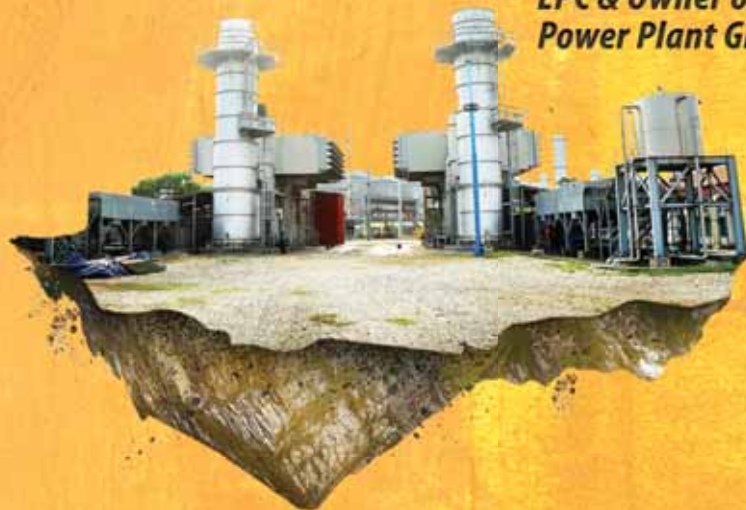
The dividend was approved in the presence of the Company's shareholders at its 23rd Annual General Meeting (AGM) held recently.

Muhammed Aziz Khan, Chairman of Summit Power Limited (SPL) at its 23rd AGM said, "Already 170 million people have access to electricity in Bangladesh. But for us to provide uninterrupted quality power supply to industries we need to further develop our transmission and distribution networks. We would urge the government to also privatize transmission and distribution of electricity."

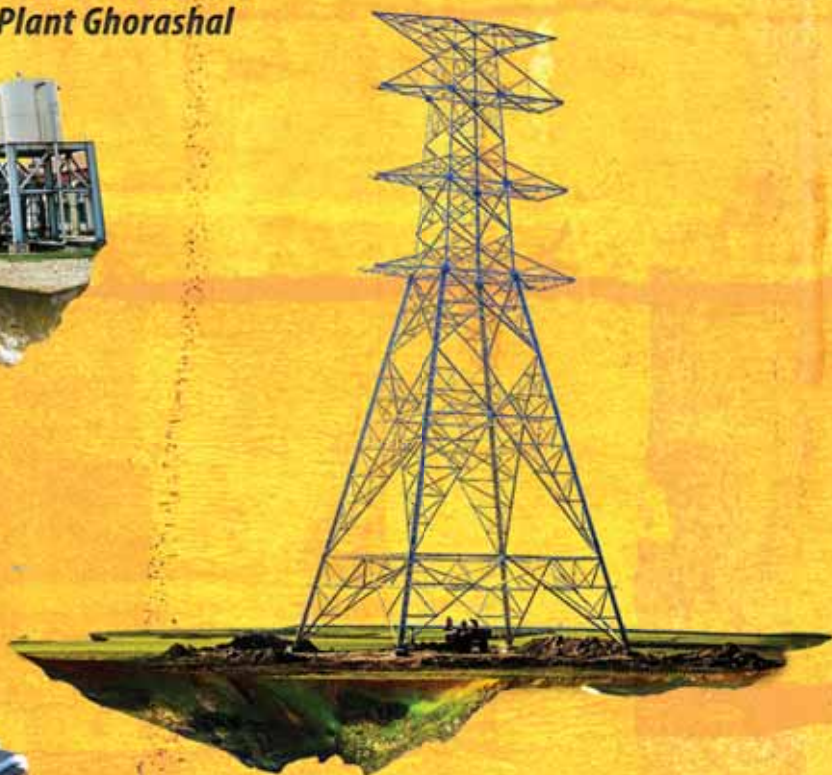
Presided over by Chairman of Summit Power Limited Muhammed Aziz Khan, the virtual meeting was attended by Vice Chairman Md Latif Khan, Director Anjuman Aziz Khan, Director Md. Farid Khan, Director Finance Ayesha Aziz Khan, Director Faisal Karim Khan, Director Azeeza Aziz Khan, Managing Director Lt. Gen. (Retd.) Engr. Abdul Wadud, Independent Director Faruq Ahmed Siddiqi, Director Helal Uddin Ahmed, Director Arif Al Islam, Independent Director Junayed Ahmed Chowdhury and Financial Controller & Company Secretary Swapon Kumar Pal FCA along with other senior officials



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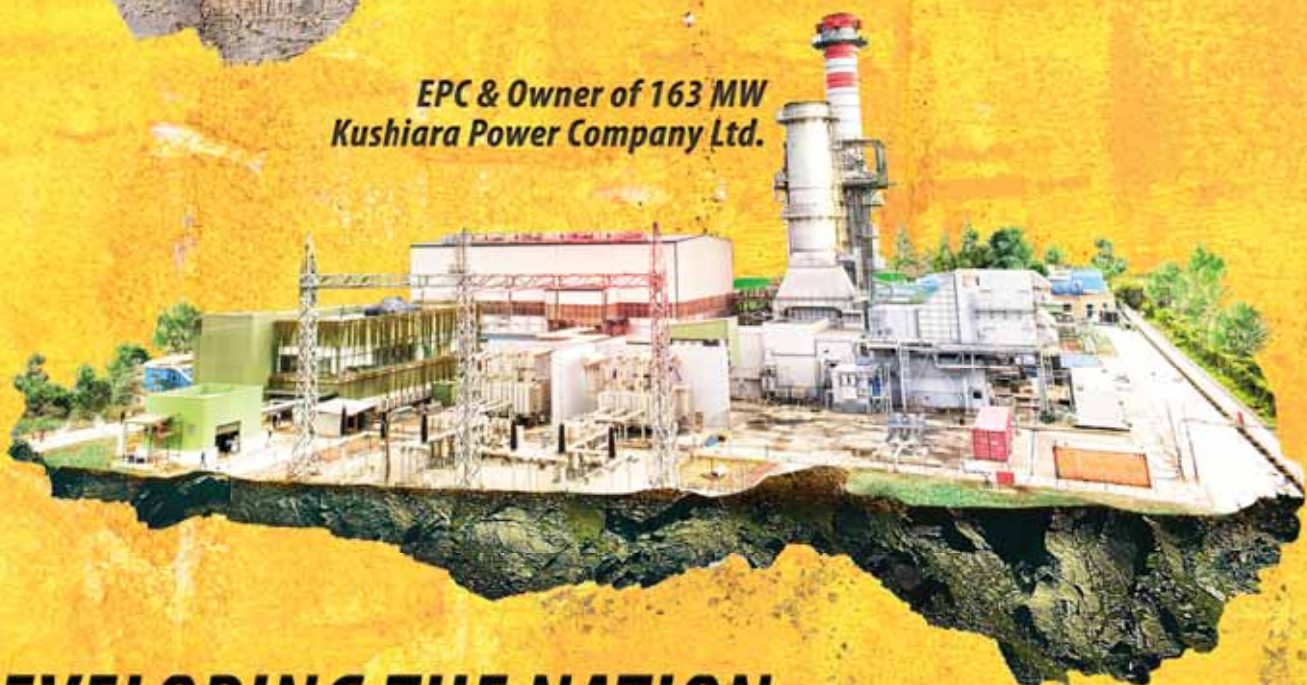


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## Mymensingh Solar Plant Supplying Power to Grid



Bangladesh's largest solar power plant in Mymensingh is fully installed with the Huawei Smart photovoltaic (PV) solution, that is supplying electricity to grid recently.

The 73 MW PV power plant would help meet the government's target of generating 10 percent of the country's total electricity using renewable energy by 2021, said a release.

A photovoltaic system, also PV system or solar power system, is a power system designed to supply usable solar power by means of photovoltaics.

It consists of an arrangement of several components, including solar panels to absorb and convert sunlight into electricity, a solar inverter to convert the output from direct to alternating current, as well as mounting, cabling, and other electrical accessories to set up a working system.

Bangladesh is a typical South Asian country where it enjoys up to 2,500 hours of sunshine per year but with a humid and hot climate.

With this in mind, the Mymensingh power plant has chosen Huawei Smart PV string inverters, SUN2000-185KTL with IP66 high-level protection, and Anti-PID technologies to safeguard the smooth running of the plant with the highest yields possible.

## Authority Urges Gas Cylinder Users to Take Precautions

Gas cylinder accidents occur very often for not following the rules of using gas cylinders properly, said a handout recently.

It added that in order to raise public awareness in this regard, the Department of Explosives, Energy and Mineral Resources has appealed to the public to take the following precautions regarding the proper use of LPG cylinders.

These are: Opening the doors or windows before turning on gas cylinder or stove, Lighting the match stick first before lighting the stove, turning off the oven first after cooking, then turning off the cylinder connection, preserving the cylinder straight or upright; storing the cylinder in a place having ventilation facilities, using a regulator compatible with the cylinder valve and refraining from using all electrical appliances including light fans, if you smell gas.

## Virtual 'Nuclear and Science Days' Events Held in City

Information Center on Nuclear Energy (ICONE) in Dhaka and Public Information Center on Nuclear (PIC) in Ishwardi (Pabna) have jointly organized a spectacular online event series on December 17-18, 2020 to promote nuclear energy and science among mass people here.

The event "Nuclear and Science Days" was created to generate interest about this comparatively unknown branch of science as well as the clean, green, and efficient form of energy like nuclear and importance of Rooppur Nuclear Power Plant in the national plan implementation to achieve energy security, said a release.

In 2020, Nuclear and Science Days was held online for the first time.

The program of the festival included six events, all were held online and broadcasted on Facebook. Among the events 'Expert Talk on Food Irradiation' was broadcasted live.

Other events were 'Expert Talk on History and Future of Rooppur NPP', 'Cycling with Dosimeters', 'Visit at ICONE of famous influencer Keto Bhai', 'Social awareness on nuclear: a tour of the streets in Ishwardi' and Special debate on 'Superheroes and Science'.

## NESCO to Provide 100pc Cash Dividend

North Eastern Electricity Supply Company Limited (NESCO) will provide 100 per cent cash dividend to Bangladesh Power Development Board (BPDB). They made a profit of Tk 6.51 crore during the last financial year.

NESCO made the disclosure at a recent meeting marking the 15th Anniversary of the company.

Speakers at the program focused more on achieving customers' satisfaction rather than earning profit.

Considering the balanced development of the country, NESCO is moving forward, said Secretary of Department of Power under Ministry of Power, Energy and Mineral Resources Habibur Rahman.

"The customer-friendly approach will be further accelerated. Delivering quality electricity to everyone's homes is another promise of our Prime Minister Sheikh Hasina. We have to work together to achieve that goal, he added.

Bangladesh Power Development Board Chairman Belayet Hossain presided over the meeting while Additional Secretary and NESCO Ltd Chairman KM Humayun Kabir was present as special guest.



# Time's Up To Set Fuel Mix Right

EP Report



**B**angladesh has stepped into its 50th year of independence. During this period, the country has achieved lot of socio-economic developments since then which are well acclaimed by the world community. These developments would not have taken place unless the energy sector witnessed a significant progress too. The power subsector has also been developing at an accelerated pace for the last 12 years. Before this period, the country's power generation capacity was also growing but at a snail's pace. It was even slower than the electricity demand growth, and almost entirely dependent on domestic primary fuel resources, mainly natural gas - that too was discovered mostly before the independence of the country. The electricity price was much lower then, but the country had to suffer a serious setback due to severe supply shortage.



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Immediately after taking office in 2009, the new government had taken contingency measures by adopting necessary policies to quickly increase the power generation and meet the underserved demand. The initiatives yielded expected results and the generation capacity by now stood apparently at much higher level than that of the demand while the supply coverage already reaching almost 100 percent of the country. However, the price of electricity also accelerated at the same pace due to import of primary energy, mainly fuel oil, at much higher cost than the domestic natural gas for power generation. The price escalation of the electricity, as an obvious consequence, also caused discomfort to the consumers – the industrial consumers having captive generation facilities with domestic natural gas supplies are not even willing to take power supply from the grid mainly due to higher cost. Power supply disruption is another cause though.

Considering the downside risks of the development in the power subsector and for the sake of its sustainability, experts at a virtual discussion on December 20, 2020 stressed the need for making energy supply ‘affordable’ to all categories of the consumers – from households to industries – for ensuring overall sustainable development of the country. As a strategy, they suggested restructuring the fuel mix for power generation with local resources available, and expediting exploration activities in the onshore and offshore areas, which has largely been neglected for last 50 years, barring few exceptions.

“We must review the fuel mix in the context of our affordability. Time has come to think seriously about it. We can only give priority to imported LNG if the long-term LNG price is less than natural gas from deep offshore,” former Principal Secretary to the Prime Minister’s Office and former Power Division Secretary Abul Kalam Azad told the meeting. He also stressed the need for considering innovations in solar power to

deepen the fuel mix basket. He suggested utilizing the rooftops of railway station, both sides of the railway tracks, bus terminals and other empty and unused spaces for installation of solar power plants.

Energy & Power magazine organized the discussion titled “50 Years of Energy Sector: Achievements and Setbacks”, moderated by its Editor Mollah Amzad Hossain.

Engr. Khondkar Abdus Saleque, Consulting Editor of Energy & Power, presented the keynote paper. Appreciating the developments achieved so far, he listed the setbacks of last five decades and possible challenges ahead, stimulating the discussion. He pointed out that major changes in the fuel mix in Power System Master Plans (PSMPs) have affected the system reliability and sustainability. The country is moving towards exclusive reliance on imported

tive, but the major setback was that the government failed to take a decision on mining own coal, and planned to increase the dependence on imports. Petrobangla has also failed to expedite petroleum exploration. Prolonged delays in offshore exploration are a major failure. Exclusive reliance on capacity-constrained Bapex for onshore exploration proved to be counter-productive. Another major mistake was to let Gazprom work for development wells in Petrobangla-owned gas fields. Even a multi-client survey in the deep-water region of the Bay of Bengal could not be started in last seven years.

Engr. Saleque identified primary fuel supply as a major challenge for long-term energy security of the country. In business as usual, local gas reserve may completely deplete by 2031 if not replenished soon with new discoveries. A significant depletion may have to be faced from 2025.

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primary fuel, expressing the fear that it would not be possible to absorb the price shocks of volatile global fuel market. The supply chain might also disrupt from time to time. To offset the downside risks, an affordable and rational fuel mix of domestic and imported resources should be planned.

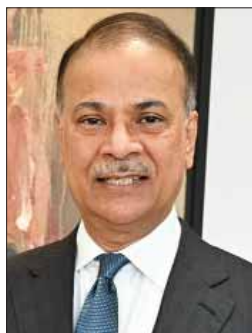
Amid fast depletion of domestic natural gas reserve, he said that the diversification of the fuel mix was a right initia-

tive. Taking part in the discussion on the disappointing issues, Mr. Azad, who is the Special Envoy of the Climate Vulnerable Forum (CVF), pointed out that Bangladesh is supplying power at the lowest tariff. Through enhancing efficiency, it would be possible to supply electricity at more affordable cost. As per the UN Human Development Index, Bangladesh has advanced few steps ahead of Pakistan thanks to electricity supply that played a major role here.

He said that there was a scope for meaningfully strengthening the Bangladesh Petroleum Exploration and Production Company Limited (Bapex). But its management is interested in staying under the government pay scale. A proposal was brought for special higher pay scale. But for reluctance of Bapex, it was withdrawn.



Md. Abul Kalam Azad



Muhammed Aziz Khan



Muhammad Aziz Khan, Chairman Summit Group, mentioned that at the age of free market economy, development progresses smoothly in a democratic country. Bangladesh has both and that is why Bangladesh is developing at a faster pace. The private sector has invested over Tk 80,000 crore during the past 12 years which is a huge achievement. Notable success in power and RMG sector has been achieved and now this must be translated into other industries.

Land is a major roadblock for industrialization of Bangladesh. The 100 under implementation Special Economic Zones (SEZ) would require huge electricity. The COVID-19 pandemic has created some impacts, but we have to reduce the risks of climate vulnerability. Solar and wind would not be able to make major contributions in Bangladesh. So, we will have to give priority to gas and LNG. I am a strong believer of gas to power technology. All transports can be converted into auto gas whether the gas comes from the local source or imported LNG. Gas from deep offshore would cost at least 7 US dollar now. We get LNG at lower cost now. We have to carry

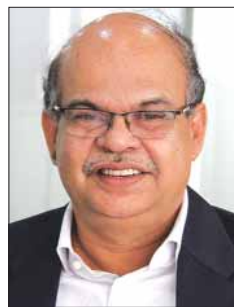
out feasibility studies about exploration of gas from deep water.

