

ENERGY & POWER

Hard Path Ahead



- ❑ Experts Rap LPG Pricing by BERC
- ❑ It's Not Time to Go for Electricity Storage
- ❑ Experts for Storage Policy in Revised PSMP



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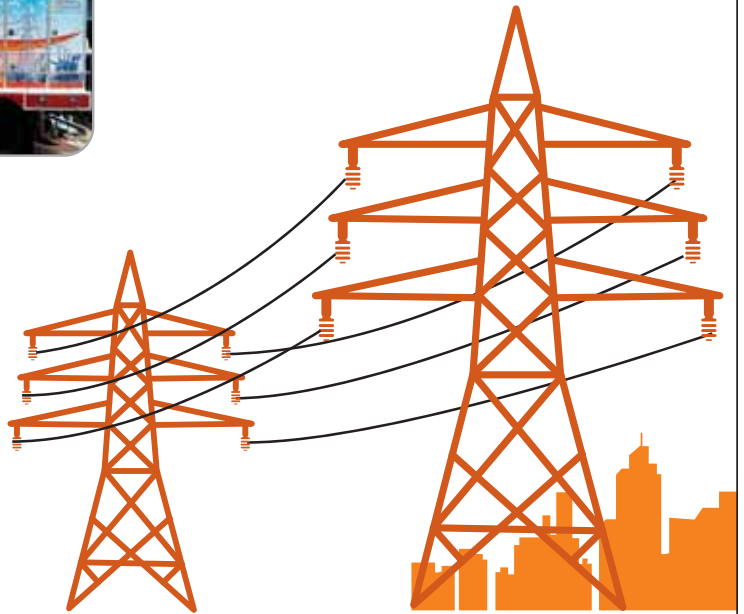
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EDITORIAL

The Leaders' Climate Summit was held recently, bringing together over 40 leaders to outline ambitious new actions towards a 1.5C pathway. US President Joe Biden doubled the US targets to slash greenhouse gas emissions by 2030, with Japan and Canada raising pledges and the EU and Britain locking in forceful targets. The climate experts expressed cautious optimism about the success of the ambition. But the effects of climate change are already being felt and the emissions are on track for the second largest increase in history in 2021 amid the recovery from the Covid pandemic. Achieving the goals of carbon neutrality by mid-century will depend on technological innovations that do not yet exist.

Civil Society Organizations (CSOs) considered that the current targets, including the ones made at the leaders' summit, would not be enough to meet the level of ambition needed to avert climate catastrophe. This is simply not aligned with the science.

Another challenge is that developing countries like Bangladesh needed adequate finance to meet their climate and development goals to drive momentum on climate action. However, it's a good sign that the leaders are holding talks about the climate issues again.

h i g h l i g h t s

COVER



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Setting up of rental and quick rental power plants to make up the huge power deficit was necessary, but continuing with the plants cannot be appreciated because it is increasing the generation cost. Bangladesh needs appropriate planning and its proper and transparent implementation to reduce the generation cost ... Prof Abdul Hasib Chowdhury tells EP



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Experts think electricity storage system is still an expensive option for Bangladesh and suggested accommodating it in the country's energy planning process. Before adopting a plan in this regard, they recommended piloting various options readily available across the world. ...More in Special Report



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The Leaders' Climate Summit was held recently to steer the world to a 1.5C pathway. At the Summit, the US pledged to cut emissions by 50-52 percent by 2030 compared with 2005 levels. Japan and Canada also raised pledges while the European Union and Britain locking in forceful targets. But experts were cautiously optimistic about the success.



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Greenpage

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

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Prof Abdul Hasib Chowdhury, Director of the Institute of Nuclear Power Engineering at BUET

Natural Gas Leading Source of EU's Power Emissions



Gas power plants overtook lignite coal plants in 2020 to become the European Union's largest single source of emissions from electricity, an analysis of the bloc's Emissions Trading Scheme showed recently.

Gas plants produced 231 million tonnes of carbon dioxide across the continent in 2020 according to the analysis conducted by energy think tank Ember.

Emissions from coal plants meanwhile plunged, with lignite emissions falling 23 percent in 2020 compared with 2019.

Charles Moore, Ember's European program lead, said gas was now the biggest emitter thanks to cheaper renewables and carbon pricing squeezing coal out of the market.

But he warned that nations investing heavily in gas infrastructure risked losing out as the price of renewables such as wind and solar continues to fall over time.

