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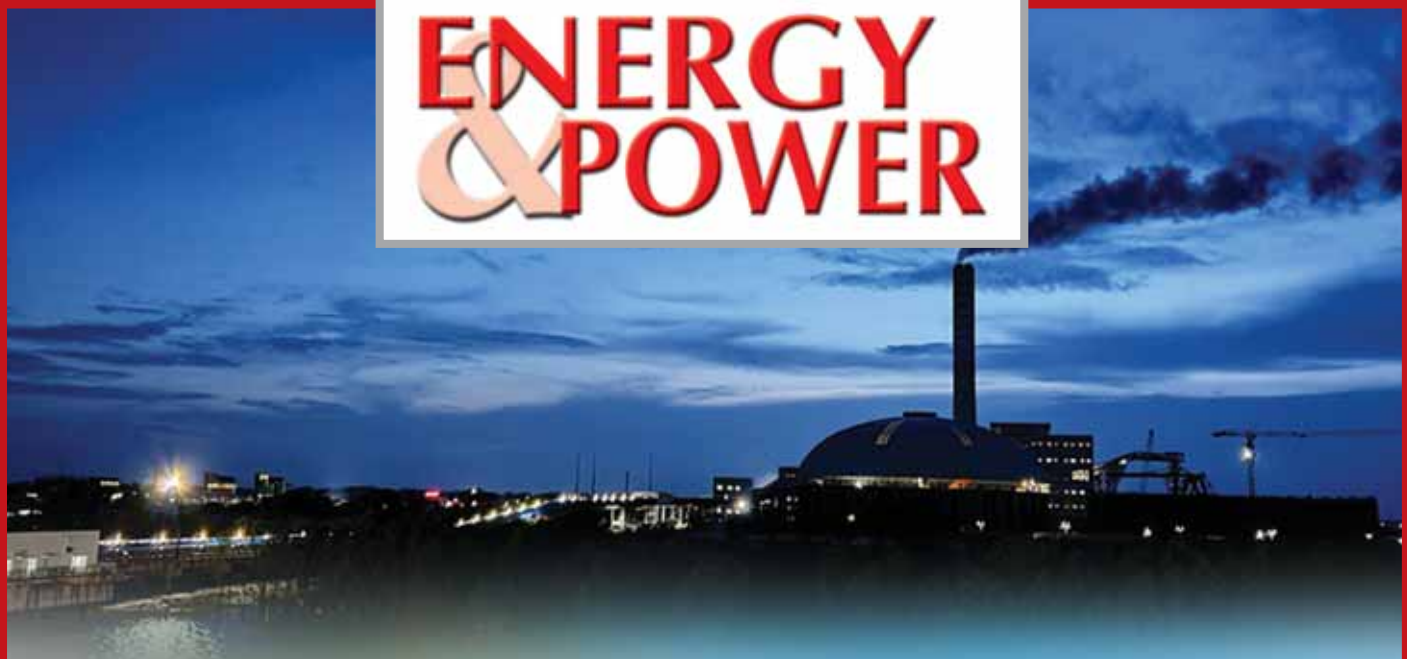
November 16, 2020

ENERGY & POWER



Exemplary Indeed

- It's Not Right Time to Move Out of Coal
- Will Joe Biden Act Quickly to Change Trump's Doings?
- Stop Captive Generation after Ensuring Quality Power Supply

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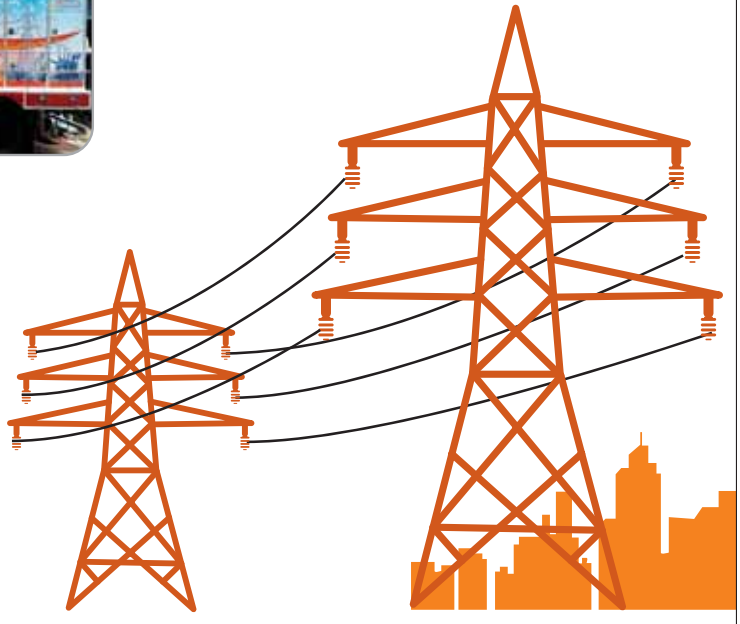

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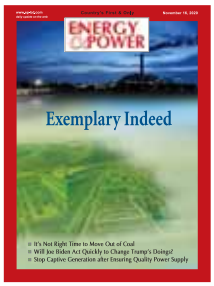
It is not a right time to move out of the reliance on coal for power generation. The thoughts of replacing coal with renewable energy are not at all realistic. The thoughts of replacing coal with imported LNG would make energy generation mono-fuel based again and would enhance cost. Such strategy will not be reasonable at all. ... Dr. Kazi Bayzid Kabir tells EP

Fortnightly Magazine, Vol 18, Issue 11, November 16-30



ENERGY & POWER

EDITORIAL

Bangladesh has implemented a 1,320MW coal-fired thermal power plant at Payra in Patuakhali district. The plant is particularly special from two aspects. It is the first such mega project in the country that could be implemented 18 months ahead of schedule while experts acclaimed the rehabilitation and technology transfer mechanism of the project. Another aspect is that the plant used Ultra Super Critical Technology, meant for mitigating the adverse impact of the notoriously dirty fuel on the environment as much as possible. The plant is claimed to be the most modern state-of-the-art establishment. Officials claimed that there is hardly any impact on the environment in and around the project site so far. State Minister for Power, Energy and Mineral Resources Nasrul Hamid thought it could be projected as a demonstration plant. Even the critics of the country's energy policies and development initiatives appreciated the project implementation.

The plant has set an example of timely implementation of a mega project in Bangladesh. The strategies and approaches taken in this case could be examined carefully and followed in other ongoing and upcoming mega projects, which is expected to help save time and money.

highlights

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The government had allowed the captive power generation due to its limitation to supply electricity. The gas price has gradually been increased to Tk 13.85 per cubic meter, but the generation cost of captive power still remains Tk 2-3 lower. So, it would not be possible to stop captive generation only through ensuring quality supply of grid power. The price should also be rationalized. ... for more on Special Report

COVER

9

Payra coal-based power plant could be a demonstration plant of modern age as it hardly pollutes environment. Even the critics praised implementation of the project and its utilities. "It's a well implemented project. It's a project that can be followed by others. The project developed the skills of 75 engineers to construct a coal-fired power plant. Rehabilitation of the affected ones was also received appreciation.

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Green page

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.

Experts for Re-Fixing Solar Power Target

IDCOL, Feni Lanka Power Win Asian Power Awards 2020

Content

Content

Belarus Grid Connects Its First Nuclear Power Plant

The first power unit of the Belarusian Nuclear Power Plant has been connected to the grid and supplied electricity to the Belarus power system.

The unit features Rosatom's flagship VVER-1200 reactor, a tried and tested latest generation (III+) technology with 3 power units up and running in Russia.

It is a backbone of the Rosatom export order book consisting of 36 units across 12 markets, including Finland and Hungary.

Rosatom Director General Alexey Likhachev said, "The delivery of the first 'nuclear' kilowatt-hours of electric energy into Belarus's unified energy system is a historic event that marks the beginning of the republic's nuclear [power] era. This was made possible by the efficient long-term efforts of a large team of Belarusian and Russian specialists. Undoubtedly, there is still a lot of work to be done before the unit is put into commercial operation, but we can already say that, as the first Russian-designed III + generation nuclear power plant to be built outside of Russia, Belarusian NPP is a success".

The first nuclear power plant in Belarus is based in Ostrovets, Grodno region, comprising two VVER-1200 reactors of 2.4 GW of total capacity.

Currently, three reactors of this type are successfully operating in Russia: two at the Novovoronezh NPP and one at the Leningrad NPP. Once fully completed, the plant is expected to supply about 18 bn kWh of low-carbon electricity to the Belarus national grid every year.

Aramco Records Q3 Net Income of $11.8b

The Saudi Arabian Oil Co. (Aramco) recorded net income of $11.8 billion for third-quarter 2020. Capital expenditure for the quarter was $6.4 billion.

Total hydrocarbon production for the first 9 months of 2020 was 12.4 MMboe/d, of which 9.2 million b/d was crude oil.

Aramco achieved a record historic single-day natural gas production of 10.7 billion standard cu f/d Aug. 6, 2020, from both conventional and unconventional fields.

Exploration activities resulted in two successful unconventional field discoveries in the quarter, both in the northern part of the Kingdom; one field with both oil and gas reservoirs and another field with a gas reservoir.

Rosatom Organizes Global Online Nuclear Quiz on Nov 10

Chevron Corp will lay off about 25 per cent of Noble Energy's employees who joined the oil major after its US$4.1 billion purchase of the smaller rival earlier this month, the company said recently.

A collapse in crude oil prices has forced most oil and gas producers to drastically cut costs by laying off thousands of employees and cutting down on drilling.

For many companies, consolidation with larger players at low or no premiums is becoming the only option to survive, report agencies.

The job cuts, which are on top of Chevron's plan to reduce 10 per cent-15 per cent of its own workforce, come after the company promised to lower its operating expenses by US$1 billion this year to cope with the downturn.

Chevron's 10 per cent-15 per cent cuts would imply a reduction of between 4,500 and 6,750 jobs, while job cuts at Noble will reduce the total workforce by roughly another 570 positions.

Gazprom Puts into Operation Europe's Biggest CNG Station

A ceremonial event celebrating the commissioning of two new natural gas stations has taken place in Moscow via a video link at the meeting of the Gazprom Board of Directors.

Now that these two new filling stations have been brought onstream, the total number of Gazprom's natural gas refueling facilities in Moscow and the adjacent territory has increased to seven Gazprom said.

Situated at the intersection of Zenitchikov and Dubravnaya Streets, CNG station No. 2 with the annual design capacity of 29.8 million cubic meters is the largest in Europe (along with the CNG station opened on the Levoberezhnaya Street in 2017).

The station has 12 gas pumps ensuring a daily throughput of 1,600 vehicles.

CNG filling station No. 5, located on Podolskikh Kursantov Street, has the annual design capacity of 8.9 million cubic meters of natural gas and is equipped with six pumps allowing to refill 480 vehicles a day.

These new facilities were built using domestic equipment and materials.

Govt Clears Proposals to Import 1.3mt Crude Oil

The Cabinet Committee on Public Purchase recently approved eight proposals, including the import of 1.3 million metric tons of crude oil.

Chaired by Finance Minister AHM Mustafa Kamal, the virtual meeting was attended by its members, mostly senior ministers.

According to a decision of the meeting, Bangladesh will import 1.3 million metric tons of crude petroleum oil from two gulf countries -- Saudi Arabia and the UAE --for the year 2021.

State-owned Bangladesh Petroleum Corporation (BPC) under Energy and Mineral Resources Division will import the bulk crude petroleum from the Saudi Armco of Saudi Arabia and Adnoc of Abu Dhabi at a cost of Tk 5,204 crore.

India Sees Rampal Power Plant as Sign of Friendship: Vikram

Indian High Commissioner to Dhaka Vikram K Doraiswamy has said India considers Rampal power plant as a symbol of friendship between the two countries.

"The project is seen as a friendship project; not a commercial project. All concerned people are working hard to complete the work expeditiously by giving priority to this project," Vikram said.

The Indian High Commissioner said this recently after visiting the Bangladesh-India Friendship Power Company Limited (BIFPCL), also known as Rampal power plant.

During the visit, Vikram K Doraiswamy said, "Rampal Power Plant construction will be completed in the Mujib year and we are expecting to produce electricity from the plant from December 2021."

The Indian High Commissioner further said that the adverse effects of the coronavirus pandemic need to be overcome.

Sweden Eager to Work for Bangladesh's Power-Energy Sector: Envoy

Newly appointed Swedish Ambassador to Bangladesh Alexandra Berg Von Linde recently said Sweden is interested to work closely with Bangladesh government for the development of its power and energy sector.

"Sweden is eager to work with the government for the development of power and energy sector. Our businessmen are also interested to work in this sector," she said while paying a courtesy call on State Minister for Power, Energy and Mineral Resources Nasrul Hamid at the latter's office at Bangladesh Secretariat.

During the meeting, different issues of the power and energy sector, including transmission and distribution, waste management and affordable energy production were discussed.

Welcoming the new Swedish Ambassador, the state minister said, "There are many opportunities in Bangladesh to work together. Sweden has vast experience on power generation from waste and its technology is also modern."

"We can work together in this sector . . . Bangladesh has been working to expand clean and renewable energy and Sweden can extend cooperation in the particular area," said Nasrul.

He said Bangladesh can use Swedish experiences to modernize smart grid, smart transformers, smart meters as well as distribution and transmission system of its power and energy sector.

Among others, power secretary Dr Sultan Ahmed was present.

DPDC Commissions Substation at Bangabandhu Avenue

Dhaka Power Distribution Company Limited (DPDC) has commissioned a generic system image (GSI) substation titled "Bangabandhu Avenue 33/11KV GIS substation' at Bangabandhu Avenue in the capital recently.

Power Division Secretary Dr Sultan Ahmed attended the function as the chief guest, said a press release.

DPDC Managing Director Engineer Bikash Dewan presided over the event. Because of installation of this substation having capacity 70mva, the customers of Bangabandhu Avenue, Gulisthan, Secretariat, Abdul Goni Road, Old Dhaka and Bakshi Bazar will enjoy uninterrupted electricity coverage.

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Summit Gets Stamp Duty Exemption of Tk110cr

Summit Group – a private sector investor – has received a stamp duty exemption of Tk110 crore on the registration of financial documents and land lease agreement for building a 583MW dual fuel power plant in the Meghnaghat area of Narayanganj.

The Internal Resources Division (IRD) under the Ministry of Finance issued an order in this regard on 27 October.

The order, signed by IRD's Senior Secretary and National Board of Revenue's Chairman Abu Hena Md Rahmatul Muneem, read, "In the private sector, the Summit Meghnaghat II Power Company Ltd has been exempted from the applicable stamp duty of Tk109.87 crore regarding the Letter of Hypothecation, Deed of Mortgage of Leasehold Interest, Share Pledge Agreement, Security Assignment and Land Lease Agreement for building the 583MW gas-LNG and diesel power plant in the Meghnaghat area of Narayanganj."

According to the IRD, Summit is taking 1,428 decimals of land on lease in the Char Ramzan Sonaullah Mouza under the Sonargaon upazila of the district for building the power plant.