In response to criticism about capacity charge, he said the investors need return on each investment. It does not matter whether the investment is done from own source or borrowed from financial institutions. The capacity payment is just like that. We have to bear the brunt in other areas as well.

Muqtadir Ali, former Chairman of Petrobangla and Bangladesh Petroleum Corporation (BPC), said that the development work of Bapex's own field is being given to other company. How it will grow as a self-sustaining company? He also



Muqtadir Ali



Khaled Mahmood



Firoz Alam



Mortuza Ahmed Faruque



Rezwanaul Kabeeer



Khondkar Abdus Saleque

pointed that the Bheramara-Khulna pipeline has been constructed 8 years ago, but is not being utilized until now. The discussion about construction of a Single Point Mooring (SPM) has been taking place since 1980 while the construction of the second refinery is also being discussed from 2000. But it has not seen the light of the day yet. The prolonged delays in project implementation must be done away with. We are keener about doing works engaging foreign companies. We must give more opportunities to local companies. We will remain deprived unless we get out of long delays. We must not give priorities to foreign companies.

Engr. Khaled Mahmood, former Chairman of Bangladesh Power Development Board (BPDB), said it is a pleasure to know that all gas-based power plants are now using gas turbines. The power sector could not achieve such success without own fuel. There was a time when, especially during Ramadan and irrigation season, gas supply for CNG and fertilizer factories used to remain suspended. Now that situation does not prevail any-



Habiganj Gas Field, one of the 5 fields that Bangabandhu had taken over from Shell Oil File Photo



**A view of Ghorashal power plant unit 5** **File Photo**

more. The costs would increase for exclusive imported fuel dependency. Extraction of local coal would benefit us.

Significant advancement has been made in power generation, but some issues like low voltage and others are being addressed now, he informed the meeting.

Mortuza Ahmed Faruque, former Managing Director of Bapex, mentioned that Bapex has developed expertise to drill development wells and workovers. In the past, one development well required a year to complete it, but now this is being done in only 3-4 months. Lot of success has been achieved in workovers as well.

Some 11 wells have been drilled in greater Chattogram and Chattogram Hill Tracts region. There is significant potential for gas discovery in the region. But, due to high court embargo, no work could be done for last 15 years. However, he said, Bapex alone cannot work in the tight structures of the CHT and suggested going for PSC or JVA. There is significant volume of gas at shallow structures in Sylhet region.

Prof Dr. Firoz Alam, a chartered professional engineer, academic and re-

searcher from RMIT University in Australia, appreciated that the per capita power consumption in Bangladesh has increased 40 times to 445 kWh in 2019 from a meager 11 kWh in 1971. In 1971, India's per capita power consumption was 9 times higher than Bangladesh. This gap reduced to 2.6 times in 2019. This is a remarkable achievement, he said.

Nevertheless, he said, Bangladesh still needs to go a long way as the country's per capita power consumption is significantly lower than most countries with similar per capita gross national income (GNI). Emphasizing on the need for ensuring uninterrupted supply of quality power, he urged the stakeholders concerned to link power supply with the income generation activities in rural Bangladesh. He also underscored the need for assessing the power demand with a bottom-up approach instead of top-down approach and based on regular consumer surveys, energy end user modeling, etc. as the current practice is based on historic demand pattern and forecasts of future economic growth which could be misleading.

Engr. Rezwatul Kabeer, Managing Director of Energypac Power Venture

Limited, mentioned that in many countries joint venture between local and foreign companies is mandatory for the projects implemented with local funds. We need similar policy as local companies cannot flourish without enabling policy supports. Local EPC companies can make significant contributions to GDP if they are provided with equal tax and other fiscal incentives. Local EPC companies need 15% tax, 10.5% AIT and 5% other taxes. If these areas are addressed, local companies can make more contributions.

Experts said the taxes are not applicable for the foreign EPC contractors. For awarding works to a local contractor, a company like Summit requires accounting for at least 35% more cost. Such disparity must be done away with. Local EPC contractors could add more values through making far greater contributions if parity could be established.

They said the issues and challenges of the local EPC (Engineering, Procurement and Construction) contractors can be resolved through discussion with the government. Government is also very keen to utilize the local expertise and capability.

In conclusion, the experts considered that Bangladesh must not lean towards a particular primary fuel and stressed the need for a well-thought fuel mix for reliable and affordable power generation and supply. They warned that exclusive reliance on imported primary fuel would pose a huge risk. Local coal can be the most economic primary fuel for power generation. Mine-mouth power plants would be the most ideal solution for avoiding coal transportation difficulties. They recommended reorganizing the Petrobangla and its companies in a manner that those could take part with IOCs to explore and develop the domestic energy resources which could be the most effective way of powering the country's economic growth engine.

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# 2021 Challenges of Energy Sector

Saleque Sufi

2021 is the year of golden jubilee of glorious liberation of Bangladesh. Our motherland earning its liberation through supreme sacrifices of millions has made giant strides in many different areas including energy and power over the past 50 years. Many consider Bangladesh as the emerging tiger of the east. The New Year 2021 presents many challenges requiring Bangladesh better coordinating endeavors for consolidating the achievements.

COVID19 pandemic breaking out in end 2019 continued rocking and rolling the world throughout 2020. The introduction of vaccine in some countries is giving some rays of hope but a much stronger strain of the virus in United Kingdom and Western Europe has also added to world worries. Hope the world would overcome the impacts or learn the ways of living with it. Bangladesh can definitely manage better the impact of the second wave of the pandemic learning lesson from the first.

## Improved Energy and Power Situation through better management of pandemic

Bangladesh could remain significantly less affected in 2020 from economic meltdown resulting from pandemic impacts for much better energy and power supply situation. Industries could resume production after few months, agriculture growth kept apprehended famine at arms distance, power supply to even remote villages, kept telemedicine, telemarketing, long distance education going. Despite business as usual operations of power and energy getting

occasionally disrupted, ninety percent of the population could be brought under power coverage. There is every possibility that entire population may be brought under population by March 2021. There is no denying that, for various reasons, energy sector could not keep pace with power sector. But the issues and challenges of energy and power sector have been identified and way forward are being planned for confronting challenges. Bangladesh economy could demonstrate positive in a situation when major economies of the world showed negative growth. Bringing 99% percent population of a resource constraint under power supply coverage notwithstanding the challenges triggered by pandemic is no mean feat.

## Analysis of Power Generation Capacity

Present Installed Capacity as of December 6, 2020 is 22,717MW. This includes 1,060 MW Import from India, 2,800MW Captive Generation and 382MW Off Grid Solar. The captive generation is expected to be replaced by grid power soon. Most of the over 7,000MW liquid fuel based power generation capacity was due to be replaced by this time. It may be possible to replace most of the liquid fuel generation by 2025 when coal plants at Payra, Rampal, Matarbari and Rooppur Nuclear plants come into operation. But what happens if some major industries in some of the Special Economic Zones start operation say by 2030? What will be the demand growth? Looking at it from another angle, if demand does not grow then how Bangladesh would deal

with that situation? In 2021 Bangladesh faces the challenges of phasing out relatively fuel inefficient power plants and also bidding goodbye to liquid fuel generation. But those captive power plants having co-cogeneration and tri generation facilities may be allowed getting gas supply. However, till grid power demonstrates reliability, major new industries may still push for captive generation.

## Ensuring Quality Power at Affordable Price

The nation's pledge for bringing the entire population under power supply coverage is almost achieved. The positive impacts of electrification, especially, rural electrification are being observed already. The major challenge now is ensuring quality power supply to all at affordable price. For this to happen, challenges are working out appropriate fuel mix, modernizing and updating power transmission and distribution system, ensuring much improved energy efficiency and conservation, automation of power and energy system and finally, planning and executing comprehensive human capital development movement. All these cannot be achieved within a year or two. But 2021 may be year for turning around proving that success breeds success.

## Adopting Appropriate Fuel Mix

All eggs must not be put in one basket. Bangladesh must have learnt bitter lessons from mono fuel dependency. Neither coal, nor LNG on stand-alone basis can support Bangladesh's needs for sustainable power generation. It is strange to think that Bangladesh would grow

green in the foreseeable future. We have to keep all windows open.

Formulating appropriate mix of local and imported fuel would be major challenge in 2001 . Despite energy world transiting from fossil fuels to renewable for carbon neutral energy generation, reality would continue relying on coal for base load power generation. The reasons are abundance in supply across all continents, continued improvement of emissions control technologies and relative stable price. Bangladesh, for its negligible carbon footprint, must not worry too much. But superior quality coal and High Efficiency Low Emissions (HELE) power generation technologies must be used.

Coal (Local and Imported), Gas (own and LNG), Nuclear, Renewable, Imported Power, LPG all options must be there in fuel mix as priorities set above.

### Local Coal

Unlike many countries, Bangladesh possesses significant superior quality coal resource at mineable depth. It also believed to have substantial volume of untapped petroleum resources at on-shore frontier areas and vast almost unexplored offshore region. We all know that for absence of political commitment Bangladesh could not take essential political decision for mining own coal. Technical experts, economists and business communities for a while have been pleading with government to commence exploiting own coal resources. Only a section of left leaning political activists and less informed environmentalists indulging in uneducated debates created confusion. Mining would require managing environmental and social impacts. It would also require mine water management. But from extensive studies and assessment carried out by internationally accredited experts it has been documented that open pit mining is the right choice from at least Phulbari and Barapukuria coal fields (believed by many a single deposit). Extensive documents produced by leading mining consulting companies are available in the Scheme of Development of Phulbari mine. Experts suggested for reviewing the documents if necessary by third



A view of a power transmission line

party and give green signal for mining.

On the other hand Bangladesh has burnt its nose following inappropriate underground mining method at Barapukria. The mine is possibly one of the rare mine in the world witnessing all the adverse impacts that can happen in an underground mine. The cost of mining has now grown so high that imported coal is now much cheaper than the coal extracted from it. A local high-powered committee suggested for open pit mining. Those suggestions should be duly considered. This mine cannot support power generation from three mine mouth plants. It is apprehended that if open pit mining is not sanctioned soon from Barapukria and Phulbari operation of mine mouth Barapukuria power plant would require suspending for indefinite period. Taking political decision for mining would be major challenge of the government in 2021.

Government should reassess the reports of Dighipara and Khalaspir engaging fresh accredited mining consultants through transparent process.

### Imported Coal

Major problem for imported coal is shallow coastal areas creating impediments for coal port and other enabling infrastructure development issues. However, under construction Matarbari port and if in future Payra can set up a proper coal port, then the plants at Matarbari,

Moheshkhali and other plants in coastal areas can get supply of imported coal. But given the limited windows of financing in coal projects apart from present under implementation projects, only new coal power projects should be located in mine mouths. The transshipment of coal from mother vessels anchored in deep sea or carrying coal in half filled Supramax vessels would create issues for generation costs going higher.

### Local Gas

Government must seriously review capability of Bapex. It must be truly strengthened technically, financially and administratively. ONGC came into gas sector much later than Petrobangla. Petronas is almost contemporaneous. Petro Vietnam can also be an example. Making Bapex truly professional is another 2021 challenge for the energy sector. Bapex board needs restructuring with line professionals, academic researchers and local business executives. Salary and benefits must be made commensurate with onerous tasks of resource creations. At the same time duties and responsibilities must be reflective. Provisions for Bapex for entering into joint venture with competent foreign companies must be created for capacity enhancement. Bapex with joint venture must concentrate on exploration in own assigned blocks and Chottogram Hill Tracts areas.

On the other hand, IOCs must be engaged in onshore through PSCs for deeper prospects exploration of discovered gas fields and western region.

We do not believe that present lower trend of gas price in international market would last beyond 2021. Hence there is no reason why Petrobangla cannot go ahead with offshore bidding by June 2021 and conclude signing PSCs by end 2021. At the same time Contractors must initiate Multi Client surveys without any delay now. Let 2021 set the foundation for massive petroleum hunt at onshore and offshore areas.

### LNG as Preferred Interim Fuel

Few observers feel that LNG would be preferred interim fuel in the transition of world energy paradigm shift from fossil fuel to renewable. Let us accept that Renewable in Bangladesh would never contribute more than 10-15% of the energy basket. LNG and coal import have similar challenges for Bangladesh in consideration of shallow drafts of coastal area. As far as present lower price of LNG is concerned, this would not be long lasting. Global price of oil has already started climbing with the introduction of Corona vaccine. By end 2021 there is possibility that oil price may shoot back to Pre-Pandemic level. On price consideration, LNG cannot be competitive to coal as far as base load power generation is concerned. Bangladesh still needs to import LNG. It must continue its works for setting up Land Based LNG terminal at Matarbari. Bangladesh needs adjusting its PPR provisions for taking advantage of lowest spot price of LNG. The price is offered for a week to 10 days validity. But for Petrobangla and RPGCL the approval process takes at least a month. In such situation taking advantage from spot price is not possible. Bangladesh could renegotiate long term LNG price with suppliers in the changed global scenario. Bangladesh also cannot take advantage of Future Purchase for PPR conditions.

Together with the program of Land Based LNG Terminal Bangladesh should consider LNG storage facilities. The advantage of fluctuating LNG price in



Construction work of Rooppur NPP project is progressing

global market, especially of low price could be taken if Bangladesh could import and store LNG for future use.

Yes LNG can be an option for additional power generation. But the challenges must be duly considered. Bangladesh must not open Pandora box like RMG, Rental Power and Coal Power plants, LPG bottling plants without considering all pros and cons of the business.

### Capacity Enhancement of Power Grid

One of the major setbacks of Power Sector is PGCB failing to keep pace with power generation successes. Bangladesh should have developed at least 400 kVA backbone of power transmission line by now for evacuating power from different power hub. The implementation of all mega power projects envisioned under mid-term planning have been delayed. But still PGCB is not ready for evacuating power. In a small country like Bangladesh, distributed power transmission system is not right solution. However mini grid and micro grid should grow in limited scale. 2021 should be year for expediting all projects of PGCB. All its grid sub stations must be smartly operated as well. All KPIs must have self-contained fire fighting and other safety arrangements. SCADA must be well truly operational.

### Power Distribution Utilities Must Grow Smart

We understand that distribution utilities

are growing smarter introducing GIS, SCADA, Smart metering, burying power lines underground. Hope all utilities in city areas take coordinated action plans for burying utility lines and monitoring operations based on fiber optics based smart sensing. Expediting these projects are also a 2021 challenge for power utilities.

### BERC Must be Truly Functional

Making BERC truly functional is another challenge for 2021. It still cannot police energy auditing. One of the mandates of BERC is caring for efficiency of its licensees. It has to enforce law, regulation, act and policy. Mere reviewing pricing and determining tariff through some public consultation cannot remain the sole responsibility of BERC in the maturing Energy& Power market.

2021 would be a year of consolidating the achievements of power and turning around of energy sector. Bangladesh has to keep pace with shifting paradigm of World Energy. Developing State Owned Enterprises to higher skill levels for exploring and exploiting own fuel resources, devising and implementing appropriate fuel mix for affordable power generation and supply are major challenges of 2021.

EP

*Saleque Sufi;*  
Contributing Editor





# তিতাস গ্যাস ট্রান্সমিসন এন্ড ডিস্ট্রিবিউশন কোম্পানি লিমিটেড



(পেট্রোবাংলার একটি কোম্পানি)

পিএবিএক্স-৯১০৩৯৬০-৬৯

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তিতাস গ্যাস কর্তৃপক্ষ

# Experts for LPG Pricing Formula

## EP Report

**F**ormulation and adoption of a comprehensive formula for fixing the price of Liquefied Petroleum Gas (LPG) has become essential now. Purchase price, premium and fluctuation of foreign exchange rate should be considered while setting the price. It should also be taken care of that the price does not fluctuate frequently, creating negative impact on the consumers.

Speakers at a virtual discussion titled “LPG Pricing Dilemma” on December 26, 2020 stressed on the need for the pricing mechanism amid frequent fluctuation of LPG price in the domestic market.

Energy & Power magazine organized the meeting as part of a series titled “EP Talks”. Moderated by EP Editor Mollah Amzad Hossain, Head of Division (Sales) of Basundhara LP Gas Engr. Jakaria Jalal presented the keynote paper of the discussion where Dr. Tawfiq-e-Elahi Chowdhury, Energy Advisor to the Prime Minister, was present as the chief guest.