India Closer to Building World's Biggest Nuclear Plant: EDF

French energy group EDF took recently a key step towards helping to build the world's biggest nuclear power plant in India, a project blocked for years by nuclear events and local opposition.

The company said it had filed a binding offer to supply engineering studies and equipment to build six, third-generation EPR reactors in Jaitapur, western India.

Once finished, the facility would provide 10 gigawatts (GW) of electricity, roughly enough for 70 million households.

The event will engage the leaders to help shape the global, regional and local agenda in the energy sector including Power, Energy Transition, Oil & Gas, Renewables, Coal, Digital Transformation among others.

Construction is expected to take 15 years, but the site should be able to start generating electricity before its completion.

Finalization of the contract was expected "in the coming months", an EDF statement said.

EDF, which is in exclusive talks with Indian officials, would not build the power plant itself, but would provide the nuclear reactors in a deal that includes US partner GE Steam Power.

The state-owned PSU Nuclear Power Corporation of India controls the national nuclear energy sector, and the EDF offer was submitted to the country's nuclear operator NPCIL.

NTPC Group Total Installed Capacity Reaches 65,810 MW

With successful completion of trial operation by Unit-2 of 660 MW capacity of Tanda Super Thermal Power Station in Uttar Pradesh (U.P) Stage-II (2 x 660 MW), the NTPC installed capacity has risen to 65,810 MW.

NTPC is striving to achieve highest reliability and efficiency keeping safety and environment issues on top. With global shift in energy space, NTPC is increasingly emphasizing on ESG and changed its focus to renewable for future growth while improving on sustainability matrix.

Sustained efforts are underway for transforming into an Integrated Energy Company.

NTPC Group has 70 Power stations including 26 Renewable projects. The group has over 18 GW of capacity under construction, including 5 GW of renewable energy projects.

Uninterrupted supply of electricity through environment-friendly energy projects at affordable prices has been the hallmark of NTPC.

Petronas Hires Maersk Drillship for Deepwater Gabon Well



PC Gabon Upstream, a subsidiary of Petronas, has contracted Maersk Drilling's deepwater drillship Maersk Viking for an exploration well in block F13 offshore Gabon.

The 7th generation vessel, currently operating offshore Brunei Darussalaam, will drill the prospect during 3Q in 2,100 m (6,890 ft) water depth.

Estimated duration is 60 days: the \$24-million contract includes mob/demobilization costs.

According to COO Morten Kelstrup, this will be Maersk Drilling's first-ever well offshore Gabon.

After completing the program for Petronas, the vessel will head east to start a four-well contract with Shell Malaysia.

11 Burnt in Narayanganj Gas Explosion



Eleven people of two families, including a child, sustained burn injuries in a gas explosion at Paschim Tolla area of Fatullah in Narayanganj recently.

The victims are Son-ahar, Shanti, Samiul and his wife Monowara, Habibur, Aleya, Aleya's mother, Limon, Sathi, Mim and his three-month-old son.

The gas explosion took place at the 3rd floor of a three-storey house located on the south side of the local Model Garments, police said.

Narayanganj Fire Service and Civil Defense deputy assistant director Abdullah Al Arefin said gas leaked from a stove at night and spread to other rooms, including the kitchen.

The gas pipeline exploded when a match or lighter was lit up in the stove for cooking in the morning, he added.

The owner of the house is Mofizul Islam, police said, adding that two walls of the house collapsed in the blast.

Five of the burn-victims were taken to the Sheikh Hasina National Institute of Burn and Plastic Surgery unit of Dhaka Medical College Hospital for treatment.

The remaining six were receiving treatment at Narayanganj General (Victoria) Hospital.

RNPP Worker Dies of Covid-19

A worker of the Rooppur Nuclear Power Plant project died of coronavirus infection recently.

Deceased Bipul Hossain, 35, was son of Nurjamat Pramanik of Joynagar Babupara Village at Salimpur Union of Ishwardi. He was working as a labor in the Nikimath Company of the nuclear project.

Additional Superintendent of Police (Ishwardi Circle) Firoz Kabir said his family members have already been asked to abide by the health safety rules.

Six days back, when he was tested corona positive in the test in the company, he was given leave; but in his house he did not tell anybody about the disease.

Later, he was admitted into Ishwardi Upazila Health Complex with respiratory problem.