United Power Declares 155pc Dividend

United Power Generation and Distribution Company Limited declared 155 per cent dividend for the year ended on June 30, 2020.

The board of directors proposed the dividend at a meeting recently.

Of the 155 per cent dividend, 145 per cent was cash dividend and 10 per cent was stock dividend.

The company set the record date on November 11 for the entitlement of the dividend.

The company would hold the annual general meeting on December 20 to get the share-holders approval regarding dividends and financial statements.

Titas Gas Bills Can Be Paid Through bKash

Customers having domestic connections of Titas Gas will be able to pay their bills through bKash from anywhere, 24/7.

About 2.9 million domestic customers of this gas distribution company in Dhaka and 11 nearby districts can pay their bills easily, securely and instantly using bKash app.

Both metered and non-metered (monthly) users will be eligible to avail this facility, said a press release.

A large number of customers from Dhaka, Gazipur, Narayanganj, Munshiganj, Narsingdi, Manikganj, Tangail, Kishoreganj, Mymensingh, Netrokona, Jamalpur and Sherpur will get the opportunity to avail uninterrupted gas service through this time-saving and cost-effective bill payment option as they do not need to go anywhere or stand in long queues.

To pay the bill, customers have to select 'Gas' from 'Pay Bill' icon in bKash app. Those who pay bills on monthly basis should select 'non-metered'.

Then they have to select the current month or if they wish, they can pay the arrears for 12 months at a time by selecting all those months.

Then after entering customer code, mobile number and bKash PIN, the bill payment process will be completed.

Customers of Jalalabad, Sundarban and Paschimanchal gas can also pay bills through bKash. Besides, all kinds of electricity bills across the country can be paid through bKash.

The largest number of utility bill payment service is now provided by bKash which includes WASA and BTCL telephone bills also.

Exemplary Indeed

EP Report

There is a global concern that coal-fired power plants badly pollute the environment. Wherever there is a plant, it destroys the climatic condition as well as creates havoc to the public life. But a power generation plant in Bangladesh has largely disproved such concern. There is hardly any sign of environmental degradation and public suffering in and around the site of 1,320 MW coal-based Payra power plant, which is set up and being operated in Patuakhali district of Bangladesh for around last six months, belying the critics of dirty-fuel based power generation facilities. The new generation plant that deployed most modern environment-friendly technologies also set another milestone in the country in terms of implementing a mega project well ahead of the schedule. .

"It could be a demonstration plant of modern age ... you come and see what is happening there," said State Minister for Power, Energy and Mineral Resources Nasrul Hamid, who seemed feeling proud about the plant while talking at a recent webinar in Dhaka. The event was also graced by Professor of Bangladesh University of Engineering and Technology (BUET) Dr. M Tamim, a well-acclaimed energy expert and who often criticizes the country's energy policy and development plans, also praised the imported coal-based plant but from different perspective – implementation of the project and its utilities. "It's a well implemented project. It's a project that can be followed by others," he said, appreciating the initiative that developed the skills of 75 engineers to construct a coal-fired power plant. To describe another aspect, the special assistant to the chief adviser of last caretaker government said: "I'm impressed at the measures taken to rehabilitate the affected ones."

Energy & Power magazine organized the virtual talks titled "Payra Power Plant: An Example of Timely Execution" as part of a series of discussion on the country's energy sector issues. Relevant project and power sector officials, energy sector researchers, academics and non-resident energy experts participated in the webinar.

Nasrul Hamid

Taking part in the discussion, experts pointed out eight factors contributing to the timely implementation of the Payra thermal power plant project which are considered to be the game changer in bringing it ahead of the other projects those started implementation before the Payra plant that have competitive generation cost. The cost could have been possible to reduce further had the Payra Port Authority been able to construct the coal import infrastructure, commensurate with the plant's progress. Another dark side is that the utility of the plant could not be derived due to lack of evacuation facilities – the transmission line could not be put in place at the right time, which the experts said 'not acceptable'. They stressed the need for integrated development of the power sector in future.

Eminent energy experts from home and abroad appreciated the successful implementation of the mega power project that used Ultra Super Critical Technology. The implementation process had to confront challenges with exemplary managerial flairs and visionary leadership. They agreed that the project would help get away from the misperception about the environmental and social impacts of coal power projects. The experts, however, stressed on exploitation of local coal resource as one of the priority options for confronting the challenges of transportation of imported coal.

Professor M. Tamim

Md Belayet Hossain

Mohammad Hossain

A.M. Khurshedul Alam

Dr. Mushfiqur Rahman

Professor Firoz Alam

Dr. Kazi Bayzid Kabir

Shah Abdul Moula Helal

The webinar was also addressed by Professor Firoz Alam, BPDB Chairman Eng. Belayet Hossain, Director General of Power Cell Engr. Mohammad Hossain, North-West Power Generation Company Ltd (NWPGCL) CEO A. M. Khurshedul Alam, Aus-

Nasrul Hamid, who was the chief guest at the webinar, said that those who have created issues and mislead people by giving wrong information about coal project, putting a lot of strain should be invited and welcomed at the plant site to let them experience how it is running through maintaining the environmental aspects.

Payra 1320 MW Power Plant at a Glance

Project Name	Payra 1320MW Thermal Power Plant (1st Phase)
Project Location	Union-Dhankhali, Upazila- Kalapara, District-Patuakhali
Implementing agency/company	Bangladesh-China Power Company (Pvt.) Limited (BCPCL) (A Joint Venture of NWPGCL & Bangladesh & CMC, China)
Signing of JVA	9 June, 2014
Equity: Loan	20%: 80%
Capacity	1320 (2x660) MW
Signing of EPC Contract	29 March, 2016
EPC Contractor	Consortium of China Energy Engineering Group Northeast No.1 Electric Power Construction Co., Ltd (NEPC) & China National Energy Engineering & Construction Co., Ltd (CECC)
EPC Cost	1st Phase: 1.56 billion USD
IOD and COD	Unit-1: 15th May, 2020, Unit-2: November, 2020
Primary Fuel	Sub-Bituminous Coal
Coal Consumption	12500 MT per Day for 1320 MW.
Sourcing countries imported coal	Indonesia and Australia (Presently from Indonesia)
Mode of coal transportation	By ship.
Power Evacuation	400kV GIS Substation, 400kV Transmission line (Under PGCB's Scope)
Overall Project Progress	99.5%
Environmental measures	01) Using Low Sulphur and low ash contended coal 02) Closed coal conveyor 03) Closed Coal Dome 04) Electro static precipitator (ESP). Efficiency over 99% Particulate matter emission will be less than 50 mg/Nm3 05) Low NOx Burner. NOx emission will be less than 350 mg/Nm3 06) Flue Gas Desulphurization (FGD). Efficiency over 90%. Sox emission will be less than 200 mg/Nm3 07) High height Chimney (220 m) 08) Closed fly ash conveyor system 09) Green belt around the power plant 10) Not using any ground Water 11) Closed cycle water system.

Source: BCPCL

tralia-living energy expert Khondkar Saleque Sufi, mining engineer Dr. Mushfiqur Rahman and Dr. Kazi Bayzid Kabir of BUET.

Shah Abdul Moula Helal, Project Director of Payra Coal-Fired Power Plant made a presentation on the issue while Mollah Amzad Hossain, Editor of Energy & Power, chaired and moderated the webinar.

Initiating the discussion, Mollah Amzad Hossain said that it is a usual trend in Bangladesh that large infrastructure development projects are delayed for various reasons ranging from land issues and timely financial closure to local challenges. However, the Payra power project is an exception and has set a milestone for timely implementation.

In his presentation, Shah Abdul Maula Helal discussed about the innovative approaches that have helped achieving various milestones of the project on time and without hassles. He said that the key to success were: strategic partnership, meaningful and effective support of the government and all stakeholders, effective management of resources and schedule, thinking outside the box and creating a difference, careful consideration of environmental impacts, exceptional quality and safety management plan implementation and setting of a new benchmark of resettlement. The project manager mentioned about coal transportation and power evacuation challenges. He also informed about four different options for managing the challenges of coal transportation.

Dr. Kazi Bayzid Kabir, Associate Professor of BUET, said that this project has set a successful stepping stone for coal-fired power plant in the

A view of Payra 1320MW Power Plant **Photo: BCPCL**

country. The example set can act as the guiding principle for implementation of the other similar coal-fired power projects. He underlined the importance of dissemination of the success story properly to eliminate unnecessary concerns about coal. There should be no debate on coal once people understand the contribution of coal-fired power in the economy of the country, he added.

Prof. Firoz Alam from RMIT University of Australia, shared his opinion about the power plant construction quality, rehabilitation and resettlement of affected people and Bangladeshi engineering personnel engaged in Payra power plant as he witnessed first-hand during his visit to Payra power plant in late December last year. He highly praised the settlement arrangement and suggested using it as a model for all future projects in Bangladesh. He also opined that Payra resettlement model can be used as benchmark model not only for Bangladesh but also for other countries. He also praised the selection of talented young Bangladeshi engineers from various universities across the country who have strong commitment, patriotism, 'can do' and learning attitudes, and ready to take the responsibility. Prof Alam suggested that all power plants in Bangladesh should follow this Payra engineering recruitment model.

Payra 1320 MW Power Plant Project (1st Phase)

Financial Progress

- Total Financial progress: 80%
- EPC Payment progress: 88%

EPC Work Progress

EPC Overall Work Progress: 99.5%

- Engineering work progress: 100%
- Procurement work progress: 100%
- Construction Work Progress: 98.8%

Construction Progress

- Unit-1 has achieved Initial Operation Date (IOD) on 15th May. Commercial Operation of Unit-1 is going on.
- Synchronization of Payra 1320 MW TPPP (Unit-2) was accomplished with National Grid on 26.08.2020. Expected COD of unit 2 is November, 2020
- 52th Shipment of Coal has been discharged at Payra.

Source: BCPCL

Prominent mining engineer and environment writer Dr. Mushfiqur Rahman observed that Bangladesh will need to import 20 million tonnes of coal annually within few years for the under-construction coal-fired power projects. However, insufficient import infrastructure coupled with tendency of rapid siltation in the Bangladesh coastal areas is going to make this a costly venture. He suggested focusing on own coal to keep open an alternative supply chain. "We need to take immediate initiative for extraction of the high-quality coal deposits in the northern region of the country; otherwise, we will risk falling into the trap of international coal trade and import infrastructure barriers."

Energy expert Engr. Khondhkar Abdus Saleque Sufi termed Payra as a benchmark project. Those who have different views on coal-fired power plant must have got most of their concerns addressed. He thought expanding the capacity of Matarbari coal port and using it as transit port for imported coal for power plants at Payra and Rampal would be the most cost-effective option. If coal cost increases due higher transportation cost, it wouldn't be possible to get low cost power from coal. He stressed on the requirements of integrated implementation of relevant segments of power value chain for deriving the benefits of power generation increase.

Engr. Mohammad Hossain said that eight factors have acted as the game changer for timely implementation of Payra project – appropriate leadership and choosing right kind of partners were the main factors behind the success. He

Major Challenges of Payra 1320MW Thermal Power Plant

Unavailability of Required Draft at Rabnabad Channel

Presently available draft in Rabnabad channel is around 6.2 m. which will be less than 6 m in November and December.

As per the Coal Transportation Agreement between BCPCL and Oldendorff, Germany, minimum required draft for a ship is 6.5 m.

So, if dredging in the channel is not started immediately by Payra Port Authority, Coal transportation will not be possible in the upcoming months and the Power Plant will be shut down in scarce of coal.

Moreover, we are facing high transportation rate because of low draft. the following chart describes the scenario:

Draft (Meter)	6.20 m (Present)	6.50 m	9.00 m
Freight per MT (USD)	$25.22	$23.34	$17.40

Unavailability of Power Evacuation Facility

Because of the unavailability of Power evacuation facility of PGCB, full load evacuation is not being possible from Payra 1320 MW TPP. PGCB's present evacuation facility can evacuate only from 1 unit (660 MW). BCPCL achieved IOD (commercial operation of 1st Unit) on 15th May 2020 with much hardship because of the inadequate evacuation facility of PGCB. Now, BCPCL is facing problem to Complete Reliability Run Test (RRT) of both units and achieve COD (commercial operation of both units) as the evacuation facility from PGCB is not allowing to run both the units.

Source: BCPCL

A night view of Payra 1320MW Power Plant Photo: BCPCL

pointed out that a project cannot be implemented timely unless it gets a right financing partner. For example, Siddhirganj power plant took eight years to implement with the World Bank's financing.

Engr. Belayet Hossain, Chairman of Bangladesh Power Development Board, said that although the capacity cost of Ultra Super Critical coal-based power plant is relatively higher, it will become profitable in the long run. While the energy cost for oil-based power plant is BDT 8.0-8.50 per unit, the same for coal-fired plant is Tk 2.50. As our proven reserve of gas is depleting fast and also the energy is import-dependent, it will not be the right approach to depend on mono-fuel. Therefore, along with LNG-based power, the coal-based power project is the best alternative.

Engr A. M. Khurshidul Alam said the state-of-the-art power plant could be implemented timely due to the Prime Minister's direction and proper coordination. Experience acquired from the previous ECA financing that the financial closure takes 12-18 months time. Considering this experience, the Payra project in its tender imposed a condition that the EPC contractor will have to arrange financing for the 15 percent work of the project. As a result, the contractor implemented 19 milestones out of the total 74 with its financing. By then, the financial closure was finalized, resulting in the implementation of the project 18 months ahead of the schedule.

He also pointed out that the coal for plant is being imported using half the capacity of the ships due to low draft of the sea. The authorities are now considering Andaman and Matarbari to import coal through literage. The plant is maintaining a coal stock for 52-55 days to avoid interruptions in power generation.

We had to appoint an O&M contractor for five years as we do not have the experience to operate coal-fired power plant. During this period, they will have to operate and maintain the plant as well as train our manpower to improve their skills. We hope that by then we will be able to operate and maintain the plant.

Prof. Dr M. Tamim emphasized that it would be more appropriate to establishing coal-fired power plant at the mine mouth if Bangladesh decides extraction of own coal. Import infrastructure will be a big challenge for the government to implement its plan for coal-fired power projects, he added.

In response to extraction of own coal, State Minister Nasrul Hamid said, "we have recently completed a feasibility study of Dighipara coal field. The study shows only 10% of coal can be extracted using underground mining method, which is not feasible."

In Barapukuria, he said, the government is slowly extracting coal of about 4-5 thousand tonnes and it would not be possible to extract more than that. "So, I think, considering these studies the hope is slim to establish large coal-based power plants at the mine mouth based on own coal. It is also almost impossible to transport own coal extracted by underground mining method using the railway system and better not to consider. We are now planning for future how to generate low-cost uninterrupted power by using a mix of fuels."

The general consensus of the webinar was to disseminate the success story of the plant to dispel the myths and controversies over coal-fired power projects. It was also suggested integrating implantation plan for relevant segments of the power value chain ensuring that generated power does not remain stranded for absence of evacuation facilities.