The speakers observed that records evidence price fluctuation by 200 US Dollars within a month in the global market. In such situation, setting the LPG price at consumers’ level is really challenging. If Bangladesh had an agreed formula for setting the price, it could be adjusted from time to time based on fluctuation of price in the global market. Bangladesh’s next door neighbor India follows such formula.

Prime Minister’s Energy Advisor Dr. Tawfiq-e-Elahi Chowdhury said that the end users’ price of LPG could only be reduced in a supply chain if the base cost of LPG can be lowered. The realis-

tic possibility in this case if Bangladesh can develop a deep sea port for importing LPG in large vessels. Bangladesh is going ahead with the construction of Matarbari port. Entrepreneurs can plan on that basis. Railway networks are advancing. We must think about better utilization of riverine transportation.

Expressing different opinion with Dr. Ijaz Hossain, the advisor said it is being said that the LPG demand forecast for 2015 is sky high. The government envisions that all citizens would move out of biomass use at some stage. There can be fuel mix for domestic cooking. Solar power and grid electricity will be there. We have to make that happen what ap-

would be extended to rural areas. We must discuss how in a better-coordinated manners LPG and articulated facilities can be provided to new regions like Purbachol.

Azam J Chowdhury, President of LPG Operators’ Association of Bangladesh (LOAB) said LPG bottles are being transported to satellite stations using riverine transportations. LPG market started growing big since 2016. In 4 years, annual demand has grown to 10 Lakh tonnes from 80,000 tonnes. In global standard, it is a new milestone. It will take some time for getting market stability. The government must set a regulation about the storage capacity. Cross

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pears impossible in business as usual approach. All rural women would use commercial fuel. Price needs to be adjusted. It must not fluctuate too often. My origin is in a rural area. I do not understand much complexities. Too frequent fluctuations may create price shock. Bangladesh Energy Regulatory Commission (BERC) may ponder about cross subsidy. Electricity had cross subsidy earlier. Something like life line can be considered.

He acknowledged the necessity for strengthening the Directorate of Explosive. He also stressed on LPG value chain obliging to safety regulations. LPG companies must devise ways on how to work better with all. Our villages would turn your towns. All urban facilities

filling now being done is a very risky activity. We the investors failed to fathom Bangladesh scale. There will be mini grid system eventually. Safety surveillance must be strengthened.

He said that many of us buy LNG from global market on yearly basis, few from floating market. We have to go for automatic pricing formula. We cannot import LPG during monsoon. There must be a deep sea port for LPG terminal. The Power Cell has been given responsibility for it. Petrobangla should get this responsibility. Imports will be streamlined when the deep sea port will be developed. Price will get down then.

Ghulam Rahman, President of Consumers Association of Bangladesh



(CAB), said that given the present scenario of gas value chain, there is no option but to expand LPG market. But it must be ensured that the consumers can get fuel at affordable price. At the same time, the suppliers should also get fair rate of return on investment. Absence of transparency creates opportunities for manipulation. Hence price must be set through public hearing. The government should review whether it would be wise to give licenses to too many operators in consideration of the market size of Bangladesh. Energy price is regulated by law. BERC is mandated to determine the price. It has started the process.

Professor Dr. Ijaz Hossain, Dean of the Faculty of Engineering, BUET observed that the sky-high forecast of LPG demand is a fundamental flaw. Japanese did it, they also did the same for electricity. They estimated the demand as 3.0 million tonnes in 2025. It may not happen even in 2030. Competition has brought down the price. At the start, the price was high for monopoly business. Price must be adjusted on monthly basis. The maximum span of price can be for three months. Pricing formula is very simple. But application is difficult. I find no justification for fixing the price.

Sheikh Naweed Rashid, Head of Strategic Portfolio Management of G-Gas (Energypac LPG) mentioned that the cost of cylinder manufacturing is Tk1600-1800. But these are being sold at Tk500. It is being told that the cost of refill is higher. The price of this imported commodity fluctuates at a wide range. It is very difficult to track as it ranges over US\$200 in a month often. The size of investment differs for different LPG companies. Distribution cost is also a major factor. Sometimes the trucks take two to three days for reaching from Mongla to Dhaka. The cost of inland transportation gets higher.

Engr. Jakaria Jalal, Head of Division at Bashundhara LP Gas Ltd, in his keynote presentation pointed out that the LPG demand grew at a phenomenal pace from 2015. The present annual demand



Dr. Tawfiq-e-Elahi Chowdhury



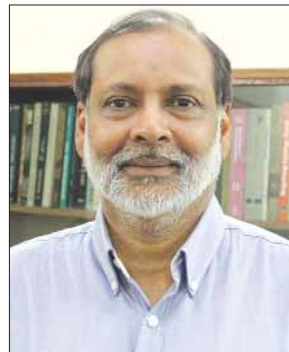
Azam J Chowdhury



Jakaria Jalal



Ghulam Rahman



Dr. Ijaz Hossain



Sheikh Naweed Rashid

is 1.2 million tonnes. JICA forecasts the demand to rise to 3.0 million tonnes in 2025 and 6.0 million tonnes in 2041. The market is fluctuating over a wide range. Unpredictable market, premium cost, US dollar exchange rate fluctuations have made keeping LPG price stable extremely challenging. Some 56 companies have so far been awarded licenses. Of them, 28 are in operation and 20 more companies have initiated import process. There exist 200 tankers, 5,000 trucks, 21 vessels and 20 satellite plants. Considering the size of the market, the investment appears too high. Investment has become risky for unfair competitions. The end users' price is showing lowering trends over the past 8 years. Now a 12KG cylinder can be sold at Tk 850-950. Around 50% domestic consumers of the country now use LPG. There is now safety regulation in place. Tax-VAT provisions needed restructuring. Subsidy exists in other countries, but in Bangladesh we have to pay VAT and taxes. Sometimes, unfair comparison is made with India and Sri Lanka. We cannot compare our case with India as it needs importing only 50% LPG of its demand.

Now LPG is sold at Rs. 58 per kg in India and in Bangladesh it is equivalent to Rs. 60 and in Nepal Rs. 82. Different companies are importing LPG from different sources following different strategies. How can the price be fixed in such circumstances, he questioned?

Drawing a conclusion, EP Editor Mollah Amzad Hossain observed that the retail price is Tk 850, but for market manipulations at the dealers' level the price goes higher at consumers' level. The BERC has issued notice for public hearing for holding discussion on determining the LPG price. BPC has proposed to sale LPG at Tk 700, LOAB adding 9% profit proposed a price of TK 1,259 and Promita Energy proposed at Tk 1,042. The LPG policy sets 5,000 tonnes storage capacity as a requirement for license.

Sahabuddin, LPG dealer in Dhanmondi and Lalbagh areas, mentioned that the LPG operators care little about the distributors. Announcements must be made every time when the price is adjusted.

# Rationales of LPG Pricing in Bangladesh

Saleque Sufi

**T**he burgeoning economic development of Bangladesh, GDP growing at consistent impressive rate of above 6% over the past decade created challenges for smooth supply of primary fuel. Till end of the past century own natural gas almost exclusively dominated fuel supply for power, industry, fertilizer and even to domestic and commercial consumers. Hesitation in taking political decision for mining only other major fuel alternative coal and continued failure in expediting exploration and development of petroleum in onshore and offshore prospects pushed Bangladesh to imported fuel - Coal, LNG, LPG and other petroleum products.

The LPG utilization which started from utilizing crude derivative from Eastern Refinery Limited (ERL) and a small plant at Koillashtilla Gas field got momentum since the introduction of private sector in LPG import, bottling and distribution. The LPG market started growing faster since 2016 following official suspension of pipeline gas supply to domestic consumers. From 2016 to 2020 the domestic market witnessed phenomenal growth from annual demand of 80,000 tonnes to 1 million tonnes. A recent JICA study forecasted the domestic market growing to 3 million tonnes by 2025 and 6 million tonnes by 2041. At present 56 companies have license for operation in Bangladesh. 28 of these companies are already in business. 20 more companies have initiated actions for import of LPG. An estimated US\$3 billion has been already invested. 20 tankers, 500 trucks, 21 LPG vessels and 20 satellite plants have given domestic market capacity for

meeting existing and emerging demands. Jakaria Jalal inform those data in recent webinar titled "LPG Pricing Dilemma" on December 26.

In the wake of major depletion of domestic natural gas reserve, government has announced final decision for no new pipe line gas supply for domestic use. LPG will definitely be the fuel of choice for cooking. LPG as auto gas is growing as popular fuel for automobiles. But at present super saturated LPG market in the context of market demand, absence of regulatory control, absence policy for safety and absence of regulator policy safety have created challenges for smooth operation of LPG business. Moreover, some unethical business practices have created concerns as well.

Appropriate pricing, price structure are other aspects of LPG business. In a recent digital seminar organized by Energy & Power LPG Pricing Dilemma were discussed, deliberated and debated. Energy Advisor to Prime Minister and Energy Minister of Bangladesh, Industry Leaders, Academic Researchers, CAB leader participating in the discussion had meeting of mind on pricing issue. This write will attempt in objective analysis of the situation.

## Challenges of LPG Business

The keynote paper presenter highlighted the following challenges.

Supply of LPG, Improper Guidelines of Operation., Absence of Modern Safety Rules and Lack of Compliance, Improper VAT and Tax Structure, Inadequate Drafts at Existing Ports, Lack of Countrywide Good Road Infrastructure

and Unethical Business Practices. We can discuss all these in a little depth.

- **Supply of LPG:** We are aware that only a small fraction (1.5% of National Demand) is supplied from lone crude oil refinery. LPG liquid is imported from different companies from international market following different strategies. Due to limited draft at Chittogram and Mongla ports, LPG is either imported using smaller vessels or through transshipment from mother vessels anchored at deep water. These adding to transportation make the overall cost for reaching LPG to consumers level higher. Till a deep sea port at Matarbari and Payra comes into operation and a combined deep-water terminal for Liquid Fuel is operational, this challenge cannot be overcome. Other options can be expediting construction of a Second Large Refinery creating facility for additional LPG supply. This may take 5-7 years. Bangladesh may discuss with India for importing LPG from Indian Refineries in adjacent states of India. At least four such refineries adjacent to Bangladesh border cannot use full capacity for their distance from nearest port. Transporting crude and disposing of refined products are issues. Bangladesh in future can let India use Matarbari port facility for importing crude for these refineries and also disposing off refined products on condition of preferential access for Bangladesh in refined products. Raliway transportation of Crude from Matarbari to Refineries and Refined Products from Refinery to Bangladesh and port can follow win-win contracts negotiated.



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ফ্রান্সের টোটাল  
এলপি গ্যাস





- Improper Guidelines for Operation:** A genuine question arises as to the number of organizations regulating LPG business. In free market business operation open to public and private operators independent regulators with well articulated regulatory guidelines set level play ground for fair play. BPC as government agency in business also operate LPG business partially. It is a definite conflict of interest. BERC Act does not clearly provide its mandate for regulating LPG business. Neither Explosive Directorate nor BERC has developed policies or Guidelines for LPG business operation. If BPC stays in LPG business, it must compete with private operators as business enterprise. Its regulatory functions must be taken out, BERC should be strengthened as sole regulator. BERC must formulate guidelines and ensure compliance. Explosive Directorate must also be strengthened for policing safety. Intensive safety auditing and policing of safety at all stages LPG import, storage, bottling, transpiration, refilling and disposal will assist smooth growth and development of business. Unfair business practices will be done away with. Only companies in fair business would survive.

- Improper Tax and VAT Structure:** We must realize that the entire population of Bangladesh has constitutional right for access to energy at affordable price. Now consumers in gas franchise only getting the blessings of cheaper pipeline

gas. Rest of the country even many in Southern and Western Region of Bangladesh are deprived from own gas use. They either have to use expensive LPG or other form of Bio Mass. This is discrimination. In this situation government must find ways how to make LPG price competitive to Pipeline gas. True that reliance on Imported LPG and lack of port facilities cannot keep price lower and competitive. The only way left is reforming tax and VAT structure making price, reducing the gap between pipeline gas and LPG. If necessary, cross subsidy can come under consideration. Till all these can be worked out, an unique pricing formula for pricing can be formulated taking into consideration all components of pricing.

- Inland Transpiration:** This writer during recent visits in different areas of Bangladesh has observed with great concern that LPG bottles are transported and stored at remote areas of the country in very unsafe manners. We are aware that some companies have modern transportation facilities from bottling plants to satellite stations but all does not have. Roads are not in good conditions in many areas. Petroleum Pumps must restrict as far as the retail business practicable. The distributors must be trained and made to sign safety agreements for smooth transportation and storage of LPG.

- Unethical Business Practice:** BERC alone or BERC and Explosive Direc-

torate jointly must carry out efficiency and safety auditing regularly for policing unethical business practice. There are credible allegations of using substandard meters and hose. These create safety hazards and cause accidents.

### Pipe Line Gas and LPG for Cooking

Being a life long gas professional deeply involved in gas supply to different consumers for almost three decades, I now feel the strong logic of phasing out pipeline supply of gas to domestic consumers. 18% of total gas is now supplied to domestic consumers. There are thousands of illegal consumers. Government has taken right decision for not providing any new gas for domestic use. At the same time setting a target of 2-3 years government must phase out pipeline gas supply for domestic and commercial use. At the same time, gas supply to CNG must also be gradually replaced with Auto Gas. We are sure that the proponents of CNG by now realized that CNG use has not delivered the cherished vision.

Bangladesh needs adopting the right fuel mix for energy generation as it will increasingly become imported fuel depended. Fuel choice must be rational and pricing must be logical. For cooking LPG must be the preferred fuel. Before letting so many operators in LPG business the regulatory capabilities must have been strengthened, own experts must have assessed market development and safety procedures must have been developed with provisions for auditing and policing. In free market economy with so many operators already making significant investments fixing price would not be proper at this stage. However, a flexible pricing formula can be adopted. Bangladesh situation must not be compared with India. Its refineries can feed more than 50% of its LPG demand. Its ports have draft for importing LPG by proper vessels. Petroleum and Natural Gas Regulatory Board and state regulators can police safety. Comparison in such situation is not apple-to-apple.



**Saleque Sufi;**  
Contributing Editor





জ্বালানী খাতে  
সেরা পুরস্কার প্রাপ্ত

**Omera**  
LPG

সঠিক মাপ ও মানসম্পন্ন  
বিশ্ব সেরা প্রযুক্তির  
নিরাপদ সিলিন্ডার



# Utilities Now Focus on Improving Power Distribution System

## EP Report

All the substations in Dhaka city would get power supply from dual sources within a year which is expected to help mitigate disruptions to a great extent. And, at the same time, the utilities are upgrading and modernizing the distribution system while taking an initiative to lay cables underground in an attempt to ensure uninterrupted supply of quality electricity to the consumers, including industries.

The chief executives of two utilities – Dhaka Electric Supply Company Limited (DESCO) and Dhaka Power Distribution Company Limited (DPDC) – have discussed about the development initiatives now being implemented after getting close to achieve the target of providing access to electricity for all.

While moving ahead with the development programs, they also sought cooperation from the consumers, who often throw rubbish like clothes and other things on the distribution lines from the high-rise buildings, to improve the quality of supply.

Managing Director of DPDC Engr. Bikash Dewan and Managing Director of DESCO Engr. Md. Kausar Ameer Ali were speaking at a virtual conference on “Challenges After Achieving 100% Electricity Coverage” on 13 December 2020.

Energy & Power magazine organized the discussion as part of a series titled “EP Talks” on the emerging energy sector issues. EP Editor Mollah Amzad Hossain mod-

erated the conference.

Engr. Md. Kausar Ameer Ali informed the conference that the target of 100 percent power coverage has been achieved. Now work is going on improving the quality of power supply and the first target is to enhance the system capacity. Presently, most of the distribution lines are overhead. Already utility company has started laying these underground which is a huge challenge in case of Dhaka city as not even 6-8% space is left besides the roads. All other utility services are now going underground too. Hence getting requisite space remains a great challenge. The target is to complete the pilot schemes in Gulshan, Banani, Baridhara and Purbachal by 2023.

Simultaneously, efforts are on to make customer services simpler so that the consumers get all services digitally from home. Around 50%

ings has created some difficulties. We are discussing amongst ourselves that individual prepaid meters will be given to all. We have already done that in some places, but there would be a main meter. It is extremely difficult to supply power safely to the markets. There exist no reliable wiring diagrams in most cases. It is very difficult to identify these. DESCO’s responsibility ends at customer’s meter inlet and internal wiring is the responsibility of individual customers. He said that in case of customers’ purchasing the meters, there is no scope for realizing the meter rent. If these have been done through mistakes, we would apologize and return that money.