In the Upazila Health Complex, his condition deteriorated; so he was taken to Rajshahi Medical College Hospital where he died.

Cabinet Purchase Body Nods LNG Import

The Cabinet Committee on Public Purchase recently approved eight procurement proposals including the import of LNG.

Finance Minister AHM Mustafa Kamal presided over the meeting.

As per a proposal, placed by Energy and Mineral Resources Division, state-owned Petrobangla will import 3.360 million MMBtu of LNG from Vitol Asia Pte Ltd, Singapore, at a cost of Tk 267.57 crore. Each unit will cost \$8.01.

Energypac's One-Stop Hotline for Customers

In continuation to its responsible business practices for the nation, leading electronic and power solutions provider Energypac Group has taken new steps to provide certain emergency services to customers during lockdown while ensuring total obedience to all the protocols.

Only certain emergency services, including the services provided by Energypac, have been given permission to carry on their services under the protocols.

Energypac Group's critical services and products – like electrical accessories, transformers, power connection tools, fuel, and energy solutions, etc. – are now available despite the lockdown barriers.

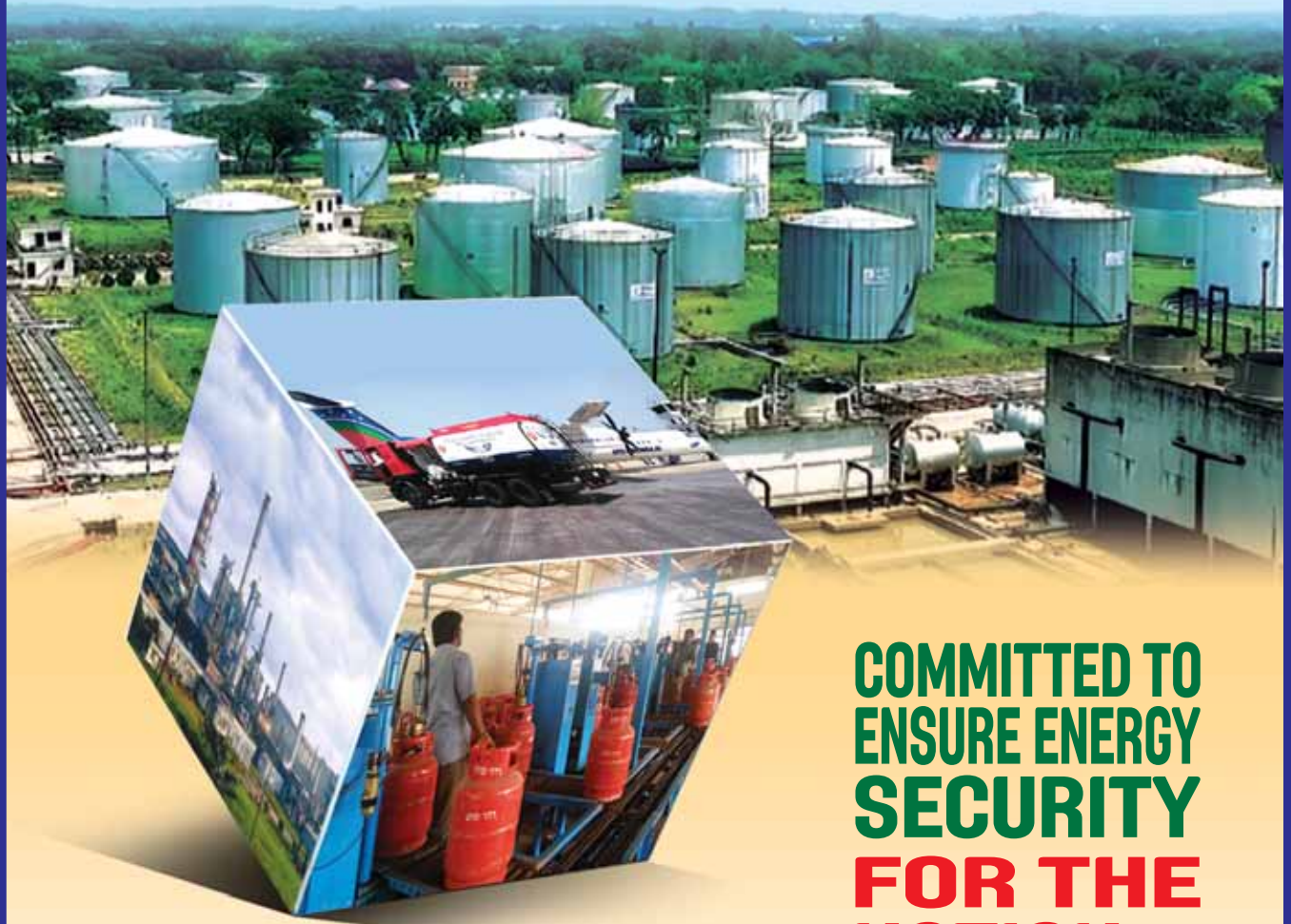
Individual or residential, as well as commercial (related to factory and production works) and agricultural requirements related to emergencies can now be fulfilled by Energypac upon contact.