Experts suggested considering the best option for coal transportation as approaching the traditional coal-carrying vessels directly to plant terminal at Payra would continue to remain a big challenge. Expansion of Matabari coal port is considered to be the best option.

EP

Iconic Power Project Sets New Benchmark

Khondkar Abdus Saleque

Bangladesh has set a new benchmark in implementation of a mega project ahead of schedule. It successfully implemented the 1,320 MW coal-fired power plant at Payra, Patukhali in a record time. Bangladesh China Power Company Ltd (BCPCL), a joint venture of NWPGCL, Bangladesh and CMC China, constructed the ultra supercritical (USC) technology using High Efficiency Low Emission (HELE) plant, demonstrating exemplary leadership and great innovative team works. The imported coal-based state-of-the-art project was set up within four years of signing the EPC contract (March 2016 – November 2020). The success is a unique example of the endeavor by a committed group of patriotic Bangladeshis. It deserves special accolades for boosting confidence of Bangladeshis for successful implementation of the other mega projects.

The US$ 2.0 billion project is implemented with foreign direct investment in terms of loans and equity, and its implementation strategy would act as the guiding principles for any similar projects in the developing country across the world. If the Bangladesh Power Development Board (BPDB) and Power Division could timely implement the PGCB-managed 400 KVA power transmission line from Payra to Aminbazar via Gopalganj and the Payra Port Authority could at least implement timely the capital dredging of 90 KM channel connecting the plant site, the power could be evacuated to the power grid now. The full benefit of the successful mega project could not be derived without timely implementation of the associated projects. The BPDB and Power Division should closely monitor implementation of the power transmission projects to avert such situations. They will also have to cautious about making ready the transmission system to evacuate power to be generated from the other under construction mega power projects like Rampal, Matabari and Rooppur. Options for coal imports and transportation must also be carefully assessed for adopting the economically sustainable option. The technology transfer and capacity development initiatives of Bangladeshi technical and managerial groups must also be carefully monitored.

Success Factors

Strategic Partnership

- **Ownership model:** Instead of traditional contractor supplier;
- **Equity Investment:** (NWPGCL 50% and CMC 50%), risk and profit sharing;
- **Synergy Partnership:** Technology transfer and experience sharing, collaborative approach;
- **Financing of the Project:** ECA financing of the coal plant where successful loan was not available. Securing FDI.

Support from Government / Stakeholders

- Supportive and leading stakeholders. Full support of government, Prime Minister's Office, Power Division and BPDB.
- Securing Trust of Civil Society / Media: Regular consulting and knowledge sharing;
- Community Support: Extended Corporate Social Responsibility (CSR) activities, employment opportunities, local and regional development;
- Effective Management of Resources and Schedule: Planning and managing implementation of several works in parallel, dedicating and managing resources effectively facilitated achieving milestones on time;
- Optimum Management of Time: Efficient planning, schedule compression and parallel activities as much as practicable, schedule control by Critical Part Method (CPM); and
- Significant Saving of Time and Money: Saving of IDC, savings from price escalations of materials and savings from inflation.

Thinking Outside the Box and Creating Difference

Financial closure is usually a major challenge in any ECA project. It often takes one year or more. The effectiveness of a contract gets delayed.

- Appreciating this challenge, the Payra project introduced 15% work done under contractor financing without any advance payment in the interim period of contract signing to financial closure. This worked as the game changer.
- Payra project introduced milestone payments unlike most of other mega projects. The milestones were very carefully developed. Management had greater control over the progress of the EPC works.
- Perhaps this is the most important lesson that other mega projects in typical developing countries should take.

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Payra 1320MW Power Plant

Photo: BCPCL

Advanced Technology (Ultrasuper Critical) and Additional Safeguards for Restricting Emissions.

As a trendsetter, the first USC coal power plant of Bangladesh incorporated additional features in the design to restrict emissions well below permissible level.

Payra Power Plant is High Efficiency Low Emission (HELE) Type Coal Power Plant. Higher thermal efficiency significantly reduces emissions.

- Advanced Fuel Gas Desulfurization (FGD) operating at 93% reduced SO2 (SOx) emissions.
- Low NOx burner reduces NOx emissions.
- High Efficiency (99.6%) dust collector (ESP) almost eliminates dust emission.
- The part of civil society, which engages in uninformed debate, must visit Payra power plant under operation to see for themselves their unrealistic concerns. Technologies are there for addressing challenges.

Eco Friendly Ash/Gypsum Disposal

The power plant signed contracts before the completion of the project with PVL-ICM JV and RNPG Alliance for Ash disposal. That contract is in operation since September 2020. The power plant is also selling Gypsum collected as by product from FGD to Medina group.

As a contingency measure, the power plant has ash pond of over 56 acres for temporary storage of ash.

Payra Plant Unit 1 has already achieved SOx emissions 92.04 microns / cubic meter, well below the threshold limit 200 microns/ cubic meter set by IFC. NOx emission is 189mg/cubic meter against the IFC standard of 500-mg/cubic meter set by IFC. Particulate meter emission is only 50 mg/ cubic meter against set standard of 150 mg / cubic meter of Bangladesh. These eliminate all unrealistic concerns of uninformed anti-coal activists.

New Benchmark in Resettlement of Affected Community

The project created a new benchmark in resettling the directly-affected community.

Resettlement at a Glance

The resettlement area is also provided with school with large playground, mosque, cemetery, 48 nos of tube wells, community center and health clinic.

As part of Corporate Social Responsibility (CSR), Bangladesh China Technical Institute has also been set up for vocational training of the people of the region on various skills and different language proficiency. The institute has started providing SSC level vocational education including 3 trade courses.

Operational Challenges of Payra Power Project

The smart implementation of the project has outpaced the execution of linked projects. The delays in Payra port development and delays in commencing capital dredging of 90km long port channel restricts all season draft to 6 meters. The transportation of important coal would be smoother and cheaper when these are done.

The delay in implementation of power substation at Gopalganj and construction of Gopalganj to Aminbazar section of 400 KV power transmission line also restricts power evacuation from the plant.

Coal Requirement and Supplier

Each of the 660 MW units of USC plant requires 195,000 million tonnes superior quality low ash, low sulfur coal per month. For the 1,320 MW power plant the annual coal requirement is 3.98 million tonnes per annum. The contract for coal supply and coal transportation was signed with PT Bayan, Tbk resources, Indonesia and Olendorff GMBH, Germany respectively. Later the revised coal supply contract has been signed with CMC. For restricted draft coal is transported from Indonesia now through half full Supramax type coal transporters. This adds to the cost of transportation, which in turn increases the cost of generation.

Challenges of Coal Transportation

The Payra project management identified the challenging scenario of coal transportation and the consequential impacts.

Monsoon Scenario: During high

monsoon from May to September, the draft is generally higher due incessant rainfall, high sea swell, cyclone, storm etc. Vessel berthing at jetty, discharging of coal, un-berthing/sailing are hampered and delayed on several occasions causing severe disruptions in normal schedule.

Impacts: Due to the above reasons, there may be frequent vessel congestion at port causing financial implications. The plant may not have adequate supply of coal for uninterrupted operation.

Dry Season Scenario: During December to February, the workable permissible draft in the channel drops to 6.0 meters.

Impacts: At this draft level, the maximum shipment size will be 18,000 MT approx. The plant may not have adequate supply of coal for uninterrupted operation.

Options for Coal Transportation: Payra project management conceived the following four options as possible redress to coal transportation challenges.

Option A

Fully Developed Payra Port with minimum all season draft of 10.5 meters. Mother vessels can enter and berth at plant jetty. It will require regular maintenance dredging of the channel. The coal transportation cost will be greatly reduced.

Option B

Bringing fully loaded Supramax vessel to Deep Sea and doing lightering. Supramax can bring up to 50,000-60,000 MT, discharge 50% in lighterage vessels. Mother vessel and lighterage vessels can enter channel and unload at plant jetty. Possible except high monsoon time during May to September when due to turbulent sea lightering would not be possible.

Option C

Bringing partially loaded Supramax vessels directly to the plant jetty. Partially loaded Supramax can transport up to 20,000 MT directly to plant jetty excepting during force majeure conditions like Tidal surge, tornadoes. Good for transporting coal as interim measure from nearer sources like Indonesia.

Option D

Developing Floating Transhipment Facility in a Sheltered Place. Project management envisions this option for transporting coal by large carriers like Capesize or Panamax from distant sources like Australia, South Africa and Mozambique. The nearbly sheltered places in their vision are Matarbari, Andaman, Dhamara and Singapore.

Our Observation

Option C as an interim measure may serve the purpose. But over long term, it may not be sustainable. Option A will be the right choice. But given the present state of Payra port development, it may take 3-5 years for a fully developed Payra port with dedicated coal terminal. Even then regular dredging of 90 KM link canal would be cumbersome. The other feasible option appears Option C with fully developed Matabari Coal port. A study may be conducted on local coal extraction and transporting coal to Payra and Rampal.

Challenges of Power Evacuation

Power evacuation from Payra power plant is handicapped for delays in construction of 400 kv (double Ckt) power transmission line. Till now only first part from Payra to Gopalganj is ready. Till the completion of substation at Gopalganj and power transmission line from Gopalganj to Aminbazar (a section along Padma Multipurpose Bridge), Payra power plant may now even evacuate more than 600 MW power.

Observation and Recommendations

Implementation of the project within 3 years is a demonstration of excellent leadership, well coordinated visionary leadership, exceptional innovative managerial flair. It has amply demonstrated how a properly conceived and ideally partnered mega project can be delivered in a remote place like Payra. The HELE coal power plant is an ideal example for negating various misconceptions of environment activists and uninformed section of the civil society. The strategy adopted for planning milestones and working parallel on different segments of work can be replicated in other projects. The 15% works done with EPC contractors' own finance without providing any guarantee is a very exceptional innovative strategy. The unique stakeholders' engagement, state-of-the-art resettlement process and CSR activities are also exemplary. The school and vocational institute for the rehabilitated community and local community are great works done.

The recruitment of talented technical manpower and exposing them to every aspect of project implementation is also exemplary. The Payra Project Management, MWPGCL in particular, and MWPGCL–CMC richly deserves accolades.

However, this project also underlines the absence of integrated approach of the government for developing parallel all segments of the power value chain and associated activities. Delay in Payra port development with coal terminal is a serious impediment. Delay in 400 KV power transmission line is another draw back. For all these, however, Bangladesh cannot fully benefit from such a wonderfully executed project. We will suggest for expediting Matarbari port development and expanding capacity of coal port rationally to support not only plants at Matarbari and Anowara but also Payra and Rampal.

We also suggest that the technical and managerial manpower in Payra must be given regular care and incentives. Maintenance and operation of this iconic plant will act as a game changer for the power sector and energy sector of Bangladesh and would act as eye opener. We deeply appreciate the "Can DO" project implementation attitude and required implementation aptitude of NWPGCL.

Finally, credit must also go to Bangabandhu's daughter Prime Minister Sheikh Hasina and her steered Ministry of Power, Energy and Mineral Resources for delivering the first Mega Power Project a unique example in South Asia.

EP

Khondkar Abdus Saleque;

Energy: Will Joe Biden Act Quickly to Change Trump's Doings?

Serajul Islam Quadir

The accomplishment of opening more leases and expanding offshore oil and gas drilling may not be all it seems. Less than 1% of the Gulf of Mexico blocks offered for lease attracted bids in the six completed sales so far during Trump's presidency, according to documents posted on the Department of Interior's website. Results of the seventh sale are due to be announced in December.

It is widely believed under Joe Biden the energy sector will certainly see changes for domestic energy companies and policy. The Democratic Party-led government will hopefully return to the importance of climate issues. The Biden administration would require aggressive methane pollution limits for new and existing oil and gas operations. Moreover the machinery should focus on the arrangement for permanently protecting the Arctic National Wildlife Refuge and other areas.

It should also concentrate on banning new oil and gas permits on public land and water bodies. It is hoped that Biden as per his election manifesto will modify royalties to account for climate costs. Contrary to what Trump has claimed, Biden's platform does not include a ban on franking the process of fracturing tight rock formations by pumping water, sand and chemicals into them under high pressure in order to extract gas and oil.

Biden and his cabinet might face a landscape where both domestic and global reserves of oil and gas are the highest they've ever been. At a time when most forecasters see a peak in oil use by 2040, known reserves are sufficient to maintain current production levels for another 50 years.

Joe Biden, President Elect

It is no secret that outgoing US President Donald Trump during his tenure had an extraordinary impact on the global oil market. From crippling the oil exports of Iran and Venezuela, to taking credit for brokering the biggest-ever voluntary production cuts, his fingerprints are all over. Now the world is hoping that the situation in the sector will take a different shape after the landslide victory of President-elect Joe Biden, but the world should not expect a miracle change overnight on easing sanctions on either Iran or Venezuela..

Neither the U.S. nor the remaining parts of the globe at large have a shortage of already-discovered oil under the ground. But both are clearly facing a shortage of pristine wilderness.

Shift in White House policy toward tackling global warming may impact oil and gas employment. But a green energy program could utilize the skills of laid-off oilfield workers — whether that's supporting offshore wind farms or plugging the 3 million or so abandoned U.S. oil and gas wells that are leaking copious amounts of methane, a powerful greenhouse gas, into the atmosphere.

The Trump administration's policy to pressurize Iran has halved the oil production of Iran and almost deadlocked most of its exports. Its shipments of crude and refined oil are now limited with few countries like China, Syria and Venezuela, while a meager amount of oil products were possibly smuggled to some other countries.

Sanctions on Venezuela have helped to drive production in what was Latin America's biggest oil producer down to its lowest level in nearly 100 years, according to a published document.

Producers in the Organization of Petroleum Exporting Countries (OPEC) and their allies would have had a much harder time trying to balance oil supply to the pandemic affected economy to meet up the demand, though these two countries continued to pump 5.8 million barrels a day when Trump took office.

Under Biden, bringing the US back into the Iran nuclear deal is a policy goal, but it may not be a priority of his

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agenda. What is more likely is that both sanctioned countries would test US resolve to police its current restrictions. A Biden presidency probably could not let either country flout them without losing leverage. It would be much harder, for example, to bring Iran back into full compliance with the nuclear deal if it could already export the quantity of it wanted.

Trump has sharp eyes on what OPEC is doing. He swung from Twitter diatribes against the organization and its allies to help broker their biggest ever output cut earlier this year. He was pushing on an open door — OPEC's de facto leader Saudi Arabia and newfound OPEC+ ally Russia had already realized the error of letting their earlier cooperation collapse.

Biden may not have influence as much as we contemplated on OPEC. He already hinted that he intended to be stricter in his foreign policy with Saudi Arabia and in other countries who violated human rights day and night. This policy in return may act as a reward for him to get some friends on the Arabian Peninsula.

But history is on America's side, at least from the oil perspective. The US is far less dependent on Middle Eastern oil than at any time since the mid-1980s. And OPEC+ oil producers need to keep prices high enough for their own economic needs, so they are likely to keep managing supply even without exhortations from the White House.