Regarding issues about exemptions of VAT for 100% export-oriented industries, he said the National Board of Revenue (NBR) would deal with this. They will have to issue a SRO

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of the consumers have now prepaid meters and 100%, including bulk consumers and industries, will get it by 2023 when there should not be any complaint about bills. DESCO will completely do away with the manual meter reading.

The DESCO MD acknowledged that the single point metering system for the markets and commercial build-

ings in this regard. We are providing this facility to some companies already. We are working on ensuring uninterrupted supply of quality power to Tongi industrial area. We hope to complete the work by June 2021. There would be facilities for dual-source supply. We have applied to Gazipur City Corporation four months back, seeking road cutting permission for laying distribution



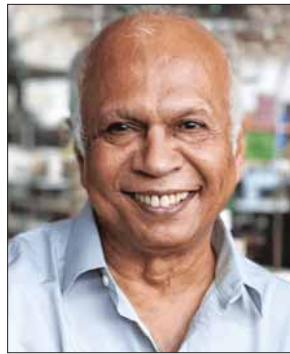
lines underground. We have not received the permission yet. We are ready for completing works expeditiously upon receipt of the permission.

We understand that the sudden increase of power tariff has created difficulties for the bulk users. However, we have requested the Bangladesh Energy Regulatory Commission (BERC) to determine multi-year power tariff. There will be a forecast about future tariff so that the investors could take their future plans.

DPDC MD Engr. Bikash Dewan said that the unplanned growth of industries is a major challenge for providing uninterrupted supply of grid power. He said the DPDC is executing some short and mid-term projects for ensuring uninterrupted supply of quality power to the industrial customers. The work on removing hazardous poles and lines are in progress.

Another major problem is that consumers take connections for a given load but they keep on adding more appliances, increasing the load and consequently the transformers get overloaded and go offline. To facilitate quality power supply, the consumers too need to be conscious. The distribution companies alone cannot do it. The regulatory organizations need to be more active in addition to utility companies. We have shortage of experienced human resources also. Very often the power sector utilities are blamed for fire incidents due to short circuit, but electricity system development in Bangladesh is a neglected area. Billions of taka is being spent on big apartments and markets, but quality power connections are neglected.

Helal Uddin, former Vice President of FBCCI and President of Shop Owners Association of Bangladesh,



Shahedul Islam Helal



Helal Uddin



Bikash Dewan



Md. Kausar Ameer Ali



Khondkar Abdus Saleque



Ariful Hoque Shuhan

acknowledged that the activities have expanded to a great extent thanks to the commendable success in power generation. But, at the same time, all must realize that we are not yet in a comfortable situation. We are not sure how much money the utilities are taking from us as power bill. From a single point metering system, we are unaware about how much an owner gets from an apartment building. The bill needs to be collected from each apartment and shop. The State is not for business, but for providing services. A sense of silent displeasure prevails in the mind of consumers. In some markets, the unit rate of power is Tk 16 and in other places, it is either Tk 12 or Tk 14. He raised questions about the anomalies.

Customers have to fill up a form. They also need to set up solar panel for a part of their required power. This is often not at all useful. Al-

most every day, about 15-20 short-circuit related fire incidents are reported. There is none to check quality of electrical appliances available in the market.

Shahedul Islam Helal, former President of Bangladesh Chamber of Industries (BCI), mentioned that in 2020 we received uninterrupted power for 160 days. We will welcome if loadshedding is done giving prior notice until uninterrupted power supply is ensured. That can let us prepare for it. Sudden disruptions create production losses to plastic industries and other process oriented industries that require 24/7 power supply. Every interruption creates Tk 10,000 loss. Please also give us advance notice of power tariff hike to enable us to make business plan. We can make contracts with buyers considering the new tariff in mind. Do not increase power tariff and give it retrospective effective. Few times while increasing the tariff, we were told about tariff adjustments in due



A view of a power transformer

course. Oil price remains low for a while, but power tariff has never been lowered. We cannot keep confidence on Bangladesh Energy Regulatory Commission (BERC) though they are mandated for protecting consumers' interest, which they are not doing at all.

The conference was told that the BERC is formulating a uniform billing system for all the power distribution utilities. A format is almost ready and it will be introduced soon after approval.

Engr. Khondkar Saleque Sufi, Consulting Editor of Energy & Power, expected that the actions initiated by the power distribution utilities would help ensure uninterrupted power supply, but stressed on modernization of the power value chain – GIS, SCADA, Automation, Smart Grids – that have unique challenges and would require extensive human resources development apart from significant investments. He said that Bangladesh does not have digital mapping of already existing underground utility services. Till this is done, taking one or few utilities underground on stand-alone basis may not serve the purpose. He suggested integrated underground mapping of power, water, telecom-

munication, gas and internet services.

Prof Firoz Alam of RMIT University at Melbourne in Australia, said that providing a connection to power from a grid or off-grid source would not automatically bring development or benefit the people. As most areas are now under grid connection, he said: "We must ensure: (a) power quality, (b) power quantity (as per demand), (c) correct power pricing, and (d) linking power access with income generation activities."

Prof Alam emphasised on achieving a good balance between access to power and sustainable development. In this regard, the Bangladesh Power Development Board (BPDB), Bangladesh Rural Electrification Board (BREB), Power Grid Company of Bangladesh (PGCB) and other power stakeholders should carefully undertake bottom-up study for power demand forecasting, connect power access with local development efforts, and practice good governance in power access and management. Scientific selection of power generation technology/devices and technical

assistance must be provided for ensuring correct system design/selection, site selection, installation and quality of renewable power generation systems. Most importantly, ongoing performance monitoring and maintenance regimes must be ensured. Otherwise, regardless of high quality and expensive system, the renewable power generation technology/device will be rendered into junk within a very short period of time.

Ariful Hoque Shuhan, Vice Chairman, Reverie Power and Automation Engineering Ltd, said that due to absence of well-equipped laboratories, the power system equipment including transformers are not being properly tested. The 250kVA transformers cannot take even 200kVA. The DPDC and DESCO are taking ambitious projects, but ultimately the consumers have to bear the brunt of financial implications.

In conclusion, the conference was told that there are still some issues remained to be solved to ensure uninterrupted supply of quality power to all categories of consumers. The distribution companies have taken up various projects for improving the services and expressed the hope that the supply situation would improve to the expected level upon completion of the under-implementation projects in 2-3 years. But the consumers must use certified experienced electricians for domestic commercial and industrial facilities and use quality appliances to get rid of the nuisance like short-circuit related incidents. Without coordinated and collective endeavors of the consumers and service providers, uninterrupted supply of quality power would not be achieved.

EP





# অনিবার্য আগামী

বিদ্যুৎ ও জ্বালানি সপ্তাহ ২০১৮



দ্রুত বিদ্যুৎ উৎপাদন বৃদ্ধির স্বীকৃতি স্বরূপ মাননীয় প্রধানমন্ত্রী শেখ হাসিনার হাত থেকে পুরস্কার গ্রহণ করছেন  
নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানির প্রধান নির্বাহী কর্মকর্তা মহোদয়

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## নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিঃ

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

(বাংলাদেশ বিদ্যুৎ উন্নয়ন বোর্ডের একটি প্রতিষ্ঠান)

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# Payra Power Plant

## A National Benchmark

Prof Dr. Firoz Alam

Over 100 hundred years ago in October 1917 after the Bolshevik socialist revolution in Russia, Vladimir Ilyich Ulyanov Lenin signed two decrees: first was “Power to the Proletariat (workers)” and second was “Electrification to Russia”. Many people wondered about Lenin’s action on second decree “Electrification to Russia” instead of the “Nationalisation of Industries”. The reason was very clear to him that without the electricity or power, Russia could not be industrialised, and the mass employment would not be possible to create. After 92 years since Bolshevik revolution, our far sighted and visionary leader Sheikh Hasina assuming power as Prime Minister in 2009 comprehended that without power sector development, Bangladesh would not be able to eliminate poverty, promote industrialisation, create mass employment, economic and social development. Furthermore, power generation exclusively by natural gas makes Bangladesh extremely vulnerable in terms of energy security and depriving gas supply to vital industrial sectors including fertilizer industries. Under her wise leadership, the nation’s first comprehensive Power Sector Master Plan 2010 (modified further in 2016) with a power generation roadmap till 2041 was developed. As per the Master plan, the country needs to utilise low cost energy such as indigenous, as well as, imported coal to generate at least 35% of the total power. This is in line with developed and emerging countries’ power generation energy portfolios. The only concern was the environmental pollution of coal fired power plant. To

minimise the impact, Bangladesh adopted policy to use state-of-the-art high efficiency super critical (38-40%) or ultra super critical (more than 42%) thermal power plants bypassing traditional low thermal efficiency sub critical (30-35%) technology to minimise the environmental pollution. As part of the Master Plan, Bangladesh initiated several large capacity coal fired power plants in three strategic locations (Payra, Materbari and Rampal). Among all large power plants, Payra Power Plant has progressed well and started commercial production this year. It is a 50:50 joint venture company of state-owned “North West Power Generation Company Ltd (NWPGL)” and China Machinery Company (CMC). Currently it is Bangladesh’s largest power plant with 1,320 MW (2 units x 660 MW each) installed capacity. The power plant is based on 100% imported coal. Officially, it is known as “Bangladesh China Power Company Private Ltd”, created, and registered in October 2014, signed equipment procurement contract (EPC) in March 2016, and completed construction of both units in late December 2019. The Units 1 and 2 were synchronised with the grid in January and August 2020, respectively. The whole process (company formation, registration, site selection, environmental impact assessment, finance arrangement, land acquisition, site development, access development, rehabilitation and resettlement of affected people, power plant construction, coal storage (domes) facilities, coal handling jetty and conveyor system construction, etc) was completed within five and half years.

This is a record for any developing/emerging country and a success story for any large projects in Bangladesh.

Due to my research interest in energy and power, I have been closely following the development of Payra Power Plant since 2014. Although I am a frequent visitor to the subcontinent, I was not able to visit Payra until December 2019. Along with two of my colleagues who are international experts in thermal power plant, we visited Payra. Our objectives were to see (from engineering point of view) the construction quality of major components/sections as well as the coal unloading jetty and associated infrastructures. By any standard, the Payra Power Plant project is a success story based on our observations on following reasons:

a) Project Implementation Plan and Execution: Selection of young engineering and business graduates based on skills, commitment, and ability to work hard from various educational institutions across the nation without giving preferences to any particular educational institution. These young graduates possess ‘can do’ and learning attitudes, and ready to take the responsibility and move forward. Unlike many other mega projects in Bangladesh, a series of implementation tasks were undertaken simultaneously or parallelly. For example, consultation with local people, land acquisition, and feasibility, environmental impact assessment (EIA) were undertaken in parallel to accelerate the project implementation. Similarly, land development, tender documentation,





Payra power plant with 2 units

Photo: NWPGL

evaluation of equipment purchase contracts (EPCs) were also completed simultaneously. The formation of project management team led by the chief executive was most appropriate. Another important feature of Payra project was the condition for the suppliers/contractors to render their services/ undertake activities worth 15% of the project cost from their own resources without any advance payment so that bureaucratic lengthy approval processes could not slow down or stop the project activities. The other was the progress payment to contractors based on achieving specified milestones.

b) Power Plant Construction Quality: The Payra power plant is well designed, constructed and commissioned with high level of professionalism. Selection of main components, workmanship and their operation and maintenance layout are world class. Selection of boiler for low to medium heating value coal is appropriate. This will allow using high heating value coal if available. The layout of Operation Room enables Bangladeshi and Chinese Engineers/ operators to sit side by side to operate the power plant and learn from each other. This way skills will be transferred from Chinese engineers to Bangladeshi engineers. Coal unloading through fully closed conveyer belt from the jetty to coal domes is an excellent choice. This minimises the surrounding soil and air contamination by flying coal and coal dust. The layout of jetty and unloading

cranes along with their grabs look reasonable. However, in future, the coal unloading through grabs may need to be modified by introducing automatic unloading system.

c) Rehabilitation and Resettlement: The planning and execution of rehabilitation and resettlement for affected people were undertaken meticulously. I have visited resettlement areas and spoke to some rehabilitees (male and female). They expressed their satisfaction with the rehabilitation and various facilities. A total of 130 families (609) people were affected and rehabilitated in the resettlement area. One house per family was provided. The settlement area has a health and community centre, two ponds, a mosque, and most importantly a vocational school “Bangladesh-China Technical Institute”. The vocational school for the affected people offers three trades (Electrical Maintenance works, General Mechanics, Computer and Information Technology) along with plans for foreign language courses (English, Arabic, Bahasa Malaysia, and Mandarin). Forty-eight (48) students (nearly 20% of them are girls) have already enrolled in vocational courses. I am certain that it would be the game changer for their future as with these technical skills they will be able to get employment locally, nationally, and abroad. This endeavour by Bangladesh China Power Company Limited is highly commendable and example for all.

The development of Payra Power Plant has had tremendous economic, social, cultural, and infrastructural impact on local people and the region. This remote, difficult to access area and its highly socio-economically disadvantaged people are greatly being benefitted by the Payra Power Plant. The economic impact is enormous. In the construction phase, nearly 10,000 people including about 4,000 Chinese nationals were involved. A significant number of Bangladeshi workers were from local area. Roads, bridges, power transmission and distribution infrastructures, and power access to local people are being undertaken. These are vital for the development of central southern Bangladesh.

Despite having enviable achievements, Payra Power Plant needs to overcome some challenges.

As mentioned earlier, Payra Power Plant is fully dependent on imported coal. It needs annually for its two units nearly 3.3 million tons coal (based on 42% thermal efficiency due to ultra super critical technology, plant load factor 65% and coal heating value 4,700 kcal/kg or 19,660 kJ/kg) for the next 40 to 60 years. If the lower medium heating value (5,475 kcal/kg or 22,902 kJ/kg) is used instead of currently used low heating value (4,700 kcal/kg or 19,660 kJ/kg) coal, Payra Power Plant would require approximately 2.8 million tons coal (a net savings of 0.5 million tons annually). The boiler at Payra Power Plant has been designed for heating value ranging from 4,144 kcal/kg (17,334 kJ/kg) to 5,475 kcal/kg (22,902 kJ/kg). If the boiler was designed to deal with 6,700 kcal/kg instead of current maximum 5,475 kcal/kg heating value coal, the plant would require around 2.3 million tons coal annually. A net annual savings could be 1.0 million tons. The use of high heating value coal is extremely important when coal unloading is a serious issue due to low draft at Payra Port’s Rabnabad channel as well as greenhouse gas emission (CO<sub>2</sub>) point of view. In fact, high heating value coal generates less CO<sub>2</sub> emission using even sub critical boiler technology than an ultra super critical boiler technology for the same amount power production. Coal unloading jetty is located around 20 km upstream from the shallow coastal front. The average draft is around 5 to 6 m in

Rabnabad channel. Furthermore, continuous alluvial siltation from the upstream due to geomorphological conditions of three mighty rivers: the Ganges (Padma), Brahmaputra (Jamuna) and Meghna will require continuous (not off and on maintenance) dredging to keep the river/channel navigable, which is almost fighting against mother nature. Technologically it is possible but economically it will cost a fortune. A small handy max ship can carry from 25,000 to 35,000 tons coal for which the ship needs a minimum 8 m draft. The length and width of such ship are approximately 120 m and 28 m respectively. Specially designed handy max ship with larger width can reduce the required draft to 6 m which can easily ply through the Rabnabad channel. As the Power Plant needs coal for the next 40 to 60 years, consideration for such specially designed ships is worthwhile. The giant mining and resources companies such as BHP Billiton and Rio Tinto possess such specially designed ships for moving resources through shallow draft channels/rivers. The cost of a handy max ship is around 30 to 35 million US dollars. Our oceangoing ship builders can brainstorm on it. It is beyond doubt that Matarbari deep seaport will be a tremendous help, but it will not be handy till 2025. As a rule of thumb, before planning to have a coal fired thermal power plant, two things must be determined: a) coal sourcing origins/locations/countries and coal quality (heating value, impurities, etc.) for the entire operational life of the power plant, and b) designing the boiler as per the heating value of coal, impurities and source origins. Boiler cannot be designed based on any coals from anywhere. Therefore, most coal fired power plants generally are located at the mine mouth to avoid the variation of coal quality.