Energypac has opened up the designated helpline number: 16591 for customers to call at any time and place their orders remotely.

All sorts of energy, power, and electrification services are available under this single helpline. The emergency solutions, regarding lights; circuit breakers; switch; sockets; fan; solar system; LPG; generator; transformer; substation installation and repair; JAC commercial vehicle; excavators; forklifts; agro machinery supply and repair, etc., shall be provided all over the country, within 02-03 business days after placing orders.



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Power Generation Hits All-Time High in Bangladesh



In continuation of its record-breaking streak, the country's power sector has achieved yet another feat: the highest ever generation of power.

As much as 13,377MW electricity was produced recently, confirmed Bangladesh Power Development Board (BPDB) Director (public relations) Saiful Hasan Chowdhury.

"There was a demand for 13,377MW power and we generated the same amount. We can now produce 14,000MW electricity," he said.

He, however, claimed that there was no power outage across the country due to the record power generation.

Power generation has been setting records, one after another, since the beginning of this month.

The previous highest production of 13,064MW was recorded on April 10, which had followed 13,018MW on April 3 -- the first time the power generation crossed the 13,000MW mark.

The fourth highest production -- 12,893 MW -- was logged on May 29, 2019.

Bangladesh's power sector first crossed the 12,000MW milestone on April 24, 2019, with the 11,000MW mark crossed on July 7, 2018.

Earlier, the country had gone past the 10,000MW mark for the first time on March 19, 2017. Prior to that, the 9,000MW level was crossed for the very first time on June 30, 2016.

BPC to Import 1.23m Tonnes of Petroleum Products

State-run Bangladesh Petroleum Corporation (BPC) is now getting price quotations from traders who want to supply up to 1.23 million tonnes of diesel, jet fuel, furnace oil, octane and marine fuel combined that Bangladesh wants to buy during the July-December period of 2021.

The procurement volume is 18.75 per cent higher compared to that of the previous year.

The BPC is eyeing to import more refined petroleum products during H2, 2021 expecting higher consumption although the coronavirus cases are on the rise in Bangladesh like many other countries across the globe, said a senior BPC official.

Of the total petroleum products, the BPC will be importing 990,000 tonnes of diesel, 120,000 tonnes of jet fuel, 20,000 tonnes of furnace oil, 45,000 tonnes of octane and 60,000 tonnes of marine fuel through the tender during H2, 2021.

The bid submission deadline is May 11, 2021. The validity of the offers should be until September 7, 2021.

Unique Power Selling Stakes to Qatari Company

Unique Meghnaghat Power is going to sell an 11.76 per cent stake to Doha-based power development and investment company Nebras Power Investment Management BV worth \$24.06 million or Tk 206 crore.

Parent company the Unique Hotel and Resorts made the disclosure through the Dhaka Stock Exchange website recently. It said to have already signed a memorandum of understanding with Nebras.

A total of 14,641 shares would be sold having a face value of Tk 10, informed the company.

Nebras develops and manages portfolios of strategic investment in the power sector globally. Its total asset was 7.2 billion Qatari riyals in 2019, according to the company's website.

Following the DSE disclosure, stocks of Unique rose 2.8 per cent to Tk 36.50.



Hard Path Ahead

EP Report

The Leaders' Climate Summit has brought together over 40 world leaders to outline ambitious new actions that is expected to steer the world to a 1.5C pathway. At the summit held recently, US President Joe Biden ramped up ambitions, but experts were cautiously optimistic about success and said a difficult path lies ahead.