EP

Serajul Islam Quadir
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Stop Captive Generation after Ensuring Quality Power Supply: Experts

EP Report

Present reality does not favor continuation of captive power. Captive Power generation must be stopped for effective utilization of surplus grid power. Energy experts at a recent webinar stressed the need for ensuring uninterrupted supply of quality power before closing captive generation. They thought the present reality does not support continuation of captive power with having surplus grid power.

The experts pointed out that the government had allowed the captive power generation plants due to its limitation to supply electricity. The situation had compelled the government to encourage the industries with policy support to invest in the captive power. The gas price has gradually been increased to Tk 13.85 per cubic meter, but the generation cost of captive power still remains Tk 2-3 lower. So, it would not be possible to close the captive generation only through ensuring the quality supply of grid power. The price should also be rationalized.

The experts put forward the recommendations at a virtual talks titled "Prospects and Possibilities of Replacing Captive Power with Quality Grid Power Supply", organized by Energy & Power magazine on 7 November 2020.

Recognizing the suggestions, Power Secretary Dr. Sultan Ahmed said it would not be possible to close down the captive power overnight. We will have to achieve the consumers' confidence first and the power division is working on priority basis to this end. As part of it, the power division is taking preparation to ensure uninterrupted supply of quality power to the dedicated industrial zones. A project has also been taken to ensure dual sources of power

Dr. Sultan Ahmed

supply gradually to the old industrial zones. In addition, the prices of grid and captive power should be made competitive.

Speaking as the chief guest, Dr Ahmed said that various allegations of environment pollutions are raised against the captive power generation. It was a necessity at a time due to the circumstances prevailing at that period. Now the reality is different. We must improve average efficiency from 25%. We can generate more power with same quantity of gas if fuel-efficient plants can be installed.

He said: "We can discuss about sharing power through setting up power plants near the industrial hubs. We are working through analyzing big data. We will definitely arrive at some conclusions."

The secretary pointed out that municipal waste of Dhaka is polluting the rivers and environment. A decision is at the final stage to generate about 42.5MW of electricity using about 3,000 tonnes solid waste of Dhaka North City Corporation (DNCC). It would come into commercial operation within 20-22 months. It will also solve waste dumping problem to a great extent. Similar initiative is also taken for power generation from 600 tonnes waste of Narayanganj City Corporation. Dhaka City South and Gazipur are also evaluating the possibilities. These will go a long way in protecting the rivers around Dhaka city from pollutions.

Engr. Mohammad Hossain, Director General of Power Cell, delivered the keynote speech, emphasizing on doing away with the captive power generation. He said it was promoted when the power system experienced 8-10 hours of average disruptions daily due to supply deficit. Now we have reasonable surplus in generation. Many grid-connected power plants are forced to remain idle for lack of demand.

On the other hand, 802 captive power generation plants of about 3,000MW capacity are serving the industries. About 600 MW relies on liquid fuel and about 400 MMCFD gas is used for generating 2,400MW gas-based power. Generation of even 7,000MW power is possible using the same amount of gas in combined cycle power plants. Considering the economics, if this gas is di-

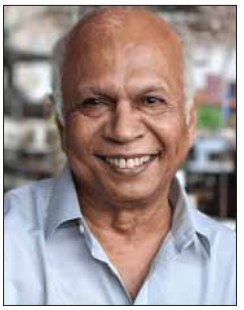
verted to grid power generation, it will be possible to supply each unit of power at Tk 2.00 only.

Humayun Rashid, President of International Business Forum Bangladesh and CEO of Energypac, mentioned that Bangladesh has achieved commendable success in the power sector in the last decade. But he strongly protested the statement of inefficiency of captive power generation. He mentioned that 90% of the units use cogeneration now. He said the IPPs are penalized if they fail to supply power as per the contract. The distribution utilities do not compensate industries if their failure to supply quality power affect industry production. No one is showing any mercy to industries through supplying power. Quality power supply needs to be ensured. This must be guaranteed before doing away with captive power. The supply must be sustainable. Still now, the grid power experience 3-4 hours of daily interruptions. Time for switching 100% to grid power has not come yet.


Dr. Shamsul Alam


Mohammad Hossain


Humayun Rashid


Shahedul Islam Helal


Razeeb Haider


Bikash Dewan


Kausar Ameer Ali


Anjan Kanti Das

Shahedul Islam Helal, former President of Bangladesh Chamber of Industries, referring to the keynote speech questioned as to why the additional peak time charge needed to be paid if there is surplus grid power to cater for that. It takes 30 minutes at least to restart a heat-based production unit even if power supply interrupts for 5 minutes. Plastic industries suffer Tk 5,000-10,000 for each cycle of loadshedding. He mentioned that in 2008, there was 1,572 times of loadshedding. However, in 2009, it reduced to 317. He requested the utilities to inform ahead of scheduled loadshedding. If necessary, industries would share the cost for such system of prior information. Please inform us in advance so that we can be ready for it. Please work on it and it will be beneficial for us.

Engr. Rajeeb Haidar, former Director of Bangladesh Textile Mills Association, pointed out that products in process in printing and dyeing industries are either wasted or get deteriorated if power supply is interrupted. Power loadshedding is a great headache for us. Our industry generates 7MW of electricity on our own and take 1 MW from REB. Even now, we experience 1 to 1:30 hour loadshedding on the average daily. We have cogeneration and tri generation facilities. Waste heat recovery makes us up to 85% efficient. Captive power generation must continue till grid power system becomes truly reliable.

The members of the association generate 1,300MW of captive power. We had to invest here to get uninterrupted supply of quality power due to lack of alternative. Though criticized, our energy efficiency is actually much more than 25%. It would be 80-85% due to cogeneration and tri-generation.

Professor Dr. Shamsul Alam, Energy Advisor to the Consumers Association of Bangladesh (CAB), reminded that in 2015, the industries were generously offered facility for captive power generation. Within four years, talks are goping on to stop that provision. I would have been overwhelmed with joy if reality prevailed for that situation. Such notion is technically flawed and not acceptable. Engineers had no role in introducing captive generation. Hence engineers should not recommend for stopping it either in the present context. Why does the outage happen? Why this cannot be planned with prior information? Utilities have no freedom for initiating planned outage. They cannot even talk about it. How can they talk about something which they even do not know about? There is no effort for rationalizing power tariff. He suggested for letting engineers work with freedom. He also suggested not to imposing decisions on them.

Engineer Bikash Dewan, Managing Director of DPDC, admitted the limitations in power transmission and distribution segments for supplying quality power. He said that we are endeavoring for updating and modernizing the system for ensuring quality power supply to industries. There exist some issues with longer transmission lines. We are trying to alert consumers early about supply disruptions.

Md. Kausar Ameer Ali, Managing Director of DESCO, mentioned that not only the reliable power supply, much lower cost captive power is also an issue. Users will always go for cheaper option. Consideration must be given for price of gas to captive power generation. He said that by June 2021, quality power supply to the industrial hub of Tongi in Dhaka would be ensured.

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নিরাপদ সিলিন্ডার

Anjan Kanti Das, Member (Planning & Development) of BREB, informed that they are working on ensuring quality power supply to 28 power hubs through creating dual sources supply. We are not claiming that we are able to ensure unterrupted supply now. There are occasional loadsheddings. It happens even when a tree fall on the power line. We are working on GIS and automation. We are expecting that the system would become much more reliable in 3-4 years.

Engr. Khondkar Saleque Sufi, Consulting Editor of Energy & Power, connecting from Melbourne, Australia pointed out that it is a reality that the grid has huge surplus capacity, but at the same time, it is true that the power system cannot supply quality power to industries at this moment. There are various categories of industries. Some process industries need quality power supply on uninterruptible basis 24/7. Such industries definitely require captive generation or stand bye generation till grid supply becomes reliable. Moreover, many industries have introduced co-generation and tri-generation now. He suggested for carrying out a joint survey about nature of fuel use in industries before taking any firm decision. He also suggested for reviewing tariff structure.

Mollah Amzad Hossain, Editor of Energy & Power, moderated the seminar. He pointed out that on 6 November 2020, the generation of grid power was 7,975MW – less than half of the installed capacity. This is not acceptable. He also mentioned that the per unit cost of gas-based captive power generation is only Tk 5.00. He also questioned the rationale for letting new captive power generation for under construction special economic zone when huge capacity of grid power remains idle. He pointed out that the government's policy for discouraging captive power generation is not yet visible.

He said that we believe that in 3-4 years power system would improve to a reliable level for ensuring quality power supply to all on uninterruptible basis. Cost of generation in 2019 has reduced as compared to that in 2018. This is for lesser use of liquid fuel-based power plant.

Summary of recommendations

- There is no option but doing away with captive power generation for effective utilization of surplus grid power capacity. However, before that the grid power supply must be made reliable.
- Power tariff for industries should be reviewed objectively.
- Peak, off peak slab of tariff must be withdrawn.
- Scheduled outage must be done with due prior intimation.
- Captive and grid power tariff must be competitive.
- New captive power generation initiatives must not be encouraged. EP

Report

Future Prospects Bright for Natural Gas

Natural gas will outlive the negative effects of the coronavirus pandemic on the global energy industry in the short-term, and even lead the industry's growth in the medium- and long-term, senior official of Russian giant Gazprom said at the latest monthly lecture of the Gas Exporting Countries Forum (GECF) held virtually recently.

"The coronavirus pandemic is not a reality that will stay with us forever. The mid-term and long-term fundamental factors that favour natural gas remain unchanged," said Ms Elena Burmistrova, who is the Deputy Chairman of Gazprom Management Committee and the Director General of Gazprom Export.

The GECF Monthly Lecture was entitled "Natural Gas: New Market Realities or Temporary Impediment?"

In her analysis of the gas sector's current and future states, Ms Burmistrova pointed out that the natural gas world was already in the throes of an oversupply and warm weather crises before the advent of COVID-19, with the so-called "homeless" LNG without a fixed destination heading to Europe after a dramatic price degradation in Asia.

"At the end of 2019, the surplus of gas in European storages was 21 billion cubic meters (bcm) above the levels of late 2019. The pandemic only spurred the crisis … and the imposed restrictions added pressure on ailing gas demand by depressing economic activity," she said, while noting that the EU Industrial Production Index dived to almost -28.7% by April 2020 and gas consumption in the continent – Gazprom's major market – fell 6.5% to 10-year lows in the first half of the year. EP

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Captive Power is Double-Edged Sword

Saleque Sufi

Bangladesh now has comfortable surplus installed power generation capacity. Yet uninterrupted, sustainable supply of quality power at affordable cost is far from being achieved. The power transmission system and distribution lack capacity, fuel supply is inadequate; system operation is not modern and reliable. Industries many of which requiring uninterrupted quality power supply on sustainable basis have to continue remaining on own captive power generation. Government is implementing various projects in the power transmission and distribution segments for upgrading and modernizing the power value chain alongside increasing generation for achieving 40,000 MW generation capacities by 2030 and 60,000 MW by 2041. There are concerns that many captive power generation plants are using gas inefficiently, which if used in efficient modern power plants could let Power Sector utilizing their full capacity. On the other hand industry leaders argue that many industries now have facilities for cogeneration and regeneration. According to them grid power is still far from being reliable. Finally higher cost of grid power comparable to the cost of captive power is a major deterrent. All these make Captive Power a double-edged sword for Bangladesh Power Industry. In a digital conference entitled "Potentials and Possibilities of Replacing Captive Generation with Quality Power Supply" experts, industry leaders and power sector officials had divided opinion. But all realised the necessity for uninterrupted quality power supply for all industries specially the process industries and export oriented industries. Till the grid power supply improves to that level there is no possibilities for replacing captive generation completely. However, industries must ensure that the natural gas supplied to them at premiere price is used more efficiently. Suggestions were there for restructuring power tariff reducing the difference between grid power and captive power.

Present Status of Power System of Bangladesh

It appears from above that despite of huge surplus capacity of grid power, industries rely on own captive generation. These plants mostly use natural gas while a substantial capacity of gas based grid connected power plant remains idle for gas shortage. Absence of interrupted and sustainable supply of quality grid power is attributed as the reason for industries relying on captive generation. Another reason is relative cheaper price of captive power. Consequently Power Development Board (BPDB), the single buyer of electricity has to suffer for paying huge capacity charge to plants remaining idle. There are genuine arguments of the consumers as well. Many of the industries (process industries and others) need uninterrupted supply of quality power. Many such industries have developed cogeneration and tri generation. The general allegation of inefficient use of gas cannot be attributed to them. In the above situation it cannot be advisable that captive power generation can be done away with till grid power becomes reliable for ensuring uninterrupted quality supply on sustainable basis. Moreover, the price must also be competitive. However, inefficient captive power generation wasting gas may be shut down or replaced with efficient plants. BPDB, Petrobangla, BERC and CAB may jointly carry out a survey of such captive plants. We must appreciate that industries requiring 24/7 supply of

The Following Table Depicts the Status of Power System

System Segments	Status as on 7 November 2020
Installed Capacity (Grid Power)	20,383 MW
Maximum Generation	12,893 MW
Access to Grid Power	98%
Per Capita Generation	512Kwh
Distribution Loss	8.73%

Captive Power Status as on 7 November 2020

No of Plants	802
Installed Capacity	3147 MW
Gas based	2530 MW
Diesel & HFO	617 MW
Gas Used	440 MMCFD

Ref: Presentation of DG Power Cell, Bangladesh on 7 November 9, 2020

quality power can not be asked to transfer to grid power supply now risking infrequent interruptions. They will not only suffer from production loss but also will loose competitiveness in the export market for cost of production going higher. Some industries would suffer from product loss and some will risk damage to equipment.

Power transmission and distribution companies must expedite the implementation of various projects of power transmission and distribution networks must also be expedited.

Transmission System

Infrastructure	Achievement
400 KV transmission Line	861 CKT KM
230 KV Transmission Line	3754 CKT KM
132 KV Transmission Line	7764 CKT KM
Sub Stations Capacity	47,304 MVA

Status of Distribution System

Consumer	38.8 Million
Substation Capacity	36000MVA
Line KM	5.88 KM

Future Expansion Plan for Transmission and Distribution Segments

	2030	2041
Transmission Line	28,320 CKT KM	36,870 CKT KM
Capacity	179 MVA	274 MVA
Distribution Line	660 KM	783 KM
Capacity	80 MVA	133 MVA

Ref: Presentation of DG Power Cell, 7 November, 2020

Status of Power Transmission and Distribution

Present Status of Projects

37 Numbers of 132/33 Substations are under construction. 26 of these will come into operation by December 2020. 11 will be completed by 2020.

The following works are ongoing in the distribution networks

Setting up substations near load centers, augmentations od substations, construction of new distribution lines, smart prepaid meters and capacity banks, Implementation of GIS, Automation Of Distribution System, burying distribution system underground, SCADA System.