Another challenge Payra Power Plant like any other large power plants in Bangladesh that needs to overcome how to evacuate power from the power plant to the load centre(s). One of the biggest hinderances is the inability to construct high voltage transmission lines from Payra to the nation's largest load centre Dhaka and its surroundings. The nearest load centre is Khulna, Jessore, Kushtia, Faridpur and Barisal. Unfortunately, till now neither Dhaka nor any other load centres except Barisal are connected to Payra for power evacuation. The transmission infrastruc-



Payra power plant complex with jetty

Photo: NWPGL

tures should have been completed before the completion of power plant so that the testing and commissioning could be done in real life scenario. Currently a 400 kV transmission line was constructed up to Gopalganj which will be later extended to Dhaka (will take some time) and a 230 kV line to Patuakhali which is currently being constructed by Payra Power Plant itself. Inability to evacuate power from Payra will significantly restrict its full plant factor and wastage of country's valuable resources. It would be prudent to build two parallel 400 kV and 765 kV national high voltage transmission backbones connecting all major load centres with generation hubs (Payra, Materbari, Rampal, Rooppur, etc.). As we are planning to increase power import from India, it would be highly beneficial to synchronise our high voltage transmission lines with Indian and Bhutanese (and later Nepalese) high voltage transmission backbones. India's national high voltage transmission is 765 kV. For example, Pakistan's national transmission backbone is 500 kV. As a rule of thumb, for each km transmission distance, at least 1 kV needs to be increased to minimise the transmission loss especially for sub-tropical country like Bangladesh. We must start 400 kV and 765 kV transmission lines connecting Rooppur, Martarbari, Rampal and Payra with major load centres (Dhaka, Chattogram, Khulna, Mymensingh, Sylhet, Comilla, Jessore, Kushtia, Rajshahi, Rangpaur and all existing and future export processing zones (EPZs) across the country. Nuclear power plant generally runs at a plant factor of 92%. It

would be disastrous if we cannot evacuate power from Rooppur Nuclear Power Plant ( $2 \times 1200 \text{ MW} = 2,400 \text{ MW}$ ) once it goes to operation by 2024/2025.

In a nutshell, Payra Power Plant is a national benchmark especially for its remarkable planning to construction and commissioning in a short time span, world class rehabilitation and resettlement of affected people. Medium and high heating value coal should be used to reduce required import volume and greenhouse emission. Lateral and out of box thinking is required to solve low draft difficulties for coal import at Payra. Its resettlement project is a national benchmark model that can be replicated nationally for all projects. The Payra resettlement model can also be used for other emerging and developing nations. The skills recruitment model used for Payra should also be used for other power projects in Bangladesh. High voltage power evacuation transmission lines must be constructed before the physical completion of power plants. The mistake that was made for Payra should not be repeated for Rooppur, Materbari, Rampal and other major power producing hubs. Additionally, our high voltage transmission lines need to be well synchronised with neighbouring India, Bhutan and Nepal for bilateral and regional power trade or exchange.

EP

**Professor Firoz Alam;**  
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# Open Cut Mining - Option for Domestic Coal Development

Zubayer Zaman

“.....Local coal extraction for power generation is neither feasible nor cost-effective” - a remark from State Minister for Power, Energy and Mineral Resources Mr. Nasrul Hamid comes as no surprise. He made this remarks while speaking at a webinar on “EP Talks: Payra Power Plant: An Example of Timely Execution” recently. Mr. Nasrul has probably had drawn such conclusion based on dismal mining experience in Barapukuria. He might also take consideration of recently completed underground mine feasibility study in Dighipara coal field. While this statement comes as surprise to many but not to the industry insider with practical experience in this field, who have long opined that the geological setup of the coal bearing basins of Bangladesh don't permit economic extraction of coal using underground mining method.

Bangladesh needs to explore alternative mining methods, and where feasible, open cut mining would be the best possible option to recover its limited mineable resource. The underground mining experience and the mine feasibility study have just re-established the obvious outcome – UNDERGROUND MINING IS NOT THE VIABLE OPTION FOR BANGLADESH.

## Underground Mining Not Delivering

The coal basins in Bangladesh are usually of asymmetric half-graben sedimentary basin, bearing coal measures of Permian age. Three credible mine feasibility studies, so far completed, have extensively explored Barapukuria, Dighipara and Phulbari coal fields and established the resource base to international resource classification standards. The deposits are characterized by multiple coal seams (generally 5-6 seams)

with the major one account for about 60-70% of the estimated resource. This is the ‘seam of interest’ for underground mine planning as other coal seams are technically not feasible to mine and leave no option but to be left unmined. Thus a sacrifice of about 30-40% of the valuable resources is forced to make at the very first stage of underground mine planning.

Seam thickness and equipment technology also limit resource recovery and rate of production from the Target Seam. The proposed underground mine planning in Dighipara sets the target of 90 Mt of coal recovery from Seam B (~30 m thick) in slices over a period of 25 years at an annual rate of 3 Mt. The planned recovery, if achieved, would be about 21% of the mineable reserve of the Target Seam (Seam B- 428 Mt) and overall only 12% of total estimated reserve (706 Mt). Barapukuria mine is designed to extract 25-30 Mt out of the total estimated reserve of 390 Mt over a period of 20-25 years (estimated recovery 6-8%). The coal extraction is being carried out in slices at Seam VI (36 m thick) and the mine, so far over its 15+ years production life has only recovered a total of about 10 Mt at an annual average rate of 0.6 Mt. This is how underground mining delivers or projected to deliver for Bangladesh! The extreme poor recovery, leaving 90% coal unmined, is understandably neither feasible nor cost effective: Just a costly wastage of valuable natural resources, time and money.

The cost of production in underground mining is inherently higher, which could only be possible to offset by achieving higher coal resource recovery and by increasing production scale



A view of Barapukuria coal mine

File Photo



(larger coal output to reduce cost per tonne). But as coal recovery is extremely poor and production rate is relatively low, the obvious outcome is excessive high production costs, which is reported to be more than US\$ 100/tonne in Barapukuria mine and would be even higher in the proposed Dighipara underground mine. This is neither economic nor justifiable in any sense while in the international market coal price is well below the cost of coal mining in Bangladesh. Coal based power project always prefers a secured and steady supply of coal at competitive cost. Underground mining in Bangladesh fails to deliver such supply security and thus fails to attract potential investor to setup large coal fired power plant based on domestic coal. Barapukuria Mine, which had all the potential to support large scale power generation, is now even struggling to feed only 525 MW mine mouth power plants. This is just a 'lost opportunity' for the country because of choosing inappropriate mining method.

### Open Pit Mining to Deliver

Then what is the best option for Bangladesh to mine its limited valuable coal resource! A close look at Phulbari open cut mine plan is worth useful at this point when underground mining is considered not to be feasible and cost effective.

The Phulbari mine feasibility study considered both open cut and underground options and identified open cut method as the only technically viable option for economic extraction of Phulbari deposit. The study also confirmed that underground mining at Phulbari will lead to a poor resource recovery, about 10-20% of the coal resource and will not be economically viable. Dighipara mine feasibility study and mining experience in Barapukuria support the Phulbari findings!

Phulbari is the shallowest coal basin in Bangladesh with coal seam depth ranges between 150-270 meters. The basin has an in-situ resource of 572 million tonnes of high-quality bituminous coal. The proposed open cut mine plan sets the target of recovering 475 million tonnes of ROM coal, which represents about 83% of the



Drilling in Phulbari coal field

File Photo

total resource. However, the mineable reserve is calculated down to the base of the Main Seam only, and there are opportunities to mine the lower seams (total resource 58 Mt) which may be realized as the seams become accessible. Thus, a high recovery (>90%) can be achieved against a poor recovery (<10%) in underground method. Phulbari mine with such high amount of recoverable reserve could potentially be the powerhouse for country's primary fuel supply and bring a balance between import and domestic coal supply mix. Just imagine how many Barapukuria size mine requires to match with the coal recovery of Phulbari open cut mine!

Open cut mining in Phulbari is expected to deliver reliable and stable supply of large quantities of coal (15 Mt/annum at full production rate) for a period of over 30 years. The cost of production, reported to be less than US\$ 50/tonne, is far lower in comparison to that of underground mine options. This is an attractive proposition for any large-scale power generation project where long term fuel supply is ensured, coal quality is consistent, and price is competitive. A study revealed that the Phulbari mine production alone can support generation of 6,000 MW of electricity using latest ultra-supercritical plant technology, either in the mine mouth and/or strategically located sites elsewhere in Bangladesh. However, mine mouth power generation is considered to be cost effective, delivers lowest tariff power compared to any other options of

coal fired power generation, either based on import or domestic sources. A third of country's projected coal fired power generation target (19,000 MW by 2041) can be fed alone by Phulbari coal. This is how open cut mining in Phulbari makes the difference - in terms of resource recovery, supply security and power generation potential.

Bangladesh needs coal to meet its planned coal fired generation target. Coal import is projected to be on the rise, making reliance on imported primary fuel even higher. However, it is always a preferred and cost-effective option to use domestic energy sources, either entirely, or in part to supplement import sources. But domestic coal supply so far seems uncertain because of poor outcome of underground mining: the recovery is poor; cost of production is high and thus not feasible and cost effective for power generation. Now it is time to look into the other mining options- the Open Cut Mining, which offers better economics, supply stability and reliability over the longer period. The Phulbari mine plan presents the opportunity to compare how open cut mining in similar geological set up could deliver best for the country. PHULBARI COULD BE THE 'MINE OF OPPORTUNITY' FOR BANGLADESH.

EP

Zubayer Zaman;

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# Rebound in Global Coal Demand Set to be Short-Lived in 2021: IEA

A global economic recovery in 2021 is expected to drive a short-lived rebound in coal demand following the major drop this year triggered by the Covid-19 crisis, according to a new report from the International Energy Agency.

However, there is little sign that the world's coal consumption is set to decline substantially in the coming years, with rising demand in some Asian economies offsetting declines elsewhere, said a press release.

As coal is by far the single largest source of global energy-related carbon emissions, the trends outlined in the report pose a major challenge to efforts to put those emissions on a path compatible with reaching climate and sustainable energy goals.

The past two years have seen historic falls in global coal demand, led by unprecedented drops in the United States and Europe, says Coal 2020, the latest edition of the

IEA's annual market report on the sector.

A 1.8% decline in coal demand in 2019 resulted mainly from weak growth in electricity demand and low natural gas prices. Latest estimates from the IEA suggest coal demand will have plunged by a further 5% in 2020 on the economic fallout from Covid-19.

"The Covid-19 crisis has completely reshaped global coal markets. Before the pandemic, we expected a small rebound in coal demand in 2020, but we have since witnessed the largest drop in coal consumption since the Second World War," said Keisuke Sadamori, the IEA's Director of Energy Markets and Security.

"The decline would have been even steeper without the strong economic rebound in China – the world's largest coal consumer – in the second half of the year."

Based on the assumption of a recovery in the world economy, the

IEA report forecasts a 2.6% rise in global coal demand in 2021, driven by higher electricity demand and industrial output.

China, India and Southeast Asian economies account for most of the growth, although the United States and Europe may also both see their first increases in coal consumption in nearly a decade.

However, global coal demand in 2021 is still forecast to remain below 2019 levels and could be even lower if the report's assumptions for the economic recovery, electricity demand or natural gas prices are not met.

The rebound in coal demand in 2021 is set to be short-lived, with coal use forecast to flatten out by 2025 at around 7.4 billion tonnes. This would make 2013, when global coal demand reached 8 billion tonnes, coal's all-time peak.

"Renewables are on track to surpass coal as the largest source of electricity in the world by 2025. And by that time, natural gas will likely have taken over coal as the second largest source of primary energy after oil," said Mr Sadamori.

The future of coal will largely be decided in Asia. Today, China and India account for 65% of global coal demand. With Japan, Korea, Taiwan and Southeast Asia included, that share rises to 75%. China, which currently accounts for half of the world's coal consumption, will be especially influential.

By 2025, the European Union and United States will account for less than 10% of global coal demand, down from 37% in 2000. This will make the impacts of any further changes in demand in these markets very limited.

EP



## Electricity Access Wipes Out Poverty: Mannan



**P**lanning Minister MA Mannan has said that electricity supply will contribute immensely in poverty alleviation in the country by improving the livelihood of rural people.

"The government has been able to curtail the country's poverty rate through providing uninterrupted electricity across the country," said the planning minister.

"Electricity is the most effective tool for reducing the poverty rate because hard-working laborers of the rural areas will be able to work till night," he added.

He made the observation recently while speaking as the chief guest at the workshop titled: "Learning and Closing workshop of the Civic En-

gagement Alliance (CEA) Program" organized by ICCO Cooperation.

Planning Minister MA Mannan said that

electricity has reached many rural people's door steps and is facilitating them to increasing poor rural people's ability to generate income.

Palli Karma-Sahayak Foundation (PKSF) Chairman Dr Qazi Kholiquzzaman Ahmad, Team Leader – Food & Nutrition Security and Sustainable Development Koen Everaert, Delegation of the European Union to Bangladesh, Senior Research Fellow, Centre for Policy Dialogue (CPD) Towfiqul Islam Khan, and Senior Food Security Advisor, Embassy of the Kingdom of the Netherlands Osman Haruni, were presented as the special guests.

Head of Programs, ICCO Cooperation Abul Kalam Azad chaired the session. **EP**

## ECCS Tanks for Roopur NPP Shipped from Russia

**Z**IO-Podolsk JSC, an enterprise of Rosatom Mechanical Engineering Division has manufactured and shipped set of main equipment including Emergency Core Cooling System (ECCS) Tanks for Roopur Nuclear Power Plant (NPP).

The second set of ECCS Tanks for the reactor core has been shipped to Bangladesh. The equipment is intended for the reactor hall of the second NPP Power Unit, said a release.

The Emergency Core Cooling System Tanks are included into the reactor plant - one Tank for each reactor coolant loop.

The ECCS is designed for automatic supply of boric acid cooling solution to the reactor core in case of coolant loss and shall be put in operation in case of the primary circuit emergency depressurization. **EP**

## 1.2 lakh More Households to Get Prepaid Gas Meters in Dhaka

**T**he Executive Committee of the National Economic Council recently extended a project to install prepaid gas meters in Dhaka households, which will see 1.2 lakh more prepaid connections by December 2022.

Residents of the capital can save 38 percent in costs if they are using prepaid gas meters, which also results in similarly reduced wastage of the utility, found a recent survey by Titas Gas Transmission and Distribution Company Limited.

Titas is commissioning the meters at households in Dhaka to minimize wastage of the utility, and has set up 200,000 meters in the first two phases of the project that began in January 2015.

Planning Commission Member Nasima Begum said Prime Minister Sheikh Hasina, while presiding over the weekly Ecne meeting recently, observed that prepaid

gas meters should be set up at more households.

"If we can install prepaid gas meters in commercial and industrial zones, we will be able to save more gas," Nasima said, quoting the PM.

Nasima said Titas in a survey found that after commissioning prepaid meters, a household using a double-burner stove consumes gas worth Tk 605 per month on average.

A household without a prepaid gas meter needs to pay Tk 975 to use a double-burner stove. Therefore, using prepaid meters can save Tk 370, or 38 percent.

She added that according to the survey, on average, a consumer used 78.12 cubic metres of natural gas every month, which came down to 48.06 cubic metres after setting up a prepaid meter.

She was talking to journalists after the Ecne meeting, which approved the second extension of the project. **EP**

## US Extends 7 LNG Export Authorizations to 2050

**T**he U.S. Department of Energy has announced that it has extended the terms of seven long-term liquefied natural gas export authorizations through 2050.

The U.S. Department of Energy (DOE) has announced that it has extended the terms of seven long-term liquefied natural gas (LNG) export authorizations through 2050.

Under the DOE's latest move, the Golden Pass facility currently under construction in Sabine Pass, the Texas LNG project proposed for Brownsville, the proposed

Magnolia and Driftwood projects in Louisiana and

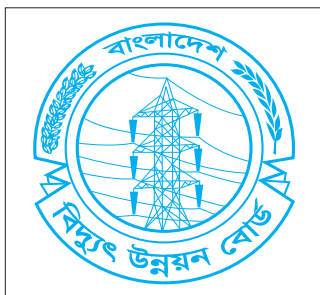
the Delfin LNG export project proposed for offshore Louisiana have had their export terms extended.

An extended export term has also been approved for Sempra Energy's Costa Azul project in Mexico.