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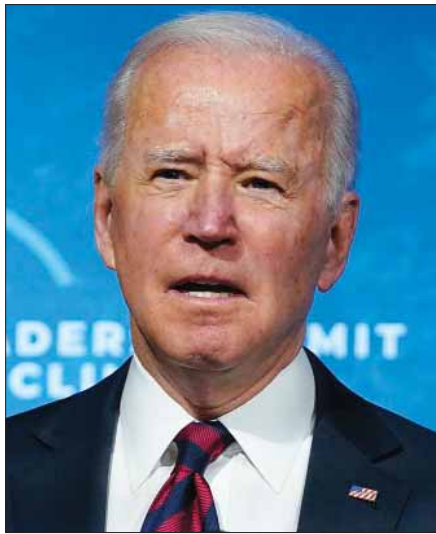
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Sheikh Hasina



Joe Biden



Antonio Guterres

Biden doubled US targets to slash greenhouse gas emissions responsible for climate change by 2030, with Japan and Canada also raising pledges and the European Union and Britain locking in forceful targets.

The US announced cutting emissions by 50 to 52 percent by 2030 compared with 2005 levels. Japan announced it would reduce emissions by 46 percent in 2030 compared with 2013, while Canada boosted ambitions to reduce emissions by 40-45 percent below 2005 levels, compared with an earlier target of 30 percent.

The U.S. government also announced that it is resuming and strengthening its commitment to the United Nations Foundation’s Clean Cooking Alliance. The pledge includes support to help countries achieve their climate ambitions through expanding access to clean cooking.

“Together we’ve made great progress,” Biden told the closing day of the summit on April 24, which he called the “start of a road” to a rigorous new climate accord at a UN conference in Glasgow in November.

John Kerry, Biden’s climate envoy, said

that more than half the world’s economy has now pledged action that would check warming at 1.5 degrees Celsius (2.7 Fahrenheit) above pre-industrial levels — the aspiration set by the 2015 Paris Agreement to avoid the worst effects of climate change such as droughts, submersion of low-lying islands and worsening storms, hunger and migration.

But that still leaves half the world — and the effects of climate change are already being felt, with the planet clocking year after year of record heat and extreme weather on the rise.

Fatih Birol, executive director of the International Energy Agency, told the summit that climate-warming emissions are on track for the second largest increase in history in 2021 amid the recovery from the Covid pandemic. And more than half of the reductions needed to achieve goals of carbon neutrality mid-century will depend on technological innovations that do not yet exist, he said. “Right now the data does not match the rhetoric and the gap is getting wider and wider,” he said.

Civil Society Organizations (CSOs), however, said the current climate tar-

gets, including announcements made by the US, Japan, and Canada, failed to meet the level of ambition needed to avert climate catastrophe. This is simply not aligned with the science or based on their fair share.

As emphasized by Bangladesh, Indonesia, and South Africa, developing countries needed adequate finance to meet their climate and development goals with, they said in a statement. This summit fell short on announcing any new and additional finance that substantially builds on existing financial pledges to drive momentum on climate action.

With the US back in the international climate game, they added, this summit has opened an important space for reviving climate diplomacy and must set the tone for renewed efforts in the next months, particularly on new and additional finance and finance for addressing Loss and Damage as a key pillar of action under the Paris Agreement.

A steeper gap remains on climate aid for the poorest nations, despite Biden’s pledge to boost US funding that had been severed by his climate-skeptic predecessor Donald Trump.

In his statement, UN Secretary General

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Guterres highlighted the importance of developed countries raising finance for climate adaptation in developing countries.

Bill Hare of Climate Analytics assessed that the new pledges reduced the gap in meeting the 1.5 goal by 12 to 14 percent — a major reduction, but still not enough. "On the other hand, politically, momentum is building for more ambition to come through this year," he said. "Governments made commitments and the next big question is whether or not they actually implement them."

The key players will be both the United States and China, which together account for nearly 50 percent of the emissions. Chinese President Xi Jinping, pledging cooperation with the United States on climate despite a raft of other disputes, recommitted to carbon neutrality by 2060 and offered a hint of reducing reliance on coal — the dirtiest form of energy, on which the manufacturing powerhouse remains heavily reliant. He said China would "strictly control" coal and lower use in the next five-year development plan starting in 2025.

A number of leaders offered no new ambitions, notably Australian Prime Minister Scott Morrison. Indian Prime Minister Narendra Modi — pointing to his nation's much-lower energy use per capita — announced cooperation with the United States but kept to previous pledges to reduce the intensity of emissions, not the absolute number.