Apart from above Government has taken the following Initiatives for ensuring uninterrupted quality power supply to all consumers specially the users in 65 industrial hubs (IH) and 100 special economic zones (SEZ)

Construction of Substations near IH and SEZ. Dual Source with Remote Monitoring Unit (RMU) and Auto Switch, Automation, SCADA, GIS, Construction of Express Feeder,

Power Transmission Tower

Observations and Recommendations

Captive Power generation was a requirement in a situation when huge deficit in power sector almost collapsed operation of industries. But situation has considerably improved now. The frequency of interruptions is now few and far between. Huge surplus of generation capacity needs effective utilization. However. It appears from above that power supply chain is not yet ready for ensuring uninterrupted quality power to industrial consumers. Industries specially export oriented industries and process industries have no options but to continue relying on captive power generation till grid power supply improves to the expected level. However, gas supply to industries using inefficiently for power generation may be ceased and that gas can be supplied to efficient grid power plants. The planned actions of power sector if implemented on time should create situation for reliable supply of quality power by 2025. However, there should be better coordination among all stakeholders and sharing of information in transparent manners. All must appreciate that primary fuel supply is going to remain as huge challenge as most of that will be imported from volatile global market. This requires efficiency at all level. BERC should work out a rational pricing structure of power and fuel serving interest of all stakeholders creating win-win situation for all.

EP

Saleque Sufi
Contributing Editor, EP

Thrust on High-Caliber Project Management Experts to Accelerate Growth

Strategy is executed through projects. So, it is necessary to increase the amount of high-caliber project management practitioners – especially ones who can fill leadership positions on mega-projects in the public sector, said Nasrul Hamid, state minister for power, energy and mineral resources.

He stressed designing the thinking skills of project managers at the closing session of the 2020 Bangladesh Project Management Symposium recently.

Nasrul Hamid was the chief guest at the final session of the two-day virtual program.

Hosted by the Project Management Institute's (PMI) Bangladesh chapter, he said this was the age of leveraging technology.

Therefore, project managers and project leaders must keep themselves informed about current technological skills, be it artificial intelligence, machine learning or something like that, he added.

"Every project can benefit from a more robust governance framework, and it will take deep expertise in process analysis and design to be able to improve how we manage our initiatives," he added.

Nasrul Hamid announced the first ever project management excellence award of PMI's Bangladesh chapter at the event.

Kaymonto& Partners won the Champion PMO of the Year award and BRAC Bank Limited was the runner-up.

The Champion Project of the Year award in Business or Service in the large sub-category went to Confidence Infrastructure Limited.

Meanwhile, Kaymonto& Partners bagged the Champion Project of the Year award in Business or Service in the medium and small sub-category.

The Champion Project of the Year award in the social impact category of the large sub-category went to BRAC.

Experts praised Bangladeshi project management for getting attention by delivering good results through exemplary applications of project management principles and practices. EP

Bangladesh Halts Bid to Import Spot LNG

Bangladesh has cancelled tenders to import LNG (liquefied natural gas) from spot market in December as evaluators found too 'expensive' the bidding for two 138,000-cubic meter LNG cargoes.

Rupantarita Prakritik Gas Company Ltd (RPGCL), which oversees LNG imports, may go for re-tender to get expected price quotes from bidders, a senior energy ministry official sad.

Vitol Asia Pte Ltd was the lone bidder for both tenders for early and late December deliveries of cargoes.

It quoted $7.60 and $6.89 per million British thermal unit (MMBTu) respectively.

The quoted prices are higher than the import price of LNG from long-term contractors Qatargas and Oman's Trading International (OTI).

Earlier, Bangladesh cancelled tender for November delivery of spot LNG cargoes as the price quotes of two bidders - Vitol and Swiss AOT Trading AG - were found higher than expected.

The country has so far imported only one 138,000-cubic metre LNG cargo from spot market, which was delivered in late September.

Vitol delivered the first and so far the lone cargo carrying an estimated 138,000 cubic metres of LNG from spot market on September 25.

Regasified spot LNG entered the national gas grid immediate after the start of unloading.

Bangladesh could save around Tk 300 million ($3.52 million) in purchasing LNG from spot market from first cargo compared to regular LNG market. EP

Inefficient Power Plants to be Shut

The Energy and Mineral Resources Division (EMRD) has suggested for closing old and inefficient gas-fired power plants for best utilization of natural gas for producing electricity, a top official said.

"Recently, we have suggested Power Division to shut those inefficient plants down. For efficient energy usage, we need efficient equipment. It is not possible to run everything with the 40 years old equipment in power stations," he said.

He said power stations will be able to produce reliable electricity using latest technology.

"We have listed down some specific power plants and told them (Power Division) to close those down, otherwise we won't be able to supply required natural gas," he added.

For instance, Baghabari is one of the ineffective plants as it remains inactive most of the time and supplying gas to that plant is not wise, he mentioned.

Moreover, the power plant has been suggested to be shut dow as there were complaints regarding this power plant, according to him. EP

শেখ হাসিনার উদ্যোগ ঘরে ঘরে বিদ্যুৎ

মুজিব শতবর্ষ MUJIB 100

অনির্বাণ 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

দেশের উন্নয়ন অগ্রযাত্রায় গর্বিত অংশীদার

নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিমিটেড এর সার্বিক চিত্র

মোট বিদ্যুৎ কেন্দ্র **৮টি**

মোট বিদ্যুৎ উৎপাদন ক্ষমতা **২৪৩৫ মেঃওঃ**

২০৩০ সাল নাগাদ কোম্পানির বিদ্যুৎ উৎপাদন লক্ষ্যমাত্রা **১০,০০০ মেঃওঃ**

চলমান উন্নয়ন প্রকল্পের সক্ষমতা **৬৪১৩.৬ মেঃওঃ**

ভবিষ্যৎ প্রকল্পের সক্ষমতা **১১১৫ মেঃওঃ**

NORTH-WEST POWER GENERATION COMPANY LIMITED

নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিঃ

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

(বাংলাদেশ বিদ্যুৎ উন্নয়ন বোর্ডের একটি প্রতিষ্ঠান)

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

ফোন ঃ ৯১৪২০৬২, ফ্যাক্স ঃ ৯১৪৩৭৪৫, **Website : www.nwpgcl.gov.bd**

Bangladesh 3rd Worst Performer in FDI Index

Bangladesh appears as a worst performing country in Greenfield foreign direct investment (FDI) index in 2020. It ranked as third lowest performer at global level in attracting foreign direct investment.

Bangladesh scored 0.31 in the index, which looked at inbound greenfield investment in 2019 relative to the size of each country's economy. A greenfield investment is a project where foreign investors set up a new business or expand existing ones.

It is the best way to enter a foreign market if the investing company wants to achieve the highest degree of control over foreign activities, says FDI India.

African country Togo topped the list of best-performers in attracting greenfield investment, FDI Intelligence reports.

"Togo's strong performance in 2019 gained the west African country the crown as the world's best-performing country relative to its size when it comes to attracting FDI."

Rwanda, Costa Rica, Mozambique, Serbia, Lithonia, Senegal, Zimbabwe, Georgia, and Singapore also made it to the list of top performers.

However, Bangladesh is attracting much less FDI in proportion to the size of its economy, the fDi Intelligence report says.

The 10 worst-performing nations in the index are Japan, China, Bangladesh, Iraq, South Korea, Norway, Pakistan, the United States, Italy, and Ecuador. EP

Payra Port Channel Dredging Taken Up for Coal Ships

The government has undertaken a project to dredge the Ramnabad channel to let in 20,000-tonne coal-laden vessels directly at the Payra port in Patuakhali.

The project will be implemented at a cost of Tk 437.30 crore on an emergency basis as the first unit of the plant now producing around 660-megawatt electricity, is also ready for commercial operation.

Bangladesh-China Power Company (Pvt) Ltd (BCPCL), a joint venture, is constructing 1,320- MW coal-fired Payra power plant under Kalaparaupazila in Patuakhali district.

The BCPCL would import coal through Payra, expecting such initiatives will boost the country's economy.

The main objective of the project is to maintain and dredge the Ramnabad channel near Payra port.

Coal will be supplied regularly to 1,320 MW Payra thermal power plants.

On August 13 in 2016, Prime Minister Sheikh Hasina inaugurated the operational activities of Payra port as the country's third seaport.

According to the Payra Port Authority sources, the depth of the channel will be maintained at 6.3 meters by dredging in about 75 km of the Ramnabad outer and inner Channel.

The width of the channel is 100 meters. The completion of the project will increase the amount of ship handling, the port authority sources said. EP

ACC Sues Six for Buying Power Plant Equipment at 12-Fold Price

Powertech International, a supplier of power plant equipment, prepared required specification for motors and quoted twelve times higher rate for the Shikalbaha Power Plant, yet the procurement department of Bangladesh Power Development Board (BPDB) awarded the tender to them, the Anti-Corruption Commission has found.

Five engineers and owner of Powertech International were involved in the whole process and they in collaboration with each other misappropriated Tk 2.59 crore from procurement of motors, according to the anti-graft watchdog.

The overpriced motors that were bought to meet emergency need are now lying unused at the state-run 150-megawatt peaking power plant at Shikalbaha in Patiya.

ACC's Assistant Director Mamunur Rashid recently filed a case with its Integrated District Office Chattogram-2 against engineer BhubanBijoy Dutta, Additional Chief Engineer and manager of 150-megawatt peaking power plant at Shikalbaha in Patiya; AHM Kamal, Chief Engineer (Distribution) of Northern Electricity Supply Company; Tofazzel Hossain, acting Additional Engineer and project director of Gulshan Unit-4 Repowering Project; Abu Yusuf, Additional Chief Engineer (on PRL); and Mizanur Rahman, additional director (budget) of Chattogram Power Plant and proprietor of Powertech International Abdul Alim.

According to the case statement, Sinohydro Corporation, Siemens and Parker Hannifin Global were primary contractors of Shikalbaha Power Plant. Of them Siemens and Parker Hannifin are involved in motor manufacturing.

"However, at the time of the procurement of motors, the board did not ask Sinohydro, Siemens or Parker Hannifin -- who were involved in the construction of the power plant -- to supply motors, rather local supplier Powertech International was awarded the tender," reads the statement.

Records show that on June 27, 2016 the BPDB opened bid for international tender for GT Main Lube Oil Pump, Emergency Lube Oil, Roton Lifting Pump and Oil Centrifuge Machine. Only two companies showed interest.

There was legal binding to cancel the offer as there was not enough competitors, yet the accused gave contract to Powertech International, the case statement says.

Powertech offered US$ 365,000 for the machine. It was given US$ 255,000 by May 20, 2018 and US$ 109,500 on May 30, 2019. EP

PGCB Revision Involves 85pc Additional Costs

After spending extra funds, the Power Grid Company of Bangladesh (PGCB) has sought the revision of a project, which is intended to install a 400KV high-voltage grid line, officials said.

The state-owned grid operator has sought 85 per cent additional funds at the last stage of its project tenure and has recently sought the revision of the original development project proposal (DPP), they said.

The Planning Commission (PC) has raised its reservation about the spending that went beyond the estimates of the original proposal, officials involved with the project said.

The PGCB has now sought a total of Tk 25.05 billion funds, 85 per cent higher than its original estimation of Tk 13.56 billion, seeking revision of the ongoing Aminbazar-Mawa-Mongla power transmission line installation project.

The company has also sought six months more from its extended execution deadline of June 2021.

Officials said that the PGCB had spent Tk 1.69 billion additional funds, up from the Tk 4.68 billion allocation at the original project proposal for the electrical equipment procurement component without approval from the proper authority.

Similarly, it had spent extra money higher than the allocated funds for some other components at the original DPP, they said.

"This is a clear violation of the government rules and regulations. No agencies are allowed to spend more funds than allocated in the DPP," said a senior commission official.

EP

Bashundhara Bitumen Goes into Production This Month

Bangladesh's first dedicated bitumen plant established by Bashundhara Group at a cost of around $143.7 million is all set to begin commercial production at the end of this month to meet the domestic demand for asphalt.

The plant has the capacity to produce a whopping 9 lakh tonnes of bitumen a year.

However, the factory established on a 65-acre plot at Pangaon in Keraniganj will produce around 2.75 lakh tonnes in the initial phase.

The unit was scheduled to start commercial operations in April but the coronavirus outbreak delayed the process, he said.

A 13-member team from the Roads and Highways Department (RHD) led by its Additional Chief Engineer Abdullah Al Mamun recently visited the plant to examine its quality control measures and equipment setup.

Currently, 90 per cent of Bangladesh's annual demand for 5 lakh tonnes of bitumen—a hydrocarbon-based substance used to build roads and highways—is met through imports, which have questionable quality, he said.

EP

IEA Alerts Global Power Sector to Cyber Threat

The International Energy Agency (IEA) has expressed concern over the cyber threat to the power sector and suggested strengthening cyber resilience measures and making them a central part of the planning and operation of power systems amid the COVID-19 crisis.

The recommendations came through a report titled: "Power Systems in Transition" published at the 2nd Global Ministerial Conference on System Integration of Renewables organized by the IEA and Singapore government recently.

According to the report, the importance of electricity is only set to increase in the years ahead, calling for a more comprehensive approach to electricity security to meet evolving challenges such as cyber threats, extreme weather events, and rapidly growing shares of variable electricity generation from wind and solar.

Responding to the IEA report, an official at the North-West Power Generation Company Limited (NWPGCL) said the government has already directed them to take necessary steps to ensure maximum cybersecurity in the power sector.

The NWPGCL has already adopted security measures in all power plants operated by them, according to him.

In pathways toward meeting international energy and climate goals, such as the IEA Sustainable Development Scenario, the trend will accelerate.

EP

OPEC, GECF Hold First High-Level Meeting

Representing the lifeblood of global economy, two of the world's foremost energy organizations OPEC and the Gas Exporting Countries Forum (GECF) held their first high-level meeting recently, highlighting the growing cooperation between the two organizations under the framework of the OPEC-GECF Energy Dialogue.

The OPEC delegation was led by Mohammad Sanusi-Barkindo, Secretary General, and the GECF delegation was headed by YurySentyurin, Secretary General.

In his welcoming remarks, the OPEC Secretary General made reference to the Memorandum of Understanding that was signed between both organizations on 3 October 2019 to promote the "exchange of knowledge, experience, views, information, data and practices in areas of mutual interest."

The discussion linked to the two technical expert meetings that were convened in June and October of 2020, which established a structured framework for the Dialogue leading to this first high-level meeting.

"In a very short timeframe, we have launched with great success this mutually beneficial partnership, and look forward to building upon these key milestones today,"Barkindo stated.

Sentyurin said: "At the GECF, we firmly believe that our well-established OPEC-GECF energy dialogue serves as a foundation for the realization of valid policies that serve as a framework for international collaboration, and guarantee the much-needed security of supply and demand for oil and natural gas."

EP

Titas Gas Faces Tk 736cr Shortfall in Pension Fund

The state-run Titas Gas has a provision shortfall of Tk 736 crore in its pension fund, according to the company's audit report.

Besides, the listed natural gas distribution company did not keep any provision against its fixed deposit receipts (FDRs) with Padma Bank and ICB Islamic Bank, it said.

In its financial statements, Titas Gas showed that it is owed about Tk 168 crore as cumulative penal interest since 2002, which was doubtful to the auditor.

The company also did not comply with an order from the Financial Reporting Council on transferring share money deposits to share money capital.