"The success story of U.S. LNG continues to be written and these extended authorizations will ensure that the benefits from these exports continue for decades to come," U.S. Secretary of Energy Dan Brouillette said in a government statement. **EP**



## BPDB to Sell 3.43cr Shares of Power Grid



**B**angladesh Power Development Board (BPDB), one of the corporate sponsors of the state-run Power Grid Company of Bangladesh (PGCB) Limited, has decided to sell 3.43 crore shares it held in Power Grid in the public market.

According to a disclosure on Dhaka Stock Exchange website, BPDB has expressed its intention to sell 3.43 crore shares out of its total holding of 60.32 crore shares of the company at prevailing market price in the public market through Stock Exchange.

The state-run organization's

shares will be sold within the next 90 working days, the disclosure said. The company's 84.64 per cent ownership belongs to BPDB.

The government has Tk 5,071 crore investments as share money deposits at Power Grid that would gradually be converted into shares.

Earlier on November 27, 2019, the Bangladesh Securities and Exchange Commission approved the issuance of 25.18 crore shares by Power Grid Company of Bangladesh against Tk 251.81 crore investment of Bangladesh Power Development Board.

The 25.18 crore shares are locked-in as a strategic investment and the shares could not be transferred or traded without prior approval of the commission. **EP**

## Shell to Write Down Oil, Gas Assets Again

**R**oyal Dutch Shell recently said it will write down the value of oil and gas assets by \$3.5 billion to \$4.5 billion following a string of impairments this year as it adjusts to a weaker outlook.

In an update ahead of its fourth quarter results on February 4, Shell said the post-tax charge was due in part to impairments on its Appomattox field in the U.S. Gulf of Mexico, the closure of refineries and liquefied natural gas (LNG) contracts.

It said some charges involved in its restructuring would be recognized in 2021. Shell

shares were down by around 4 per cent in early trading in London.

In October, Shell, the world's biggest LNG trader, wrote down the value of its LNG portfolio by just under \$1 billion, focusing on its flagship Prelude project in Australia.

That followed a \$16.8 billion writedown in the second quarter which also included Prelude and a sharp cut in its price outlook.

CEO Ben van Beurden on Feb. 11 will unveil Shell's long-term strategy to sharply reduce its greenhouse gas emissions and expand its low-carbon energy and power businesses. **EP**

## 3-Day Public Hearing on LPG Price from Jan 14

1050 to Tk1200 for a 12.5 kg bottle of LPG. The BPC wants TK

**B**angladesh Energy Regulatory Commission (BERC) is set to hold a public hearing for fixing the price of liquefied petroleum gas (LPG) at consumer level on January 14, 17 and 18.

Now there is no bar to hold the hearing as we received proposals from 28 companies, including Bangladesh Petroleum Corporation (BPC), for fixing the price of liquefied petroleum gas (LPG) at consumer level, a senior official of the commission said.

According to the official, the private companies wants Tk

700 for the same amount.

BERC fixes natural gas price but it had never fixed LPG price. It fixed by the market players.

There is no LPG price monitoring system or existence of energy pricing policy to discuss the issue although LPG consumption in the country has increased four times between 2016 and 2020.

About 57 LPG companies are now dominating the unlimited market who supplies over 1.0 million tonnes of LPG each year in the country. BPC has a very insignificant market. **EP**

## Ashuganj Power Recommends 8.50% Coupon Rate

**A**shuganj Power Station Company Limited (APSCL) has recommended an 8.50% rate for APSCL non-convertible and fully redeemable coupon bearing bond for the first year.

The first-year period is from 5 January this year to 4 January, 2021.

The record date for entitlement of the bond's coupon rate profit was set for 4 January, 2021.

Last year, the company issued bonds worth Tk500 crore through private placements among state-owned banks and financial institu-

tions to finance its 400MW power plant, which is now under construction.

Acting upon the government's advice to increase tradable bonds on stock exchanges, bonds worth Tk100 crore were sold to general investors through an initial public offering (IPO), with a face value of Tk5,000 per unit.

With a tenure of seven years, the bonds offer an interest rate ranging from 8.50% to 10.50%. They have been traded on the secondary market of Dhaka Stock Exchange (DSE).

After the news was revealed on the DSE website, the unit

price of the bond came down by 2% to Tk5,220 on Sunday. The closing price of the bonds was set at Tk5,207 per unit. **EP**



## Rosatom's Year of Nuclear



On December 1, 2007, Russian President Vladimir Putin signed a decree to dissolve the then existing nuclear agency and establish a state-owned nuclear corporation Rosatom.

Since then, Rosatom has been a nuclear industry of the Russian Federation in its entirety and complexity. Despite the coronavirus difficulties and restrictions, the industry has seen many important events in 2020.

On May 22, the world's only floating nuclear power plant was put into operation in Pevek (Chukotka, Russia). It is also the first SMR commissioned in the 21st century.

On October 22, Leningrad II NPP Unit 2 with a VVER-1200 reactor was connected to Russia's national power grid. On November 12, 2020, the newly commissioned Leningrad II Unit 2 started supplying heat and hot water to the neighboring town of Sosnovy Bor.

On November 3, Belarus NPP Unit 1 with a VVER-1200 reactor was connected to the national power grid of Belarus. This is the first Generation III+ reactor unit built abroad to the Russian design.

The nuclear power plants in Russia are expected to generate record-high 214.965 bil-

lion kWh of electricity by the end of 2020.

Over the last five years, Rosatom has launched 87 new businesses. Nine of them (wind power, composite materials, nuclear medicine, waste

management, oil and gas services, digitalization, smart city system, international logistics and additive technology) are strategic programs, two of which – additive technology and international logistics – have been kicked off in 2020. Revenue from new businesses in 2020 is expected to reach RUB 257 billion, up 12.7% year on year.

Rosatom has revamped six of its R&D institutes involved in nuclear research. In general, Rosatom's research and development centers and laboratories carry out about 150 research programs in ten fields, including laser, fusion, plasma, hydrogen and spent fuel management technologies.

The Russian nuclear industry celebrates its 75th anniversary in 2020. For three fourths of a century, Rosatom has grown into Russia's major technology company and a global leader in many areas of research.

Rosatom develops complex technologies, bringing them from concept to market. The Russian nuclear corporation has accumulated vast knowledge and uses it to make life safer and easier despite any challenges on the national or international scale.



## Wärtsilä Can Set Up Manufacturing Units in Bangladesh

The Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) has urged the Finnish entrepreneurs to set up manufacturing units in Bangladesh for the benefits of the two countries.

It also suggested them to invest in healthcare, renewable energy, sustainable forestry and smart agriculture sectors in Bangladesh.

The apex trade body made the call during a virtual discussion, styled 'Finland Bangladesh Business Event on Bilateral Trade and Investment Opportunities in the Ongoing Global Pandemic and Beyond', on Wednesday last.

The FBCCI and the Finnish Chamber of Commerce

industry of development cooperation and foreign trade of Finland, who also addressed the program, said, "Before Covid, trade between the two countries expanded slowly but steadily. "We hope we will get back to the track quickly," he said.

FBCCI president Sheikh Fazle Fahim suggested that Finnish companies, like Wärtsilä, can set up manufacturing plants in Bangladesh.

The FBCCI chief elaborated that the two countries could go for joint partnership in healthcare, renewable energy, sustainable forestry and smart agriculture for their mutual benefits.

President and CEO of FINNCHAM, Juho Romakkaniemi, said the Finnish companies



(FINNCHAM) jointly organized the event.

Addressing the event as the chief guest, Commerce Minister Tipu Munshi said that Finland is one of those European countries who first recognized Bangladesh. He observed that trade between the two countries increased steadily in recent years. Exporters of Bangladesh are eager to find more opportunities in Finland, he mentioned.

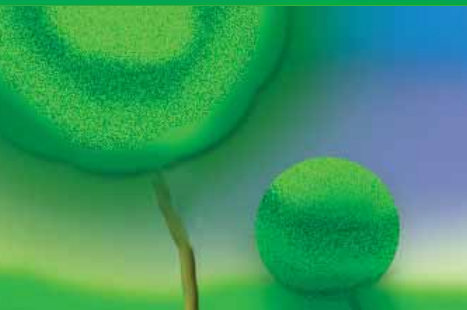
Ville Skinnari, minister, min-

are interested in looking for new business opportunities as Bangladesh is taking new steps in modernization of the economy.

President and CEO of Wärtsilä, Mr. Jaakko Eskola, who was also present, said: "We started our operation in Bangladesh in early 90's. Now we are leaders in providing components in the energy sector. In the future, we have to emphasize renewable energy."







# Greenpage

## 'Irrigation, EV Sectors Should be the Focus Areas of Solar Energy'



Irrigation and electric vehicle sectors should be the focus areas for renewable energy applications in Bangladesh, Prime Minister's Energy Advisor Dr Tawfiq-e-Elahi Chowdhury has said.

He made the remarks at a webinar on 'Renewable Energy Storage: Opportunities and Challenges', organized by Sustainable and Renewable Energy Development Authority (Sreda) recently.

According to Chowdhury, the government is now burdened with extra electricity generation for peak hour consumption.

"If the targeted 10% solar electricity is added to the grid, it will augment the existing power generation. So, the best use of solar power should be in the irrigation sector and as well as for charging

ing electric vehicles," he said.

As per Sreda statistics, the country has about 1.34 million diesel-irrigation pumps for which the government has taken up projects to convert them into solar-run systems.

The virtual seminar, chaired by Sreda chief Mohammad Alauddin, was also addressed by Power Cell Director General Mohammad Hossain and United International University Prof Rezwan Khan.

Prof Ziaur Rahman Khan of Bangladesh University of Engineering and Technology (BUET) conducted the seminar while Paul Freunscht, Executive Director of Intel, Germany, and Dr Eckehard Troster, CEO of Energynautics, Germany, made keynote presentations on the topic.

EP

## Solar Charge System Starts Gaining Popularity in Rajshahi

Commercial solar charging system has started gaining popularity as many people are getting benefits from the modern system in the region including its vast Barind tract for the last couple of years.

In line with the system, success has been attained in the solar charging system installed around two and half years back here experimentally aims at lessening the gradually mounting pressure on electricity.

Auto-rickshaws are being given charges at a cost-effective rate through the solar charging system creating hope among the auto-rickshaw drivers and owners in Damkura area under Paba Upazila in the district.

Launched as a model the project has been meeting up power deficits side by side generating hope among the public in general.

Apart from charging auto-rickshaw, the solar system has also operated an auto-rice mill that also created a positive impact among the surrounding people in Chabbishnagar area under Godagari Upazila.

The solar power charging stations were installed with technical and financial support from Rajshahi Palli Bidyut Samity (RPBS).

EP



## Green Energy Getting a Shot in the Arm



**T**he government is moving to save solar mini-grids supplying green energy in remote areas from incurring staggering losses and closure as power distribution companies expand operations in off-grid areas.

Power tariff from such mini-grids is much higher compared to grid-electricity, an official at the Sustainable and Renewable Energy Development Authority (Sreda) said, explaining that if the tariff for a 50-unit consumer of grid electricity is Tk 3.75 per unit, it is Tk 18-35 for a mini-grid consumer

Official sources said 26 solar mini-grids have so far been set up in different areas and their total general capacity is about 5 megawatts. They said the Power Division primarily calculated the asset value of these mini-grids at Tk 109 crore.

Sreda, the agency responsible for promotion of green energy and energy conservation, is likely to finalize the modalities and other tariff related issues within a month to purchase electricity from solar mini-grids across the country.

According to official sources, Sreda will sit with the stakeholders over the next two weeks to settle some issues about the modalities of electricity purchase and tariff-related matters.

"We've made some good progress but we need to have another meeting to settle the issues," Mohammad Alauddin, Chairman of Sreda, and also an additional secretary at the Power Division

EP

## US Developer Eleris Plans 2.2 GW of Solar in Bangladesh

**U**.S. developer Eleris Energy has initiated talks to set up 2.2 GW of solar power plant capacity in Bangladesh.

The Asia-focused gas-to-power and renewables company has proposed joint ventures with the Bangladesh Power Development Board, its Ashuganj Power Station Company Ltd and the Bangladesh Army.

Eleris has identified around 5,500 acres for long-term lease from the Bangladeshi government and for private purchase, along the Chittagong coast.

The army is involved because Eleris is planning 1 GW of solar capacity on the "Swarno Dweep" island in Noakhali district which the armed forces use as a training camp.

The Eleris proposal, which is under consideration by the government according to a Bangladesh Power Development Board official, also involves setting up 600 MW of solar capacity with the power development body and the same scale with its Ashuganj Power Station Company, which runs gas-fired generation facilities in the nation.

The total, 2.2 GW of solar capacity would be supplied through 200 MW solar farms, five of which would be sited on the 360km<sup>2</sup> Swarno Dweep, in the estuary of the Meghna river, provided the army supply the land as an equity investment in the project.

EP

Greenpage

## RE to be Produced from Waste in Sirajganj



**U**nder the slogan 'Green Bangladesh, Clean Bangladesh', a move is underway to produce renewable energy from garbage of the municipality.

This garbage-based energy production project is first in the country. Already, the foundation stone of the plant has been laid at Bonbaria area, in the outskirts of the town.

Using modern technology, garbage of different areas of the municipality will be recycled to produce energy.

A contract has been signed between Sirajganj Municipality and UK's Scholars Power Limited. The project will be implemented in one year.

With this, garbage will no longer remain piled here and there in the municipality. Disease or harmful contamination will not be created. Sirajganj will be a pollution-free town.

On Nov 2, the foundation was laid by Scholars Power Limited in cooperation of Bangladesh's Enduring Energy Limited in the municipality's own land.

It was laid by Sirajganj-2 (Sadar-Kamarkhand) Lawmaker Lecturer Dr Md Habibe-Millat and Municipality Mayor Syed Abdur Rouf Mukta.

EP

## Japan's RE Sector Seeks Carbon-Neutral Windfall

Japan needs to boost renewable energy by reforming outdated policies on land use and the national grid if it is to meet a new goal of carbon neutrality by 2050, industry players and experts say.

Since announcing the 2050 target in November, Prime Minister Yoshihide Suga's government has pledged to spend \$20 billion on green tech and set ambitious new wind power targets.

But the world's third-largest economy has a lot of catching up to do, said Ken Isono, CEO of renewable energy company Shizen Energy.

"Japan could be a leading country in

solar, 15 years ago it used to be," he said. "But I think Japan lacked vision and so it got totally left behind."

Critics have long bemoaned a lack of ambition in Japan's policy, which currently aims for 22-24 percent of the country's energy to come from renewables by 2030.

Around 17 percent already came from renewables in 2017, and a combination of growth in the sector and a pandemic-related fall in demand means Japan is on track to meet its 2030 target this year.

Japan was the sixth-biggest contributor to global greenhouse emissions in 2017, according to the International Energy Agency.

EP

## DTEK Presents New 2030 Corporate Strategy

For the first time in DTEK's history, CEO Maxim Timchenko recently presented the company's 2030 corporate strategy at its partly public annual senior management conference.

DTEK has committed itself to transforming into a greener, more efficient and technologically advanced business. Implementing the strategy will contribute

significantly to the decarbonisation of both the Ukrainian and European economy.

DTEK's 2030 strategy is based on the ESG principles, ethical business values and the desire to meet the current needs of society, as well as global energy and development trends in Ukraine. These are the key factors which will determine the company's future in the decade ahead.

EP

## Southeast Asia's \$200+ Billion Renewables Opportunity

There is a \$205-billion opportunity in renewable energy for Southeast Asia from which China, Japan, and South Korea could benefit as the biggest energy lenders to smaller countries in the region, Greenpeace has said in a new report.

"These three East Asian countries are top global energy investors, with established ties in Southeast Asia. But coal finance is drying up and banks are struggling to get a grip on clean energy finance. The climate crisis depends heavily on the flexibility and ingenuity of East Asian finance. And state-backed public development

banks once again need to play the trailblazer role to engage new markets," according to

Insung Lee, project manager of Greenpeace Japan's climate and energy team.

Southeast Asian countries, according to the report, will need investments of some \$125.1 billion for solar energy over the next ten years, as well as \$48.1 billion for wind energy, assuming they want to pursue the renewable energy path instead of sticking to fossil fuels.

And China, Japan, and South Korea are in a position to convince them to choose the renewable energy path by investing in solar and wind rather than fossil fuels.

EP



## PowerCell Receives Order for Two Fuel Cell Systems

PowerCell Sweden AB has received an order for two MS-100 fuel cell systems from a global U.S. agriculture equipment manufacturer.