US President Joe Biden called on nations to work together on the transition to clean energy, the second and final day of a climate summit that seeks to rally world ambition to reduce global warming. "Nations that work together to invest in a cleaner economy will reap the rewards for their citizens," the Democratic president said at the virtual summit.

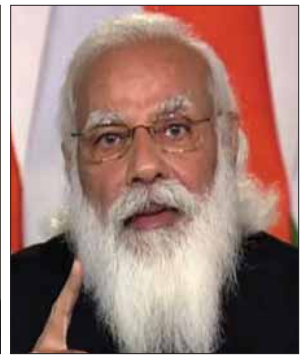
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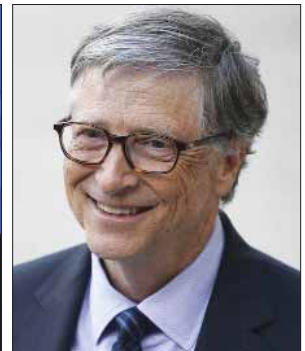
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Bill Gates

Suga, who discussed climate last week when he was Biden's first foreign guest, significantly raised the goals of the world's second largest developed economy to cutting emissions by 46 percent in 2030 compared with 2013.

Canadian Prime Minister Justin Trudeau, another early ally of Biden, boosted ambitions of his energy-exporting country to reductions of 40-45 percent below 2005 levels, compared with an earlier target of 30 percent. "We must take ac-

tion now. Because there's no vaccine against a polluted planet," Trudeau said.

The European Union confirmed its own ambitious goals and former bloc member Britain released the most far-reaching targets of any major economy with 78 percent cuts from 1990 levels by 2035.

British Prime Minister Boris Johnson called Biden's pledge "a game-changer" that will "have a transformative impact

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in the global fight against climate change."

Britain in November will host a UN conference in Glasgow that aims to upgrade the Paris Agreement, which aims to limit global warming to 2.0 degrees Celsius above pre-industrial levels.

UN Secretary General Antonio Guterres hailed the pledges made at the summit as a turning point but urged immediate action. "Today's summit shows the tide is turning for climate action, but there is still a long way to go," Guterres said in a statement.

Both Putin and Chinese President Xi Jinping spoke of commitments to climate change, agreeing to participate despite high tensions with Biden's three-month-old administration. Xi reiterated his pledge that China -- by far the world's largest emitter -- would reach carbon neutral by 2060.

Chinese President Xi Jinping did not announce a new emissions goal, saying that China expects its carbon emissions to peak before 2030 and the country will achieve net zero emissions by 2060. China will gradually reduce its coal use from 2025 to 2030.

Bangladesh Prime Minister Sheikh Hasina put forward four suggestions to global leaders to fight climate change challenges with a strong collective response. These included announcing an immediate and ambitious action plan by developed countries to reduce their carbon emissions with focus on mitigation measures; and ensuring the annual target of 100 billion US dollars which should be balanced 50:50 between adaptation and mitigation with a special attention to the vul-

nerable countries while pursuing losses and damages.

Bangladesh Foreign Minister Dr AK Abdul Momen has expressed optimism over the promised international financial flow of \$100 billion, saying that money is not a problem but the political commitment matters. "I am very optimistic as always. The most important thing is political commitment," he said, noting that they have seen that commitment through the Summit.

Russian President Vladimir Putin proposed giving preferential treatment for foreign investment in clean energy projects, but also made an apparent reference to the United States being historically the world's top greenhouse gas polluter. "It is no secret that the conditions that facilitated global warming and associated problems go way back," Putin said.

South Korean President Moon Jae-in announced that his nation would no longer fund coal-powered plants overseas after backing, along with Japan and China, billions of dollars in such dirty projects in Asia.

Brazilian President Jair Bolsonaro, one of Trump's few international allies on climate, sounded a conciliatory note as he promised his nation would reach carbon neutrality by 2050 -- 10 years earlier than previously announced. He also promised to stop illegal deforestation by 2030.

Indian Prime Minister Narendra Modi of India made no new pledges but promised a new "partnership" with Biden to mobilize green investment and urged a greater "lifestyle

change" to fight climate change.

Bill Gates, a wealthy businessman-turned-philanthropist, said he was working with partners on a program called Breakthrough Energy Catalyst that would raise money from governments, philanthropists, and companies to make capital investments to bring down the cost of clean technology.