Against this backdrop, the company's auditor provided a qualified opinion on its financial reports for the year that ended on June 30, 2020.

The information was disclosed recently on the Dhaka Stock Exchange website.

A qualified opinion is a statement issued in an auditor's report that suggests the financial information provided by a company was limited in scope or there was a material issue with regard to the application of generally accepted accounting principles.

The financial statements of Titas Gas showed that the company required a provision for its pension fund for eligible employees.

As per the actuarial valuation, the pension fund amounted to Tk 819.74 crore as of June 30, 2018.

However, the provision for the pension fund was only Tk 30 crore, resulting in a shortfall of about Tk 789 crore, the audit report said. And so, the actuary firm recommended making an annual provision of Tk 188.90 crore for the next five years to make up the said deficit.

In addition, the required provision for the pension fund for the years 2018-19 and 2019-20 has been increased by Tk 59.62 crore and Tk 59.55 crore respectively.

The company also paid Tk 51.58 crore and Tk 49.28 crore respectively as a final settlement for the outgoing employees for the preceding two years. EP

BREB to Install 89 Lakh Smart Prepaid Meters

As part of the government's campaign for smart prepayment metering system, Bangladesh Rural Electrification Board (BREB) has undertaken a plan to install 89 lakh meters within its jurisdiction.

"We have so far installed 11,10,568 smart prepayment meters across the country," said an official at BREB.

He said some 39 lakh smart prepayment meters out of the 89 lakh will be installed by the next three years with its own and government's finance.

The BREB installed 7 lakh smart prepayment meters under the Annual Development Programme (ADP) project of 10 lakh meters installation in 2019-2020.

According to BREB information, the total number of consumers under BREB is 2.89 crore. The BREB will construct 30,000 kilometers new distribution line and provide 6 lakh new electricity connections during the FY 21.

It will also provide training to officials and employees at least 60 hours aimed at making efficient manpower of the BREB. The BREB has a target to launch e-services to consumers. EP

BPDB Seeks 90 Days to Offload PGCB Shares

The Bangladesh Power Development Board (BPDB) has sought exemption from the regulatory rules to offload the shares of Power Grid Company of Bangladesh (PGCB) Limited.

It has sought exemption from the rule that prohibits insider trading – buying, selling or exchanging – until such time that PGCB makes a decision during its board meeting held two months prior to the close of its financial year. It has also sought 90 working days, instead of 30, to offload shares in the capital market.

PGCB, a company operating power transmission and substations under BPDB, was listed with the stock exchange in 2006. At present, the company's investors own 15.36% or nearly 11 crore shares. PGCB will offload another around 7 crore shares or nearly 10% of the total shares.

After receiving the Finance Ministry's approval last October to offload the shares, BPDB wrote to the Ministry, seeking exemption from the provisions of Section 4(2) and Rule 34(1) of the Securities and Exchange Commission (Prohibition of Insider Trading) Regulations 1995.

Under Section 4(2), the shares of a company listed with the stock exchange cannot be purchased, sold or transferred before they are finally considered, accepted or approved in the company's board meeting held two months before the end of that company's financial year.

As per the condition of Rule 34(1), BPDB wants 90 working days, instead of 30, for offloading the shares because, it says, offloading shares in 30 working days could have an adverse effect on the current market price. EP

5 Spots Selected for 2nd Nuclear Power Plants

Bangladesh Atomic Energy Commission (BAEC) has selected five areas of the southern part of the country for the nuclear power projects to ensure harmony in future power generation plan from the nuclear energy sources.

All these areas are located at Patuakhali and Barguna districts. Earlier it selected 15 areas primarily, according to the officials of BAEC.

"The preliminary report said that Rangabari, Taltoli, Missionbari east and west and Char Montaz are the potential areas as they fulfill the 'acceptance' criteria of the International Atomic Energy Agency (IAEA)'s guideline," a senior official at the Ministry of Science and Technology said.

According to him, the Bangladesh Atomic Energy Commission began a feasibility study on the second nuclear power plant as per a directive given by Prime Minister Sheikh Hasina in 2014.

In 2014, BAEC selected Gangamati in Patuakhali, Mazher Char in Barguna, Boyar Char in Noakhali and Muhurir Char in Feni were taken for the feasibility study. EP


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Tk 2,363 Cr Disbursed Despite Sharp Fall in Demand

About Tk 2,363 crore was doled out to private power producers, including quick-rental plants, in subsidy for power purchases from them in the May–July period when the electricity demand had plummeted by around one-third due to the COVID-19 outbreak.

The power demand had declined by around 4,000 megawatts due to the countrywide shutdown, according to Bangladesh Power Division Board chairman Md Belayet Hossain.

He said that the demand started going up after the 66-day countrywide shutdown was withdrawn on May 30. The demand for electricity in the country ranges from 9,000 megawatts to 12,000 megawatts.

But the demand is still below the usual level compared to the same period last year, he said, adding that they received the payment for the May–July subsidy from the Finance Division in the current month.

Finance Division officials calculated that the average monthly payment for the power subsidy to the tune of Tk 750 crore remained almost same mainly because of the capacity payment. EP

Deal with ONGC Gets Second Extension

The state-run Petrobangla has extended the tenure of contract with India's oil and gas exploration company -- ONGC Videsh Ltd -- by two more years until February 2023.

The deal with the Indian firm was set to expire in February 2021 after an initial two-year extension.

Earlier, the Petrobangla signed two production sharing contracts (PSCs) with ONGC, the operator of blocks SS-04 and SS-09, on February 17, 2014, which was set to expire in February 2019.

India's ONGC Videsh Ltd, however, has planned afresh to initiate drilling of an offshore exploratory well in the coming winter to delineate natural gas reserve in shallow sea block SS-04.

The company is now bringing in necessary manpower to carry out the exploration, said a senior Petrobangla official.

Drilling a well in Block SS-04 by the Indian firm is mandatory as per the PSC between the consortium comprising the ONGC and the Oil India Limited (OIL), and the state-run Petrobangla and the government.

The ONGC will also have to drill another well in the shallow water Block SS-09. The company planned to initiate drilling of an exploratory well at Kanchan in Block SS-04 last year. EP

Siemens, Carlyle Near $2.4b Deal Over Flender Business

US buyout group Carlyle Group Inc is nearing an agreement to acquire Siemens AG's SIEGn.DE mechanical drive arm Flender, for about for about 2 billion euros ($2.37 billion), sources said.

Siemens and Carlyle are finalizing terms of the deal that could be announced as early as this week.

Last week Siemens had asked Triton, Carlyle, CVC and Brookfield to submit final offers next week for the business, which has earnings before interest, tax, depreciation and amortization of just above 200 million euros and could be valued at 8-9 times that, according to sources.

Brookfield was outbid by Carlyle in the end, the report said, adding that the talks could still be delayed or fall apart.

Siemens declined to comment, Carlyle did not immediately respond to a request for a comment.

Flender supplies Winergy branded gear boxes and generators for wind turbines, gears and couplings for cranes, ships, oil and gas production, as well as components for the chemicals, pharma, cement and food industries.

Siemens bought Flender, which traces its roots back to a 19th century maker of belt pulleys, from Babcock Borsig in 2005. Flender has, however, not lived up to Siemens' growth and profitability expectations. The divestiture is a part of the industrial conglomerate's plans to streamline its operations. EP

Oil Industry Expresses Concern, Not Alarm

Joe Biden's promise that he would "transition" the country away from oil and natural gas might hurt him politically in Texas and Pennsylvania, but it did not come as a surprise to many in the energy industry.

Oil and gas executives have been keenly aware that the world is starting to move from fossil fuels toward renewable energy, although they strongly argue that their industry will continue to provide cheap and plentiful energy for decades to come. And several of them said Friday that while they did not like Mr Biden's comments, they were not alarmed by them either, according to media reports.

What ultimately matters to the industry is not whether there would be an energy transition, but how rapid it would be and whether the companies would be allowed to exploit oil and gas reserves by offsetting their environmental impact by capturing and storing greenhouse gas emissions.

Large European oil companies are embracing the change that Mr Biden called for as concerns over climate change grow and investors begin to shun fossil-fuel businesses. For example, BP has announced that over the next decade it will shrink its oil and gas production by 40 per cent and increase investments of renewables tenfold, to US$5 billion a year.

But the US oil industry, which has donated much more to President Donald Trump's campaign than to Mr Biden's, has been more reluctant to change its business models. EP

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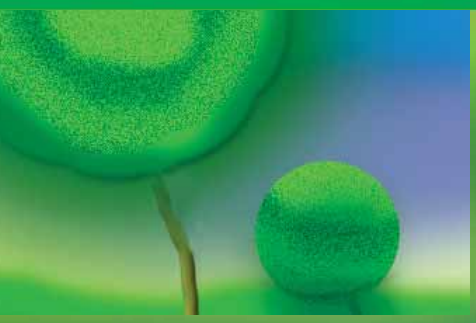
মানসম্পন্ন বিদ্যুৎ নিরবচ্ছিন্নভাবে দেশের সকল মানুষের নিকট পৌঁছে দেয়াই আমাদের অঙ্গীকার

- 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।



Green page

Experts for Re-Fixing Solar Power Target

Experts at a workshop suggested re-fixing the target of solar power generation to 30,000 MW by 2041 instead of current target of 40,000 MW and linking it with other national plans like Delta Plan 2100.

They made the recommendation while discussing the "Draft National Solar Energy Road Map: 2021-41" at a workshop, organized by Sustainable and Renewable Energy Development Authority (Sreda) at its office recently.

They also said the plan should be 20,000 MW power generation instead of 30,000 MW from solar energy by 2030.

"Target of 40,000 MW power generation is an ambitious plan. Any plan has to be realistic considering current and future perspective" said eminent energy expert Dr M Tamim.

The workshop was also addressed by Power Cell Director General Mohammad Hossain, former member of Sreda Siddique Zobair, and President of Bangladesh Solar and Renewable Energy Association Dipal Barua.

UNDP-funded Sreda's project consultant Sharier Ahmed Chowdhury made a presentation on the Draft National Solar Energy Road Map: 2021-41 while Sreda Chairman and Additional Secretary of Power Division Mohammad Alauddin presided over the function.

Making a detail presentation on the roadmap, Shahrier Ahmed Chowdhury said there is huge potentials of generating solar energy by setting up plants on reclaimed lands, especially in the country's char areas.

He said some 40,000 MW of electricity in Bangladesh could be easily generated from solar energy by 2041, if an action plan is taken as high development case scenario while 25,000 MW is possible in mid development and 6,000 MW in base case scenario.

He also said the prices of solar panels and other equipment continue to decline with coming up of new advanced technologies.

He informed that globally average cost of solar power decreased by 80 percent in last 10 years and now the cost of solar power generation is cheaper than liquid fuel-fired power generation.

Mohammad Hossain said the road map should have solutions to address the future changes in implementing the plan. EP

IDCOL, Feni Lanka Power Win Asian Power Awards 2020

Infrastructure Development Company Limited (IDCOL) and Feni Lanka Power Limited (FLPL) won the prestigious Asian Power Awards-2020 in the "Solar Power Project of the Year-Bangladesh and Independent Power Producer of the Year-Bangladesh" category.

Dubbed as the "Oscars of the Power Industry", the award was conferred on IDCOL and FLPL for implementing Solar Irrigation Pump (SIP) Project in Bangladesh and Diesel-Fired Power Project of the year respectively, said a press release.

The event was held digitally on October 27, 2020 by the Asian Power magazine, a Singapore based quarterly publication for the power generation, transmission and distribution industry in the Asia Pacific region.

Continuing on its 16th year, the award recognized ground-breaking projects and trailblazing initiatives in the power sector in Asia.

The SIP project being implemented by IDCOL is the first green finance initiative for smallholder collectives and farmers in Bangladesh which is now benefiting more than 60,000 farmers.

Around 50 companies were awarded in this year's Oscars of the power industry, of which Feni Lanka Power Limited won the award in silver category.

Feni Lanka Power Limited constructed a power plant having 116MW heavy fuel oil (HFO) Power Plant Project, Feni, Bangladesh, which got award in dual fuel power plant of the year category. EP

Wärtsilä's Utility-Scale Storage Helps Singapore Towards a Low-Carbon Energy Future

The 2.4 MW/2.4 MWh energy storage system (ESS) supplied by the technology group Wärtsilä for Sunseap Energy Ventures of Singapore under an engineering, procurement and construction (EPC) contract has been installed.

The ESS facility is a test-bed supported by Singapore's Energy Market Authority (EMA) and SP Group, a leading energy utilities company in Asia Pacific and it represents an important milestone in Singapore's energy transition towards a low-carbon energy future.

This is the first utility-scale ESS in Singapore. It features Wärtsilä's GEMS advanced energy management platform, as well as the company's GridSolv Max solution, a standardized energy storage technology designed for safety with core storage hardware assets, including batteries and inverters.

The ESS will participate in the wholesale electricity market to provide services necessary to mitigate intermittency caused by solar, as well as reduce peak demand. The utility-scale energy storage system will also provide insights into ESS' performance under Singapore's hot and humid environment and will aid in establishing technical guidelines for such deployments.

"This is an important step forward for Singapore's energy system. We expect this first battery system in Singapore to enhance grid stability by providing the quick response and flexibility needed when integrating solar power into the grid. This project will also provide learnings for future ESS applications and pave the way for more solar power to generate more green energy in Singapore," said Frank Phuan, CEO and Executive Director of the Sunseap Group. EP

India Adds 883 MW of Rooftop Solar in Nine Months Despite Covid-19

With 380 MW of generation capacity, Gujarat accounted for 43% of new rooftop solar installations during the January-September period.

The new generation capacity included 1,437 MW of ground-mounted projects and 883 MW of rooftop solar, according to Haryana-based JMK Research, which cited data released by the Ministry of New and Renewable Energy (MNRE).

The volume of new large scale PV has fallen well short of the 7-8 GW forecast by JMK before the Covid-19 outbreak but rooftop installs appear to have maintained momentum despite coronavirus lockdowns, with Gujarat accounting for 43% of new systems.

JMK Research attributed the drastic shortfall in big solar commissioning to Covid-prompted disruption but said it expected most of the delayed capacity to arrive within eight months.

"Because of Covid-19 there were construction delays, restricted movement of equipment supply, and labor shortages, eventually leading to project delays," said the analyst. "To compensate for this, the MNRE has issued a blanket [project deadline] extension of five months to all project developers. Now, most of this delayed capacity is likely to come up in the first half of 2021." EP

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Renewables Set for Record Run Despite Covid: IEA

Renewable power is growing robustly around the world this year, contrasting with the sharp declines triggered by the Covid-19 crisis in many other parts of the energy sector such as oil, gas and coal, according to a report from the International Energy Agency released recently.

Driven by China and the United States, new additions of renewable power capacity worldwide will increase to a record level of almost 200 gigawatts this year, the IEA's Renewables 2020 report forecasts.

This rise – representing almost 90% of the total expansion in overall power capacity globally – is led by wind, hydropower and solar PV. Wind and solar additions are set to jump by 30% in both the United States and China as developers rush to take advantage of expiring incentives.