The systems will be used to test an electrification of tractors using fuel cells and hydrogen and will be delivered during the fourth quarter 2020 and the first quarter 2021 respectively.

The MS-100 fuel cell system has been developed for an electrification of, among other things, vehicles within the



off-road segment, i.e., material handling equipment, construction equipment and various other types of vehicles such as agriculture equipment.

The off-road segment requires reliable operation, high power output and flexibility but also a good ability to withstand shocks and vibrations.

The current order has been placed by a major manufacturer of agriculture equipment and the systems will be used to test an electrification of tractors using fuel cells and hydrogen.

Earlier this year, PowerCell Sweden announced new strategic priorities including a prioritization of applications within the marine, stationary and the off-road segment.

EP





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# SDG Implementation Challenges in Face of Climate Vulnerability and Covid

Md. Abul Kalam Azad

From Paris declaration 2015 vulnerable countries find hopes and aspiration to keep global warming within 2 degree and more ambitious proposition of 1.5 degree with an expectation to keep the nature in favor of them. If this declaration could be achieved sea level rise will be at a slower pace and the Small Island Countries may not be extinct or go under the sea water, inundation by saline water will come at slower pace, less cyclone and tornado, more livable planet. Unfortunately, some of the big emitters though signed Paris declaration, less committed to follow that and all we know the biggest emitter USA finally withdrawn from the agreement. Ray of hope is USA's election result may change the scenario.

What sorts of climate disaster are going on? Stock taking of last few months will say the frequency and magnitude of disaster are higher day by day. Just to name a few, only in September this year are North American Wildfire, September 11, Atlantic Hurricane September 11, Beirut Explosion, September 10, Sudan Flooding, September 9, Venezuelan Humanitarian and Refugee Crisis, September 7. These disasters along with this month's Typhon Gani and super cyclone Amphan in May caused a huge damage all over the globe including Philippines and Bangladesh.

In a report on Hurricane on 6 October it was said that all the records the 2020 Hurricane season has broken so far. The 2020 Atlantic hurricane

season has been hyperactive with 25 named storms, including nine hurricanes, spinning across much of the Atlantic basin. Those storms have set several records through early October.

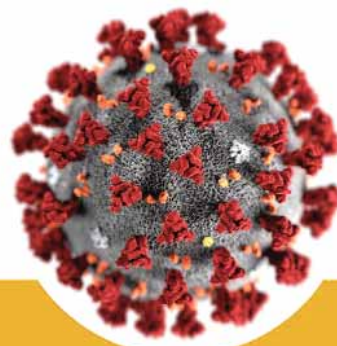
Global surface temperature for the first nine months of 2020 shows that in many months it had new higher record and so far, this year records the highest temperature. So, it is most likely that the frequency of extreme environmental events, such as forest fires, hurricanes, heat waves, floods, droughts, and storms will be much higher. The number of natural disasters has tripled from thirty years ago and climate change is a factor in causing this higher rate.

Natural disasters cause huge loss of life, damage of properties, change of profession, degradation of soil, change of agriculture pattern, forced migration, health hazards, hampers education, de-

stroys culture, reduces life expectancy; life and quality of life come at a stake. This year, Corona, another climate disaster brought the economic life almost at a halt, till October 2020 more than 1.2 million death: none knows where it will stop. It is predicted that this year additional 88 million to 115 million people has been pushed to extreme poverty for Covid 19 with the total rising to as many as 150 million by 2021, depending on the severity of the economic contraction.

At the back drop of unprecedented climate change, Agenda SDG 2030 threw a herculean challenge to the whole globe with its 17 Goals, 169 targets and 232 indicators, 5P (people, planet, prosperity, peace and partnership) at the core, 'Leaving no one behind as Mantra promote the coordinated development of the trio of economic growth, social inclusion and environmental sustainability worldwide and Localization as main tool for implementation. Covid 19 made the agenda 2030 more difficult to achieve.

We find that with digital transformation localization allows governments to effectively tailor sustainable development strategies at the local level. The Local Governments shall also be made to join the hands to achieve the SDGs. The SDGs shall be integrated across the 3 dimensions of sustainability, across all sectors of the economy and society, and from the local to National level. Localization requires local governments' effective planning by ensuring that budgetary allocations reflect



**COVID 19**



the priorities of local communities. Appropriate funding for development programs and projects and effective application at the local level are also important. Adequate data are necessary to identify and follow-up with decision makers, which requires a review of institutional competence in dealing with information and data and the use of digital transformation for this purpose.

Why Localization and how it works effectively? Localizing the SDGs means making the aspirations of the SDGs become real to communities, households and individuals, particularly to those who are at risk of falling behind. Local communities and stakeholders, who know individual and collective needs and capacities best, are critical partners in implementing and realizing our global accord. In Bangladesh, while analysing the targets and indicators it was found that all these are not necessary and not equally important also. Looking into the necessity, priority and resource constrain, the Government of Bangladesh identified 40 (39+1) indicator in the process of localizing SDGs, particularly in the district and upazila level. These 39 indicators from 17 goals are selected which would be crucial for the local level of our country namely poverty, both lower and higher case, stunting, arable land, infant mortality, under 5 mortality, maternal mortality, death in road accident, attainment in education in primary and secondary level, education institute with electricity, safe water, improved sanitation and digital connectivity, inclusive education, child marriage, involvement of women in economic activities, water and sanitation, power and renewable energy, GDP growth, unemployment, road connectivity, participation of industry in growth and employment, ratio of highest and lowest income, cost of planned migration, safe public transport for women, children and old people, industrial waste management, loss of life in natural disaster, marine resources, plantation and afforestation, birth registration, human rights and internet connection. Against 17 SDGs, 1 to 5 indicators are taken

from each. More critical analysis shows that 1 indicator from each SDG 11, 12, 13 and 14; 2 indicators from each SDG 1, 2, 6, 7, 10, 15, 16 and 17; 3 indicators from each SDG 5 and 8, 4 indicators from each SDG 3 and 9; and finally, 5 indicators from SDG 4.

The rest one of 39+1, would cover 'leave no one behind' for which, different districts or upazilas have different targets based on the context and ground reality of that particular geographical area. With the guidance of SDG experts 'Natore Model' of local level SDG planning and implementation is developed for district level and a framework is finalized for localizing SDGs at the upazila level. This model prescribes extensive involvement of both District and Upa-zila officials and elected public representatives. For better understanding of SDG and prepare district and upa-zila plans following the Natore Model awareness program through workshops at the division and district level have been done. It is hoped that local level people would fix the targets and prepare corresponding action plan to implement the SDGs involving all stakeholders. More over each district has its 'Branding' issues like Chandpur has, 'Elisher Bari Chandpur' (Chandpur is the home of Hilsa), Jamalpur has 'Nakshi Kantha'; along with localization, districts and Upazilas add their branding with development and promotional activities and has opportunity to take wholistic approach.

While identifying vulnerability and most deprived persons irrespective of gender the districts and sub-districts prioritized first the homeless people due to river erosion; it was followed by agriculture labor, children and labor of tea garden. Common issues they identified are child marriage and drug abuse. The report of Division, District and Upa-zila workshop reveals that costal area identified salinity, river erosion, health, drinking water and modernization of fish and shrimp cultivation as most important issue to address. While hill districts identified health, education, afforestation, tourism and drinking water to address

on priority basis. Haor areas identified water logging, early flash flood, embankment, dredging and skill development as important area to address. On the other hand, planned city, waste management, technical education, protect agriculture land are issues of urban and semi urban area. Plain land identified skill development, quality education, waterlogging, road safety, crop intensity, marketing of agriculture products, river and canal dredging, ICT, water reservoir, indigenous verity of fish and industry as their area of attentions. Other major identified area of localization is inclusive education, women involvement in more economic activities, water and sanitation, internet facility, public transport, river erosion, cottage industry, migration, nutrition, vocational education and maternal health. This is to be kept in mind that the areas identified by the district and upazila are unique in nature, not common.

For monitoring and implementation of SDG government formed committee at different level of administration in Division, District and Upazila engaging government officials, elected representatives, civil society and NGO and this ensures whole of the society approach. All the Local Government bodies of our country Union Parishad, Upazila and Zila Parishad has allocation from the government along with their own fund to implement their development plan which in another way may call implementation of SDG. This is evident that allocation for the local government bodies are not enough to meet their revenue budget and development projects. Government of Bangladesh started implementing District Budget; this may help to address the issues of +1 and help implementing localization of SDG and ensuring 'Leave no one behind'.

EP

**Md. Abul Kalam Azad**  
Former Principal Secretary and  
Principal SDG Coordinator,  
Prime Minister Office

# Impact of Covid-19 on Oil Demand to Continue Even After 2021

Serajul Islam Quadir

**T**he impact of the second wave of Covid-19 on energy prices, despite some recovery, may persist beyond 2021 as the experts apprehended. Oil prices fell substantially during the beginning of COVID-19 and have only slightly regained pre-pandemic price levels.

Agriculture prices were relatively unaffected by the pandemic, but the number of people at risk of food insecurity has risen as a result of the broader effects of the global recession.

The impact of COVID-19 on energy markets may continue over the next more than a year and it will have also a blow on the expected economic boost up in the world, a senior official of the World Bank Group said.

"When declines in commodity prices are short-lived, policy stimulus can buffer their impact. However, when prices remain depressed for an extended period, policy makers need to find solutions so their economies can adjust smoothly to a new normal. Because of COVID-19, the new normal for oil-exporting emerging and developing economies arrived earlier. In the post-COVID world, these countries need to be more aggressive in implementing policies to reduce their reliance on oil revenues," said **Ayhan Kose, World Bank Group Acting Vice President for Equitable Growth, Finance & Institutions and Director for the Prospects Group.**

Oil prices are expected to average \$44 per barrel in 2021, up from an estimated \$41 per barrel in 2020.

Demand is expected to rise gradually and day by day that it might be a slow pace as tourism and travel continue to be held back by health concerns and as global economic activity is anticipated to return to pre-pandemic levels only in the year after next.

Supply restraint is expected to be eased steadily. Energy prices overall—which also include natural gas and coal—are expected to rebound sizably in 2021, following large declines in 2020, an upward revision from April's forecast.

Health experts and noted economists around the world feel that a resurgence of a second wave of the pandemic that results in more lockdowns and less consumption, and delays in vaccine development and distribution, could lead to lower energy prices than forecasted.

Several countries in Europe and other parts of the World (including North American countries mainly Canada) have already started to introduce lock down mechanisms to contain this highly contagious disease and also to protect the health of mass people.

The Kingdom of Saudi Arabia has already stopped all kinds of international flights to subdue the rapid spread of the coronavirus. All these new imposition of restrictions have largely had an adverse effect on the much expected tourism industry meaning the demand for oil will be lower.

The economy of Thailand and more other countries is highly dependent on tourism and now they are recounting their calculation.

Metal prices are expected to post modest increases in 2021 after falling in 2020, supported by the ongoing recovery in the global economy and continued stimulus from China. A prolonged period of weak global growth would lead to lower prices than forecast.

Agriculture prices are expected to rise slightly in 2021, following an estimated 3% increase in 2020 following some shortfall in edible oil production. Concerns about food insecurity remain relevant in several emerging markets and developing economies. These concerns are prompted by hits to incomes from the global recession, bottlenecks in food availability at the local level, and border restrictions that have constrained labor supply. Food price inflation has spiked in several countries.

The pandemic is only the latest in a long history of shocks to commodity markets. A special focus looks at the nature of commodity price shocks on 27 com-

modities during 1970-2019. It finds that highly persistent and short-lived shocks have contributed almost equally to commodity price variation, although with wide variety across commodities. Permanent shocks account for most of agricultural commodity price variability while transitory shocks are more relevant in industrial commodity prices. The varied duration of such shocks points to a need for policy flexibility.

A transitory commodity price shock may call for stimulative fiscal policy to smooth consumption; countries that depend on exports of commodities subject to cyclical price swings may want to build fiscal buffers during the boom phase and use them in the bust period to support economic activity. In countries that rely heavily on commodities that are subject to permanent shocks, structural policies such as economic diversification and broadening the tax base may be needed to facilitate adjustments to new economic environments.

The World Bank Group, one of the largest sources of funding and knowledge for developing countries, is taking broad and fast action to help developing countries strengthen their pandemic response. It is supporting public health interventions, working to ensure the flow of critical supplies and equipment, and helping the private sector continue to operate and sustain jobs.

The World Bank Group is making available up to \$160 billion over a 15-month period ending June 2021 to help more than 100 countries protect the poor and vulnerable, support businesses, and bolster economic recovery. This includes \$50 billion of new IDA resources through grants and highly concessional loans and \$12 billion for developing countries to finance the purchase and distribution of COVID-19 vaccines.

EP

**Serajul Islam Quadir;**

*The writer is the former Bureau Chief of Reuters in Bangladesh and Executive Editor of the American Chambers' Journal.*



## PM Urges Developed Nations to Fulfill Climate Pledges



**P**rim Minister Sheikh Hasina recently urged the developed countries to come up with predictable and promised mitigation measures along with finance to face the adversity of climate change.

"I would like to conclude urging all developed countries to come forward with predictable and promised mitigation measures along with climate finance," she said, joining a virtual "Climate Ambition Summit" marking the fifth anniversary of the landmark Paris Agreement.

In a pre-recorded speech aired at the summit, the PM also said, "Today we are observing the fifth anniversary of the historic Paris Agreement. Unfortunately, we are nowhere near to our goals set under the agreement".

The UK, UN and France co-hosted the Summit in partnership with Chile and Italy.

The Summit started with opening addresses from UN

Secretary General Antonio Guterres, UK Prime Minister Boris Johnson, French President Emmanuel Macron, Chilean President Sebastian Piñera and Italian Prime Minister Giuseppe Conte.

Sheikh Hasina said: "The reality is the climate change is neither going to take a break nor it will spare us from its adverse impact for our inaction."

Despite many constraints, Bangladesh has emerged as a global leader on adaptation measures, she said, adding, "In this regard, I would like to remind everyone that there is a limit to adaptation."

As the President of the Climate Vulnerable Forum, Sheikh Hasina said, they have launched the CVP "Midnight Survival Deadline for the Climate" initiative urging every country to declare enhanced NDCs by the midnight on 31st December 2020.

EP

## Climate Change May Create 63m Migrants in S Asia by 2050

**T**he growing impacts of climate change have already pushed more than 18 million people to migrate within South Asian countries, but that could more than triple if global warming continues on its current path, researchers warned on recently.

Nearly 63 million people could be forced from their homes by 2050 in the region as rising seas and rivers swallow villages, and drought-hit land no longer supports crops, said ActionAid International and Climate Action Network South Asia in a report.

The projection does not include those who will be forced to flee sudden disasters such as floods and cyclones and so is likely an under-estimate, noted Harjeet Singh,

global climate lead at ActionAid. He said the situation could become "catastrophic".

Many will head from rural areas to towns and cities in their own countries, in search of work, he said.

There they often end up living in slum areas exposed to flooding and with very limited access to social services, doing precarious jobs such as rickshaw-pulling, construction or garment-making.

"Policy makers in the Global North and the Global South are not yet waking up to this reality," Singh told the Thomson Reuters Foundation. "They are not realizing the scale of the problem, and how we are going to deal with (it)."

EP

## 3 Brick kilns Demolished for Polluting Environment



**A** mobile court in Narsingdi recently ordered demolition of three brick kilns and fined Tk 5 lakh each for polluting environment and operating without proper documents.

Kazi Tamzeed Ahmed, executive magistrate, Monitoring and Enforcement Wing of the Department of Environment, conducted the mobile court in Raipura and Belabo upazilas of the district with the help of

police and Fire Service.

The three brickfields are -Five Star Brick Field owned by Abdul Wadud of

Gauripur village in Musapur Union under Raipura, Peragi Brick Field owned by Asaduzzaman of Radhanagar village under Raipura upazila and SBA Brick Field owned by Bashir Ahmed of Amlabo Union under Belabo.

Muhammad Hafizur Rahman, deputy director of the Environment Department in Narsingdi, said that they have demolished the brick kilns and collected Tk 15 lakh as fine.

EP

## Biden Unveils Climate Team



**U**S President-elect Joe Biden has introduced his climate and energy team, saying they will lead an “ambitious plan” to combat climate change.

Biden has vowed to make the issue a top priority in an agenda that reverses many Trump administration policies. He said there was “no time to waste”.