The U.S. is the largest historic polluter and one of the wealthiest nations, and it must do its fair share and slash domestic emissions by at least 70% by 2030 and substantially finance the Global South's decarbonization to pay the balance of its hefty climate debt, said Jean Su, Center for Biological Diversity.

"The Australian people are so disappointed that our Government came to this historic summit with pledges that are patently inadequate and promises to throw even more money to subsidize old industries like coal and gas," said Julie-Anne Richards, Executive Director at Climate Action Network Australia.

It is good to see world leaders talking about the climate crisis again. But despite nice words all indications are still that we are heading towards a 2.5°C world and more action needs to be taken by all. Despite numerous statements by world leaders on the importance of tackling the climate emergency, current global commitments are predicted to lead to a warming of 3c with terrifying consequences. Emissions are set to continue to increase this year as governments direct trillions in Covid economic recovery plans to polluting industries.

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Can Leaders' Summit on Climate Expedite the Paris Goals?

AKM Monowar Hossain Akhand

Energy & Power magazine organized a discussion titled “EP 30 Minutes Special Talk” on 27 April 2021 and raised a leading question whether the Leaders’ Summit on Climate can expedite the goals of the Paris Agreement. This write up is based on the opinion expressed at the virtual discussion.

The US Re-joined the Paris Climate Agreement

Former US President Donald Trump led his country’s withdrawal from the Paris Agreement on June 1 in 2017 and stopped all the climate activities. As a result, the climate-related activities have been affected for more than three and half years. However, new US President Joe Biden has formally announced his country’s re-joining the deal on 19 Feb 2021, making the fight against climate change a top priority of his administration and restoring the credibility and commitments of the US to tackle the global crisis. Mr. Joe Biden organized the Summit to show his voters as well as the rest of the world how he was serious about the issues. He also wanted to highlight the urgency and economic benefits of stronger climate actions.

The Leaders’ Summit on Climate

Forty leaders from different countries of the world, including Bangladesh Prime Minister Sheikh Hasina, joined the virtual Summit held on April 22 and 23, reaffirming enhanced climate action. The US announced reduction of emissions by 50% by the end of 2030 while other countries also announced more ambitious targets.

The Summit is considered to be a key milestone for the climate conference

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(COP-26) scheduled to be held in Glasgow, UK on 1-12 November 2021. A key goal of both the Leaders’ Summit and the 26th conference of parties (COP-26) is to catalyze efforts for achieving the goal of keeping the temperature rise within 1.5 degrees Celsius. The Leaders’ Summit also highlighted the examples on how the enhanced climate ambition will create jobs with good payment, advance innovative technologies and help vulnerable countries’ adaptation measures. The world leaders also wished to use the Summit as an opportunity to outline how their countries also will contribute to stronger climate ambition.

Themes Discussed in the Summit

(1) Stimulating efforts by the world’s major economies to reduce emissions during this critical decade to limit global warming at 1.5 degree Celsius;

(2) Mobilizing public and private sector finance to drive the net-zero transition and help vulnerable countries cope with climate impacts;

(3) The economic benefits of climate action, with a strong emphasis on job cre-

ation, and the importance of ensuring all communities and workers benefit from the transition to a new clean energy economy;

(4) Encouraging transformational technologies that can help reduce emissions and adapt to climate change, while also creating enormous new economic opportunities and building the industries of the future;

(5) Subnational and non-state actors are to be committed to work closely with national governments to advance ambition and resilience, and for green recovery actions;

(6) Discussing opportunities to strengthen capacity to protect lives and livelihoods from the impacts of climate change, address the global security challenges by climate change and address the role of nature-based solutions in achieving net zero by 2050 goals.

Remarkable Announcements at the Summit

(1) Bangladesh will implement its NDC, prioritizing carbon emission by 2030. Bangladesh spends about \$5 billion, about 2.5% of GDP on climate adaptation and resilience-building measures. Bangladesh announces four suggestions to fight against climate change challenges:

(i). To prepare an immediate and ambitious action plan to reduce country’s carbon emissions to keep the global temperature at 1.5°C with focus on mitigation measures;

(ii). The formation and provision of a \$100 billion annual global climate fund



File Photo

by developed countries and seeking support for Bangladesh in expanding its renewable energy sector, to be balanced 50:50, that is 50% for climate adaptation and 50% for mitigation with special attention of losses and damages;

(iii). The major economies, international financial institutions, and private sectors should come forward with plans for concessional climate financing; and

(iv). There should be a provision of technology transfer among nations, focusing on innovation and green economy and carbon-neutral technologies.