Even stronger growth is to come. India and the European Union will be the driving forces behind a record expansion of global renewable capacity additions of nearly 10% next year – the fastest growth since 2015 – according to the report.

"Renewable power is defying the difficulties caused by the pandemic, showing robust growth while others fuels struggle," said Dr Fatih Birol, the IEA Executive Director. "The resilience and positive prospects of the sector are clearly reflected by continued strong appetite from investors – and the future looks even brighter with new capacity additions on course to set fresh records this year and next." EP

Omera Installs 462.44kW Rooftop Solar System

Omera Solar, a sister concern of East Coast Group, has installed a rooftop solar system for producing 462.44 kilowatt of electricity for the country's renowned garment industry Fakir Fashion Ltd in its Rupganj factory.

"With installation of the solar system, the energy demand of the factory with 12,000 workers will be fulfilled," Fakir Fashion's Managing Director Fakir K Nahid said, while inaugurating the solar panel in its factory at Rupganj in Narayanganj district yesterday evening.

Fakir Fashion's CEO and Head of Business, Abdullah Al Maher, CFO Shaheduzzaman Choudhury, East Coast Group's CEO Masudur Rahim and its Senior Manager Sakib Hasan Khan and representatives from Dutch Bangla Bank were also present. EP

IDCOL Seeks Grants to Expand Solar Irrigation Pumps

The Infrastructure Development Company Limited (IDCOL) did not approve any new applications for setting up of solar irrigation pumps since early this year due to non-availability of grant fund, officials said.

The state-owned company provides 50 per cent of the total cost as grants, 35 per cent as loans and the rest 15 per cent comes as the equity.

Until October last year, the IDCOL approved 1,630 pumps, of which 1,323 are in operation with a cumulative generation capacity of about 32 megawatts of power (MWp). The IDCOL has set a target of installing 50,000 solar irrigation pumps by 2025.

The IDCOL gets fund from organizations like German development bank KfW, USAID, UK Aid, and some global trust funds to utilize as grant for setting up of solar irrigation pumps.

However, various other organizations like Bangladesh Rural Electrification Board (BREB) are also funding such projects.

The BREB got funding from the Asian Development Bank (ADB) and recently awarded contracts to a Bangladesh-German joint venture to install 705 solar-powered irrigation pumps in Bogra district.

Until now, some 1,950 solar pumps were installed with a total power generation capacity of around 47 MW.

There are some 1.34 million diesel-run irrigation pumps which consume nearly US$1.0 billion worth of fuel oil annually. Also, some 365,000 electricity-run pumps are there which require nearly 2,000 MW of power during summer.

The government has a plan to replace these irrigation pumps with solar-powered ones to reduce dependence on costly imported fuel oil. EP

Green page

World Wind Power Deployment

As part of three webinars on Asia / Australia, Europe / MENA / Africa and America, experts from around the world presented the status of wind power in their countries during the year 2020, and in particular in light of the impact of the global Covid-19 pandemic.

Overall the speakers, almost without exception, confirmed that the pandemic is having an impact on developments and on new installations this year, and that there are many delays in different phases of project implementation.

The delays are mainly caused by interruptions of international supply chains, non-availability of the workforce due to hygienic rules but also due to permission procedures which take longer than usual.

While many markets will see delays caused by the pandemic, some markets remain hardly affected. However, also other factors like the switch to auctions are having a negative impact on markets, as they lead to reduction of number of investors and in several cases the offered volume has been undersubscribed.

While, for example, the markets in Germany, India, Italy and Brazil are under pressure caused by auctions, the direct marketing of wind power is becoming more and more important.

For example in Brazil, as a significantly higher return can be obtained through direct power purchase agreements than in the national electricity auctions. In general, the concept of direct marketing and self-consumption is getting more relevant in many parts of the world, also beyond wind power.

While feed-in tariffs are under pressure and auctions lead to problems amongst investors, such new forms of direct marketing and self-consumption may become major drivers, as the example of Brazil is showing. EP

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Climate Vulnerability

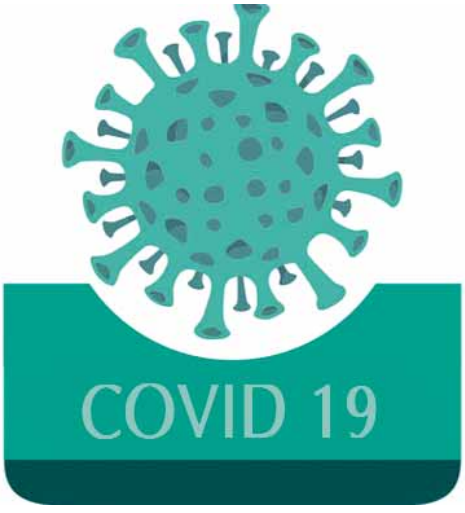
Covid and Implementation of SDGs

Md. Abul Kalam Azad

Data, the starting point of SDG planning and implementation in 2016, out of 244 only 112 base line data were available. In last 4 years base line data now as available is 161which are updated regularly. From 2016 to 2030 for implementation of SDG Bangladesh estimated 928.48 billion dollars as additional requirement. Annual average is 66.32 billion, 19.75% of accumulated GDP of this period. Out of this 66 billion, domestic financing would be 85% and external finance will be 15%. In this domestic finance share of government, private and Public Private Partnership will be 33.5%, 42% and 5.5% respectively. It is planned that Non-government organization will invest 4%. Analysis of external resources; 5% is estimated as aid and grants and 10% as foreign direct investment.

For localization of SDG, massive awareness program at the grass root level up to upazila is taken, also workshop at divisional and district level were done. All the districts and sub districts worked on 39+1 SDG indicators. Out of 132 indicators Bangladesh government identified 39 SDG indicators as most important. These 39 most important indicators are on poverty, health issues, education, gender equity and all others. The last one, which we call +1, indicator related to 'leave no one behind' has been chosen by the particular district or sub district based on the needs of the locality. Bangladesh participated in Voluntary National Reporting (VNR) to UN in High Level Political Forum (HLPF) in 2017 and 2020 with performance of SDG implementation, challenges, success stories, good practices and way forward.

To consider the impact of Corona Virus pandemic in Bangladesh, we need to consider the issues of climate vulnerability also. Our GDP growth in 2019-20 we predict 8.2%. For this global pandemic it came down to 5.24% and for that reason in the first 3 month of Covid percentage of poverty increased. It is predicted that at least 10% extra people came below the line. But the record shows that Bangladesh turned from Covid very quickly. In spite of devastating cyclone Amphan and repeated flood Asian development Bank in their journal predicted that Bangladesh will have 7.5% growth in 2021. According to IMF-World Economic Outlook (WEO), Bangladesh's per capita GDP in dollar terms is expected to grow 4% in 2020 to $1,888 which is higher than some of the neighboring countries.



Only considering the economic condition of September 2020 Bangladesh has a growth of 5.2% while the whole South Asia faced minus 6.8% growth and among them the highest is Maldives (minus 20). Bangladesh also turn back in remittance; in August 2019 remittance was 1444 million US dollar which is in this year increased by 36% and stood at 1963.94 million dollars. The amazing figure was in July, it was a month to month 62% increase. Also, in RMG sector in June 2020 our growth was minas (-)8.65% but in August +44.63% growth after 7 months minus growth. In August 2019 RMG export were only US$ 2.23 billion which stood in 2020 August US$ 3.24 billion. Total export earning in July 2020 is US$ 3.91 billion; that is the highest ever for Bangladesh. Foreign currency reserve in August 2020 stood at US$ 38.84 billion. This is 18.5% higher than that of the same month of the previous year. On October 8, 2020 foreign currency reserve crossed US$ 40 billion.

In terms of implementation of SDG, Bangladesh shows its prudence as early bird in some of the target of SDG; in poverty reduction, reduction of hunger, under 5 mortality, neonatal motility, education both in primary and secondary and gender parity are achieved. Access to electricity is about 99% now, annual growth rate of real GDP per employed person increase and manufacturing value-added as a proportion of GDP

has enhanced, Social protection in terms of budgetary allocation and coverage also increased.

We have so many positive trends in achieving SDG. The first driving force of SDG implementation is the strong political commitment of the government. Inclusive and pro-poor micro economic measures, sustain GDP growth, reduction of dependency ratio, increased life expectancy with decrease mortality, improved connectivity, reduction of population growth, enhanced female labor force participation, robust growth of exports, surge in remittance of migrant workers and multidimensional use of ICT; these positive trends show the way to implementation of SDG very quickly.

Specifically, for responding and combating Covid and having the social safety net in proper place, keeping the wheel of economy in a move, government declared about 12.11 billion dollars incentive package which is 3.75% of its gross domestic product. This would be used for preparedness, emergency response and rehabilitation. Honorable Prime Minister has also provided 31 point directives for the citizen and formed high powered monitoring team for Covid-19. Health insurance and life insurance for front line fighters are announced, cash incentives for the front-line fighters, 2000 doctors, 5000 nurses recruited and huge number of lab technicians are on board. In May 2020 additional five million house hold were brought under special safety net to support with cash aid.

For implementation of SDG, Bangladesh took 10 special initiatives under the name of Sheikh Hasina special initiatives for development. These are women empowerment, Asrayan (rehabilitation of the homeless people) project, Education Assistance, My House My Farm, Digital Bangladesh, Community Clinic, Investment Development, Environment Protection, Social Safety Net Program and Electricity for All. Bangladesh had its vision 2041 to be a developed country, 2031 is set for upper middle-income country and we expect that by 2031 per capita income will be about 6000 dollar and by 2041 it will be 12500 dollars.

According to Vision 2041 GDP growth by 2031 will be 9% and in 2041 9.90%, estimated extreme poverty in 2031 we projected 2.55%, in 2041 less than 1%, moderate poverty by 2031 expected to be 7% and 2041 2.59%. Along with implementation of SDG, Bangladesh implementing huge number of mega projects like Padma bridge, Metro rail, Padma bridge rail link, Duhazari-Coxbazar-Ghomdhom rail line, Ruppur Nuclear power project, Rampal Power plant, Matarbari Power plant, Bhola Gas pipe line, LNG terminal, Matarbari deep sea port and coal terminal, Petro-chemical industry in coastal area and also Payra sea port.

We need to face the challenges of resource mobilization, skill development, quality education and natural calamities. Strengthening international development cooperation and building effective partnership with different organizations are being considered with high priority. Natural disaster and climate challenge also 1.1 million Rohingya are big challenge for implementing SDG. Bangladesh took ambitious project to increase investment and human development projects to overcame the infrastructure gap, 100 economic zones and more than 2 dozen high-tech park. So many steps have been taken for one-stop service and ease of doing business, implementing quality education, skill development and research, innovative digitalization and improving governance, increasing female labor force participation and diversification of export. Bangladesh have its vision 2021 middle income country, development junction by SDG implementation 2030, golden Bengal that is the developed country 2041 transformation from digital Bangladesh to innovative Bangladesh by 2041, 100 years of our prosperity 2071 that is the 100 years celebration of our independence and safe delta 2100; delta plan.

EP

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

Increase Use of Public Transport to Reduce Air Pollution: Minister

Environment, Forests and Climate Change Minister Md Shahab Uddin recently said that increased use of public transport instead of private vehicles can reduce air pollution caused by harmful emissions.

He also stressed the need for emphasizing improvement in the quality of vehicles in terms of their fuel usage, proper maintenance of motor vehicles and development of the transport infrastructure and services.

The Minister was delivering remarks while presiding over the 2nd session of the International Conference on 'Climate Action and Resilience in Transport', jointly organized online by the United Nations and the United Nations Environment Program and some national and international organizations, from his official residence in Dhaka.

The Environment Minister said "The use of fossil fuels in household appliances and private cars, motorcycles increased in the Asia region, along with rest of the world. As a result, greenhouse gas emissions have increased at an alarming rate."

He said most countries in the world have signed and ratified the Paris Climate Agreement. EP

UN Campaign Empowers Kids to Take Climate Action

Building on the growing momentum for climate action, the United Nations is broadening its engagement of global audiences. A new campaign will empower children to learn about sustainability and act to protect the planet.

The Climate Action Superheroes campaign, launching on UN social media platforms tomorrow, targets kids under the age of twelve as agents of change.

Eight quirky superheroes – the Energy Expert, Fashion Fixer, Fume Fighter Green Guide, Recycle Ranger, Truth Talker, Veggie Vindicator and Water Wizard – engage children, and parents, in fun missions on topics such as reducing single-use plastic, saving energy and water, fixing and reusing clothes, eating more vegetables, and sharing scientific facts.

"We want children to be aware of the difference they can make through everyday actions," said Nanette Braun, Director of Campaigns in the UN Department of Global Communications.

"Lifelong behaviors are shaped at an early age and we hope that providing the knowledge and tools to help build a more sustainable future will have lasting impact."

Parents and children can discover the superheroes and their missions through a colorful, aminated world built on the UN website. Campaign materials include downloadable activity sheets, certificates of completion, animated social media cards and stickers. EP

Japan PM Sets 2050 Deadline for Carbon Neutrality

Japan's prime minister Yoshihide Suga recently set a 2050 deadline for the world's third-largest economy to become carbon neutral, significantly firming up the country's climate change commitments.

Delivering his first policy address since taking office, Suga placed the environment front and center as Japan plays catch-up with climate pledges made by other major economies.

'We will bring the total amount of greenhouse gas (emitted by Japan) to net zero by 2050, meaning carbon neutral,' Suga told parliament.

'I declare we will aim to realize a decarbonized society,' he added, to applause from Diet members.

Tokyo had previously only aimed to achieve carbon neutrality sometime in the latter half of the century, a goal that critics called vague.

But the new target was praised by activists and experts, and puts Japan on the same timeline as Europe and Britain and a decade ahead of China, which last month set a 2060 goal.

Suga did not give precise details on how Japan, a country still heavily reliant on coal, will meet the deadline but said technology would be essential.

'The key is innovation,' he said, citing examples including next-generation solar batteries.

He added that Japan would also push the use of renewable energy and nuclear power, stressing that safety would be a priority — a key point in a country that suffered the Fukushima nuclear disaster.

Japan, which is a signatory to the Paris climate change agreement, was the sixth-biggest contributor to global greenhouse emissions in 2017, according to the International Energy Agency. EP

Climate Activist Thunberg Hits Back at Trump

17-year-old Thunberg tweeted: "So ridiculous. Donald must work on his Anger Management problem, then go to a good old fashioned movie with a friend! Chill Donald, Chill!"

Swedish climate activist Greta Thunberg hit back at Donald Trump on Twitter recently saying the US president should "chill" about the election, a repost to his tweet last year mocking the teenager over what he called her anger management issues.

Commenting on Trump tweeting "STOP THE COUNT!", as the election race in the United States went to the wire, 17-year-old Thunberg tweeted: "So ridiculous. Donald must work on his Anger Management problem, then go to a good old fashioned movie with a friend! Chill Donald, Chill!"

The tweet has been liked 1.2 million times so far and re-tweeted 266,000 times.