If confirmed by the Senate, the team will include the first black man to run the Environmental Protection Agency (EPA) and the first Native American cabinet member. Biden, who is set to be inaugurated on 20 January, has pledged to build a diverse administration that reflects the US.

“We’re in a crisis,” he said. “Just like we need to be a unified nation to respond to Covid-19, we need a unified national response to climate change.”

Biden has pledged to break away from climate policy under the Trump administration. He says he will re-join the Paris climate agreement immediately upon taking office and “put America back in the business of leading the world on climate change”.

Under President Donald Trump, the US this year became the first country to formally withdraw from the Paris agreement, which commits countries to working to limit

the global temperature rise.

Biden described his picks for his new climate and energy team as “brilliant, qualified and tested, and barrier-busting”.

Nominees include North Carolina’s top environmental regulator Michael Regan, who would be the first African-American man to head the EPA, and New Mexico representative Deb Haaland who would be the first Native American to lead the Department of the Interior.

Haaland hailed her nomination as a “profound” moment in the history of the country.

Environmental lawyer and Obama administration official Brenda Mallory was nominated to run the Council on Environmental Quality. If confirmed, she would be the first African American to hold the position.

Former Michigan Governor Jennifer Granholm was nominated for the position of energy secretary.

Last month Biden named John Kerry, a former secretary of state and one of the leading architects of the Paris agreement, as his climate envoy.

The Biden transition team said the position would see him “fight climate change full-time”. He is also set to be the first official dedicated to climate change to sit on the National Security Council.

EP

## Declare Climate Emergency, UN Chief Tells World Leaders

**W**orld leaders should declare states of “climate emergency” in their countries to spur action to avoid catastrophic global warming, UN Secretary-General Antonio Guterres said in opening remarks to a climate summit recently.

More than 70 world leaders are due to address the one-day virtual gathering aimed at building momentum for much steeper cuts in planet-warming emissions on the fifth anniversary of the 2015 Paris climate accord.

“Can anybody still deny that we are facing a dramatic emergency?” Guterres said via

video. “That is why today, I call on all leaders worldwide to declare a State of Climate Emergency in their countries until carbon neutrality is reached.”

Guterres said that economic recovery packages launched in the wake of the coronavirus pandemic represented an opportunity to accelerate the transition to a low-carbon future - but warned this was not happening fast enough.

“So far, the members of the G20 are spending 50% more in their stimulus and rescue packages on sectors linked to fossil fuel production and consumption, than on low-carbon energy,” Guterres said. **EP**

## Carbon Dioxide Emission Drops by 7pc This Yr: Study

**A** locked-down pandemic-struck world cut its carbon dioxide emissions this year by 7 per cent, the biggest drop ever, new preliminary figures show.

The Global Carbon Project, an authoritative group of dozens of international scientists who track emissions, calculated that the world will have put 34 billion tonnes of carbon dioxide in the air in 2020.

The figure is down from 36.4 billion metric tonnes in 2019, according to a study published recently in the *Journals Earth System Science Data*.

Scientists say this drop is mainly because people are staying home, traveling less by car and plane, and the emissions are expected to

jump back up after the pandemic ends.

Ground transportation makes up about one-fifth of emissions of carbon dioxide, the chief man-made heat trapping gas.

Scientists say this drop is mainly because people are staying home, traveling less by car and plane, and that emissions are expected to jump back up after the pandemic ends. Ground transportation makes up about one-fifth of emissions of carbon dioxide, the chief man-made heat-trapping gas.

“Of course, lockdown is absolutely not the way to tackle climate change,” said study co-author Corinne LeQuere, a climate scientist at the University of East Anglia. **EP**



## Bangladesh Leads World in Sustainable Energy Policies in 2017-19

**B**angladesh is among those highest electricity-deficit countries that have made the most progress in adopting sustainable energy policies between 2017 and 2019.

The country has also made notable progress in ensuring its people's access to clean cooking since 2010.

RISE - Regulatory Indicators for Sustainable Energy - 2020, a new World Bank report charting global progress on energy policies, reveals this information.

RISE 2020 measures policy progress in 138 countries on renewable energy, energy efficiency, electricity access, and access to clean cooking – the four target areas of Sustainable Development Goal 7 (SDG7), which calls for achieving access to affordable, reliable, sustainable and modern energy for all by 2030.

According to the report, nearly every country in the world saw advancements in sustainable energy policy between 2017 and 2019 but the most rapid improvements were in sub-Saharan Africa.

The report, however, says that globally policy progress overall is slower than in the past, particularly around renewable energy and energy efficiency.

The Covid-19 pandemic underscores the need for policies and regulations that mitigate the risk of global shocks while also boosting investments in resilient energy systems and encouraging behavioral changes, it observes.

"At the same time, improving sustainable energy policy supports higher employment, particularly around energy efficiency and distributed electrification." **EP**

## EU Green Transition Fund Will Not Support Natural Gas

**T**he European Union's flagship fund to wean regions off fossil fuels will not finance natural gas projects, EU governments said recently, ending a debate over whether to make the fuel eligible for support.

Gas emits roughly 50 per cent less CO<sub>2</sub> than coal when burned in power plants, but it is associated with leaks of methane, a potent greenhouse gas.

Envoys from the EU's 27 member countries endorsed the deal recently, which was struck between EU governments and the European Parliament.

Under the deal, the fund cannot be used to support any investments linked to fossil fuels, including natural gas. The Just Transition Fund will not back investments in nuclear energy either.

Some EU countries and lawmakers pushed to secure support for gas. Lawmakers said the final deal was a trade-off, which secured a gas-free Just

Transition Fund in exchange for letting gas projects receive a smaller amount of funding under certain conditions from a separate European Regional Development Fund.

The Just Transition Fund will target regions dependent on most-polluting fuels, such as coal and peat, with Poland, Germany and Romania expected to be the biggest beneficiaries.

German Green lawmaker Niklas Nienass said he had supported this compromise as a way to minimise funding for fossil fuels.

"The margin to actually spend money on gas in the ERDF is quite small," he said.

The Just Transition Fund will have 17.5 billion euros (\$21.33 billion) from both a coronavirus recovery fund and the EU's budget for 2021-27. The money is meant to attract further private sector cash to support green industries and retrain workers from polluting sectors. **EP**

## Record Climate Disasters in Asia-Pacific Push Millions to 'Breaking Point'

**A**sia-Pacific has faced a record number of climate-related disasters in 2020, affecting tens of millions of vulnerable people already hit hard by the COVID-19 pandemic, the Red Cross said recently.

The International Federation of Red Cross and Red Crescent Societies (IFRC) said it had responded to 24 climate-linked crises this year in the world's most disaster-prone region - up from 18 in 2019 - including floods, typhoons, extreme cold and drought.

"COVID-19 has of course aggravated these impacts, with a taste of the compound shocks we're expecting in a changing climate," said Maarten van Aalst, director of the Red Cross

Red Crescent Climate Centre.

"The pandemic has not only complicated evacuations and disaster response, but also aggravates the economic impact of disasters, especially for the poorest people," he added.

Southeast Asia was the IFRC's busiest region in 2020, with 15 emergency responses to disasters including severe floods, storms and landslides in the Philippines and Vietnam that affected more than 31 million people.

Jess Letch, the IFRC's emergency operations manager, said the challenge had been to help communities with relief aid while also taking the steps needed to halt the spread of COVID-19. **EP**

## DoE Goes Tough on Air Polluters in Ctg

**T**he Department of Environment (DoE) has taken stern action against errant enterprises responsible for causing air pollution in the port city.

On December 20, the DoE fined a steel manufacturer and a cement manufacturing company for polluting the air.

DoE Director (Chittagong Metro) Mohammad Nurullah Noori slapped the fine following a hearing at his office recently.

Of them, Modern Steel Mills Ltd of Nasirabad Industrial Area was fined Tk 9 lakh while NGS Cement Industries Ltd of North Patenga area was fined Tk 4 lakh.

The Suspended Particulate Matters (SPMs) of the two businesses were tested at the DoE laboratory on November 22 and November 24 of this year.

The lab tests revealed that the SPMs were far beyond the parameter set by Environment Conservation Rules, 1997 (Amended 2005).

The errant businesses were asked to modernize their respective Air Treatment Plant (ATP).

On November 30, a steel manufacturing company identified as Saleh Steel Ltd of Nasirabad Industrial Area was fined Tk 10 lakh for polluting air. **EP**

# LOAB Against Arbitrary Pricing, Not A Fixing Formula

**A**mid a government move to administer the price of Liquefied Petroleum Gas (LPG) due to widespread allegations of price manipulation of the cooking fuel, LPG Operators' Association of Bangladesh (LOAB) President Azam J. Chowdhury said they are not against automatic price formulation, but against fixing any arbitrary price. He also said that the government should carefully examine the applications for new licenses as the market is already oversaturated with so many operators, creating unhealthy competition.

Mr. Chowdhury shared his thought in an exclusive interview with Energy & Power Editor **Mollah Amzad Hossain**.

*Bangladesh is celebrating its golden jubilee as an independent country. You, as one of the undisputed pioneers in the energy and power sector, what is your evaluation about the progress and predicaments of this sector?*

The progress we have achieved in power generation the same could not be made in the downstream of oil and gas sector. The Petroleum Act and Ordinances were not amended to allow private sector to build capacity along with the public enterprises. Unbundling of regulation is the key to huge investment potential in this sector.

Despite the constraints, the private sector has made reasonable investment in petroleum infrastructure in product terminal, lube oil blending, bitumen, LP Gas infrastructure and manufacturing of transformer oil, grease and even additives including large oil tankers. Some of the key petroleum installations are now managed by the private sector.

*You have a long history of representing major international power generation companies which have come to Bangladesh. We would like to know why you did not enter the power sec-*

*tor yourself as an independent power producer. Do you have any such plan in the future?*

Although I worked for development of power plants in Bangladesh with major builders of power plants but my passion for hydrocarbon led me to undertake business in downstream sector.

*Bangladesh Petroleum Corporation (BPC) started marketing LPG on a limited scale in late 1970s. In the late 1990s, the private sector operators began setting up bottling plants and marketing LPG. Although East Coast Group's Omera was a late entrant, it has managed to become the 2nd largest domestic player. What were the reasons behind Omera's success and what future plans does the company have?*

We were using natural gas like rain water as if it was harvested free of cost. When Bangladesh realized that we should not burn our multivalued natural gas, we decided to invest heavily in the whole value chain right from terminal to number of bottling plants, first ever we started operation by LPG barges, world class facilities including Cylinders manufacturing plants. We concentrated on quality, safety and high standard that promptly received the brand by consumers.

We have a distribution network which is able to reach customer promptly, and replenish the stocks. The company uses lot of automation both in process as well as in distribution.

*As the president of LPG Operators' Association of Bangladesh (LOAB), what is your view about the concerns that the market is oversaturated already? There are some 22 operators and more are expected to come. Given the small size of the domestic market, what are your suggestions for way forward?*



**Azam J. Chowdhury**

*Large companies took permission for setting up Autogas stations, but could not yet install 20% percent of the permission obtained so far. There are lot of technical and operational issues to be resolved before we are able to set up the stations. You need safety distance as per regulation and, in many cases, an existing station does meet such criteria.*

In a competitive market, it is very natural that there will be lot of players but we are missing our point. Regardless of the market, small or large, investors cannot sustain by making supply to a small pocket market. This sector requires continuous investment. We have been investing since we started 5 years ago. In big markets, there are only 4-5 operators. In India, it has 3-4 operators being a very large market. Government should have carefully examined the proposal for granting license.

*When the supply exceeds demand, malpractices thrive. Operators have been forced to engage in a price war. However, distributors / dealers are eating up the lion's share of profits*



***that is benefitting neither producers nor consumers. In many countries, the standard practice is to appoint exclusive distributors / dealers which handle only one brand. What is your opinion about this practice and should it be introduced in Bangladesh?***

The market for LPG is new and it requires stability and correction. By now most operators sell 40-50% of their products through exclusive distributors. Neither the cartel nor the predatory price helped develop the market. We have more than 25 operators but only 5 support around 85% of the market. A fair price is determined based on import variable cost along with other fixed cost depending on supply and demand. In Bangladesh none has yet full infrastructure and further policy support when granted will widen the market. It will be difficult for so many operators to sustain.

***Latest LPG policy dictates that every operator must have storage capacity of 5,000 metric tonnes. Allegations have surfaced from smaller operators that this clause has been incorporated to give preferential treatment to big players. How do you view this situation?***

The condition to raise basic storage capacity to 5,000 tonnes was set by policy-makers to help the operators raise investment against infrastructure to be able to meet demand for products. The government has given 2 years of additional time to expand. It has been more than 4-5 years until now, lot of operators could not meet the deadline to raise the capacity. They are still in business. Nobody is creating any problem for them to close the shop. Oil and gas business is capital intensive, and you cannot expect to support entire Bangladesh market by doing anything below 5,000 tonnes.

***Autogas has created a new market in the transport sector. However, the government has given chunk permission to major players, who are now allegedly giving out franchise to smaller parties. The major complaint here is that policymakers are giving undue advantage to big operators. Do you believe that this is creating an unhealthy atmosphere?***

It is not true. The government is not refusing permission whoever wants to install Autogas. Even large companies took permission but could not install 20% per-

cent of the permission obtained. There are lot of technical and operational issues to be resolved before we are able to set up an Autogas station. You need safety distance as per regulation and, in many cases, an existing station does meet such criteria.

***CNG market remains established as an alternative fuel for transportation. In view of the fact that the government has decided to continue with CNG stations even after LNG import, how realistic are the prospects for Autogas to become a price competitive solution vis-à-vis CNG for vehicles?***

At our association, LPG has higher energy content at 93.2/MJ/m<sup>3</sup> compared to natural gas at 38.7/MJ/m<sup>3</sup>. LPG is liquefied through pressurization vs natural gas is cryogenically turned liquefied. It is easy to transport and has higher mileage compared to other forms of energy.

***Various authorities including the ministry, BPC, BERC and DoE are all involved in the regulation of LPG and lube oil. This results in operators having to obtain multiple permissions from different bodies which is a hassle. Would it not be simpler to have one regulator responsible for both these products? What are your thoughts on this matter?***

There is only one theory to succeed in dealing with hydrocarbon is to ensure safety and security of supply. A single regulator which will ensure all private and public enterprises to compete in the level playing ground. We are following reverse policy. We have duplication of fees and heavy license renewal charges. BPC is an operator but regulating this industry as well. Petroleum Act 1974 and BPC Ordinances need to be unbundled.

***The LPG policy states that the government will fix price. In line with that BERC has recently sent a draft pricing formula to the ministry. Given that more than 99 percent of LPG is imported and pricing depends on international contract price, do you think this formula will be realistic? How should prices be fixed in your opinion?***

Everywhere in the world the petroleum prices are determined based on supply and demand taking into consideration of variable price and fixed cost. Once you are able to determine a base price then

you can adjust base price depending on escalation and de-escalation of prices in the international market. We are not against an automatic price formulation but we are against fixing an arbitrary price which may cause damages to operators as well as our valued customers.

***There was a time when the local lubricant market was entirely dominated by international brands. You broke the mold by successfully bringing Mobil brand into Bangladesh through Mobil-Jamuna joint venture, which today has the lion's share of the domestic market. What plans do you have for expansion into the international market with Mobil-Jamuna's lube products?***

Building of a state-of-the-art lube oil blending plant with the world's largest oil company was not an easy task but by the grace of almighty Allah, we were able to set up the best plant in South East Asia. In yearly rating, we remain highest scorer in the global rating. We meet the major demand of premiere grade lubricants in Bangladesh market. We also support regional markets. We need government support for approval of investment in international market. Foreign exchange regulations need to be relaxed for entrepreneurs wishing to invest in overseas market.

***A major problem with the domestic lube market is low quality and adulteration. This is causing huge loss for both industry and transport sectors. What monitoring mechanisms need to be put in place to standardize the market?***

The Ministry of Energy needs to provide lube oil policy and its strong enforcement to prevent entry of fake and adulterated lubricants to Bangladesh. It is not difficult to pursue action against violators. Sixty percent of our market is dominated by low quality lubricants. We must have a policy of standardization prior to its entry to Bangladesh market. We are now migrating to a developing economy and its performance greatly depend on qualitative performance on competitive basis. Lubrication solution of our industry and all other segments will play an important role in our eco-friendly organic growth. Bangladesh is now able to buy only 500 ppm sulfur content diesel in support of environment. We have to just take required steps while making regulatory and fiscal policy for lubricant too.

**EP**



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## 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।







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