Trump took to Twitter in December last year after Thunberg was named Time's Person of the Year for 2019, mocking the 17-year-old in exactly the same manner for her impassioned pleas to governments to act to stop global warming.

"So ridiculous. Greta must work on her Anger Management problem, then go to a good old fashioned movie with a friend! Chill Greta, Chill!" Trump wrote, commenting on a tweet from another person congratulating Thunberg on the Time prize.

EP

Royal Plea for Positivity Against Climate Change

It's time to be positive about beating Climate Change, according to Prince William, the Duke of Cambridge.

His upbeat tone struck a chord with Cityzenith CEO Michael Jansen, whose company has just pledged free aid to fight greenhouse gas emissions from cities – the world's biggest contributors to Climate Change.

The Prince, has launched his £50 million 'Earthshot' environmental award, backed by major global figures such as naturalist and broadcaster Sir David Attenborough and media stars Cate Blanchett and Shakira, to encourage innovation in the climate battle.

And he now realized that galvanizing people with optimism was more likely to promote action:

"There has been lots of calling out and, quite rightly, saying 'these are the problems, and this is what we're going to face'. But there has been very little kind of, 'well actually, we can fix this, we can provide those solutions and we can, as human beings, turn this around. The tools are there.

"We have the data. So, let's stop talking about it, collecting data, and let's actually provide the action and I think that's what's going to be really needed over these next ten years."

The theme was taken up by Cityzenith CEO Michael Jansen: "It was great to hear Prince William, with his global influence, talk about positivity, because we really do have the tools and data to change rather than accept the well-worn gloom and doom narrative around climate change.

EP

World Bank Report Maps Strategic Directions Towards Decarbonization

The Outlook 2050 recognizes the need for a "bold economic transformation" to realize the vision of the Paris Agreement and make the SDGs "more achievable".

It proposes a "whole-of-economy" approach to decarbonization, which prioritizes four economy-wide strategic directions.

The report was launched as part of a series focused on the role of sustainable finance in the COVID-19 recovery to help countries "build back better and stronger".

The World Bank has published a report that outlines economy-wide actions to facilitate decarbonization and sustainable development as the world recovers from the COVID-19 global pandemic.

The report aims to help countries align their development pathways with the goals of the Paris Agreement on climate change through long-term strategies that promote climate resilience of food and water systems, energy, transport, and cities, among other sectors.

The report titled, 'World Bank Outlook 2050 Strategic Directions Note: Supporting Countries to Meet Long-Term Goals of Decarbonization,' highlights the "huge risks" climate change poses to countries' long-term development and growth, with critical implications for poverty, food security, and health.

In a foreword, Juergen Voegele, World Bank's Vice President for Sustainable Development, cautions that all countries, particularly the poorest and most vulnerable, are now facing "the compound impacts of the twin challenges" of climate change and COVID-19.

EP

Imported Used Vehicles Worsening Air Pollution in Developing Countries: UNEP

The export of used vehicles from the industrialized north to developing countries worsened air pollution while undermining action on climate change, says a report that was launched by the UN Environment Program (UNEP) in Nairobi recently.

According to the report titled "Used Vehicles and the Environment: A Global Overview of Used Light Duty Vehicles: Flow, Scale and Regulation," between 2015 and 2018, some 14 million older, poor quality vehicles were exported from Europe, Japan and the US.

Africa accounted for 40 percent of the imports.

Experts say that up to 80% failed to meet minimum safety and environmental standards in exporting countries.

As well as causing accidents, these cars make air pollution worse and contribute heavily to climate change.

Many of the vehicles have also been tampered with to remove valuable parts.

EP

Climate Change Spurs Doubling of Disasters Since 2000: UN

Climate change is largely to blame for a near doubling of natural disasters in the past 20 years, a UN report said.

The UN Office for Disaster Risk Reduction (UNDRR) said 7,348 major disaster events occurred between 2000 and 2019, claiming 1.23 million lives, affecting 4.2 billion people, and costing the global economy some $2.97 trillion.

The figure far outstrips the 4,212 major natural disasters recorded between 1980 and 1999, the UN office said in the new report, The Human Cost of Disasters 2000-2019.

The report said 6,681 climate-linked events were recorded since the turn of the century, up from 3,656 during the previous 20-year period.

While major floods more than doubled to 3,254, there had been 2,034 major storms, up from 1,457 in the prior period.

The sharp increase was largely attributable to a rise in climate-related disasters, including extreme weather events like floods, droughts and storms, the report said, adding that extreme heat is proving especially deadly.

Data showed that Asia suffered the highest number of disasters in the past 20 years with 3,068 such events, followed by the Americas with 1,756 and Africa with 1,192.

In terms of affected countries, China topped the list with 577 events followed by the United States with 467. EP

Rosatom Starts Production of RARE-EARTH Magnets for Wind Power

TVEL Fuel Company of Rosatom has started gradual localization of rare-earth magnets manufacturing for wind power plants generators. The first sets of magnets have been manufactured and shipped to the customer.

In total, the contract between Elemash Magnit LLC (an enterprise of TVEL Fuel Company of Rosatom in Elektrostal, Moscow region) and Red Wind B.V. (a joint venture of NovaWind JSC and the Dutch company Lagerwey) foresees manufacturing and supply over 200 sets of magnets. One set is designed to produce one power generator.

"The project includes gradual localization of magnets manufacturing in Russia, decreasing dependence on imports. We consider production of magnets as a promising sector for TVEL's metallurgical business development. In this regard, our company does have the relevant research and technological expertise for creation of Russia's first large-scale full cycle production of permanent rare-earth magnets," commented Natalia Nikipelova, President of TVEL JSC. EP

Green Industrialization Can Help Attain SDGs: Speakers

A workshop on 'Simplification of Innovations and Services' under government jobs, organized by the Bangladesh Industrial and Technical Assistance Centre (BITAC), was held at its Khulna center recently.

Speakers at the program highlighted the importance of achieving the Sustainable Development Goals (SDGs) through green industrialization or environment-friendly industrialization in the country, says a statement.

Industries secretary KM Ali Azam attended the workshop as the chief guest while BITAC director general Anwar Hossain Chowdhury was present as the special guest.

Laying emphasis on implementing the rules, policies and vision of the government Mr Ali Azam, in his speech, said that the industries ministry was working to speed up the pace of industrialization in the country.

An environment-friendly industrialization can ensure the country's attainment of Sustainable Development Goals, he said.

There is no alternative to innovation in the government's work and dynamism cannot be instilled in the government jobs without innovations, he said. EP

Canadian Solar Launches 640-665 W Panel Series

The HiKu7 CS 7N-MS series is available with power output ranging from 640-665 W and efficiency ranging from 20.6-21.4%. The panel, which is the most powerful product the company brought to the market to date, is considered ideal for utility-scale and commercial and industrial PV projects.

Chinese-Canadian solar module manufacturer Canadian Solar has launched recently its new 7 module series, including the two monofacial CS7L-MS and CS7N-MS series and the two bifacial CS7L-MB-AG and CS7N-MB-AG series.

"The Series 7 modules will be mainly produced in China and we will ramp up the production during Q1 and Q2, with the estimated planned total capacity in 2021 being around 10 GW," the company told pv magazine.

The HiKu7 CS7N-MS series, which the manufacturer said is an ideal solution for utility-scale and commercial and industrial PV projects, is the most powerful product the company brought to the market to date. The series is available in six wattage classes with power output ranging from 640-665 W and efficiency ranging from 20.6-21.4%. EP

It's Not Right Time to Move Out of Coal

Dr. Kazi Bayzid Kabir

BSTI has set the standard for imported fuel oil while the Ministry of Commerce set the standard of sulfur content in imported coal. I think, the standards should be addressed in the environment law – it should set the limits of sulfur contents of imported diesel and furnace oil. These must be included as mandatory provisions in the environment law.

It is not the appropriate time to move out of the reliance on coal for power generation. The thoughts of replacing coal with renewable energy are not at all realistic. The thoughts of replacing coal with imported LNG would make energy generation mono-fuel based again and would also enhance cost. Such strategy will not be reasonable at all. Coal is still the cheapest source of energy.

Dr. Kazi Bayzid Kabir, Associate Professor, Chemical Engineering Department of BUET, made the observation in an exclusive interview with Energy & Power Editor ***Mollah Amzad Hossain.***

After going through tumultuous debate, the first imported coal-fired project at Payra has come into commercial operation. What are your views?

Please note that the global debate about coal power is about carbon di-oxide emission. But in Bangladesh, the debate is not about that. In Bangladesh, the debate is about flue gas –SOx and NOx, and mercury emissions.

At Payra, there is practically no carbon emission at all due to the advanced technology that has been used. The technology used at ambient condition is also letting of almost zero SOx, NOx and mercury emissions. Any fossil fuel burning would let off some carbon emission. Considering global standard here in Payra, it is negligible. Imported fuel dependent country like Bangladesh does not have any realistic possibility for getting out of coal dependency over the next 50 years. Coal is still the low cost fuel. Until another low cost fuel is available, replacing coal as preferred fuel would not happen.

Some observers allege that the flue gas chimney at Payra power plant has been constructed in contravention to original design. What has really happened?

BCPCL, the implementing agency of Payra power plant, had requested the Department of Environment (DOE) to reduce the 275-meter designed height of the chimney. As requested by the DOE, I also worked in the review committee. Their argument was that Bangladesh is in the cyclone prone region and in every passing year, the intensity of the cyclone is growing. The 275-meter high chimney in such circumstance would not be sustainable. The logic behind high chimney was restricting dispersion sulfur, SOx, NOx in the air. Payra power plant has already installed Flue Gas Desulfurization Plant (FGD), low NOx burner, ESP for bringing down these emissions below the permissible limits. The technologies used have already restricted emissions. As such the 275-meter high chimney was not necessary.

The DOE changed the criteria for determining the height of the chimney. The present guideline of DOE is far more scientific. The present height is 220 meters.

Your specialization also includes coal-fired power generation. Do you think Payra power plant could comply with DOE conditions for air and water pollutions? Is DOE monitoring these on real time basis?

Based on the plant and machinery that used at Payra plant, I do not find any reason for non-compliance. Air quality monitoring system has been installed there. It is oil portal based. The DOE has the right of access. There is a facility for monitoring the air quality on 24/7 basis.

Government has a plan for 23 coal-based power plants by 2041. Now, there is a thought in the government for not proceeding further with the planned ones. What are your views? Some organizations like CPD, TIB and environment activist groups are the advising government for replacing the planned ones with solar and other renewables. How do you react to this?

It is not the case of Bangladesh only. In the given scenario of power generation technology, it is not feasible at all for renewable energy replacing coal as the

preferred base load power generation option. According to Bangladesh Power Development Board (BPDB), of the 72,000 Gwh generated power, 67 Gwh (0.7%) is from renewables. We cannot consider RE on the basis of installed capacity. We can only harness 10-15% of the installed capacity from RE. Hence, we have no scope in Bangladesh for even thinking about RE replacing coal as preferred source of base load power generation.

The government may also think about LNG as potential source. It is not also feasible at the moment. The levelized cost of generation at Payra is now Tk 6.40 per unit. The cost of LNG-based power would not be less than Tk 10.00.

As Bangladesh is increasingly moving towards imported fuel, exclusive reliance on LNG will again make energy generation mono-fuel based. It is not an acceptable proposition for me. True LNG is a bit less emitting fuel than coal. We must not bring any major change in fuel mix now.

You are aware that the government could not take any decision of mining own coal yet. All type of study reports justifying mining at Phulbari has been done. But the government is withholding decision for mining from there. What is your opinion?

Underground mining cannot make Bangladesh competitive with imported coal. Recently State Minister Energy in a discussion on Payra power project also mentioned about this. BPDB is now purchasing coal from Barapukuria mine at US$130 per tonne. But Payra is importing it at US$74.

On the other hand, all required techno-economic studies on Phulabri has been completed. I heard that there is no technical issue for mining at Phulbari. But rehabilitation, environmental and social impacts management are the challenges. But these are not insurmountable. I think for agitations of a section of civil society, the government is not taking decision. It is now a political decision when to start mining at Phulbari.

Several forecasts are estimating that 80% of the energy generation would come from renewable energy by 2050. What are your views?

The global scenario gives indication that contributions of renewable energy would considerably increase. But I have reasonable doubts whether this would reach 80%. I do not think Bangladesh can keep pace with global movement towards RE. Solar power is making headway, but I have doubt that wind and other forms of RE would make major contributions in Bangladesh. Agricultural wastes can be used as biomass. Bangladesh should start working with this.

The three sectors of carbon emission in Bangladesh are Industry, Energy and Transport. Bangladesh has pledged for reducing 5% emissions using its own fund and another 10% if global financing is available. This means reaching about 15% emissions reduction. Is Bangladesh moving on the right track?

Work is advancing on the right track for achieving efficiency in industrial operation following the Energy Efficiency Road Map. Initiatives have also been launched in the transport sector. But for the power sector, there is no alternative but increasing efficiency. Coal power from mega project has just been evacuated to national grid. Some more projects would be added in the next 5 years. The carbon emissions would increase. We have stressed on using advanced technologies and enhancing efficiencies in operation.

Power generation from waste is an option being discussed for a long time. Dhaka North City Corporation (DNCC) is going for a 42.5MW capacity Incarnation Type Waste to Power Generation project soon. Dhaka South City Corporation (DSCC), Narayanganj and Chottogram City Corporations may also follow it. Will this process increase carbon emission?

Waste management is a good initiative. 70% of the waste in Bangladesh is kitchen waste. Lot of energy will be required for drying this wet waste material. Hence, it should be treated as waste management rather than considering this as power generation option.

But incarnation would not create carbon emission. Emission control measures would be taken before letting off flue gases to the atmosphere.

Words are around that HFO is a highly polluting fuel. It pollutes air and water. Still Bangladesh continues using it for power generation. What is your opinion?

Bangladesh has too many HFO-based power plants now. The sulfur content is 1.5% and more. Less sulfur containing HFO is expensive. Environment guidelines do not have any specific mention about sulfur content for import. These plants are causing emissions being used as peaking plants. If used for longer duration, pollution could be less. The higher pollutions happen during start and shut down. Now these plants have to do these too often.

There are controversies about sulfur content in imported fuel. BSTI and Ministry of Commerce have set specifications for imported oil and coal, but those are not strict enough in the law of Department of Environment (DOE). What policy Bangladesh should adopt for importing less polluting fuel?

BSTI has set the standard for fuel oil. Ministry of Commerce has also set standard of sulfur content in imported coal. Because the brick manufacturers are now using more coal than that of power generation. And, this coal has higher sulfur content. I think, the standards should be addressed in the environment law – it should set the limits of sulfur contents of imported diesel and furnace oil. The law should also define what should be the sulfur content of imported coal. DOE should also set limits for flue gas emission in the air after the use of the primary energy in the power plants. These must be included as mandatory provisions in the environment law.

EP

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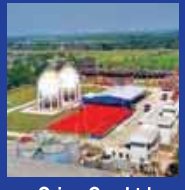
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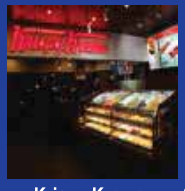
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