(2) The US will reduce greenhouse gas emissions by 50% by the end of this decade (2030), and recommend the developed countries to mobilize \$100 billion per year in public and private finances to support developing countries. The US will seek to double funding by 2024 for annual US public climate finance for developing countries like Bangladesh.

(3) The UK will cut carbon emission by 78% by 2035, forwarded the current targets by 15 years.

(4) The EU has announced its plans to cut emissions by at least 55% by 2030, and a net zero target by 2050, compared with 1990 levels.

(5) Japan will cut emissions 46-50% below 2013 levels by 2030, with strong efforts toward achieving a 50% reduc-

tion, a significant improvement from its existing 26% reduction goal.

(6) Canada will strengthen its NDC to a 40-45% reduction from 2005 levels by 2030, a significant increase over its previous target to reduce emissions 30% below 2005 levels by 2030, and committing \$4.0 billion in its new federal budget for land and ocean protection.

(7) Russia noted the importance of carbon capture and storage from all sources, as well as atmospheric carbon removals. It also highlighted the importance of methane and called for international collaboration to address the potent greenhouse gas.

(8) India fixed its target of 450 GW of renewable energy by 2030 and will launch the US-India 2030 Climate and Clean Energy Agenda Partnership to mobilize finance and speed clean energy innovation and deployment.

(9) Argentina will strengthen its NDC, deploy more renewables, reduce methane emissions and end illegal deforestation.

(10). South Korea will end public overseas coal finance and strengthen its NDC this year to be consistent with its 2050 net zero goal.

(11) China indicated that it will join the Kigali Amendment, strengthen the control of non-CO2 greenhouse gases, strictly control coal-fired power generation projects and slow down coal consumption.

(12) Brazil committed to achieve net zero by 2050, end illegal deforestation by 2030 and double funding for deforestation enforcement.

(13) South Africa announced that it intends to strengthen its NDC and shift its intended emissions peak year 10 years earlier to 2025.

Summit Sessions

(1) Climate leader Pope Francis, for many years, underlined the need to “care for nature so that nature may Care for us.” Youth speaker Xiye Bastida declared that climate justice is social justice, underlining that youth need to be a part of decision-making processes and called for a stop to fossil fuel subsidies and extraction. The president (both) of COP-26 Minister Carolina Schmidt (Chile) and MP Alok Sharma (UK) discussed the urgency of achieving net-zero emissions by 2050.

(2). Session 2 addressed the urgent need to scale up climate finance, including both efforts to increase public finance for mitigation and adaptation in developing countries and efforts to catalyze trillions of dollars of private investment to support the transition to net zero emissions by 2050.

Biden recommend the developed countries should mobilize \$100 billion per year in public and private finance to support developing countries (benefits for Bangladesh). He also announced

that the US will seek to double funding, by 2024, for annual US public climate finance to developing countries.

Biden also called for an end to fossil fuel subsidies and announced that his administration will work to promote the measurement, disclosure and mitigation of material climate risks to the financial system.

The participants of the sessions recognized the need for governments to embrace key policies, including meaningful carbon pricing, enhanced disclosure of climate-related risks and phasing out fossil fuel subsidies.

(3) Session 3 discussed 4 topics for more focused consideration by government officials and where possible, a broader range of stakeholders.

(i) A discussion on the importance of climate action at all levels and including participation from a wide range of governors, mayors and indigenous leaders from around the world.

(ii) A discussion on adaptation and resilience, which focused on innovative ways in which countries are responding to climate change in the areas of water and coastal management, food security, and human impacts.

(iii) A discussion on nature-based solutions, which emphasized ending deforestation and the loss of wetlands, and restoring marine and terrestrial ecosystems. All participants highlighted their support for protecting and conserving land and marine areas to sequester carbon and build climate resilience, and several made announcements.

(iv) A discussion on climate security, which focused on how climate impacts exacerbate security concerns and, as a result, affect military capabilities, heighten geopolitical competition, undermine stability and provoke regional conflicts.

Developing countries like Bangladesh emphasized that they are vulnerable to extreme weather events, including sea level rise, cyclones, flood, drought and increasing temperatures.

(4) Session 4 explored the innovations needed to speed up net-zero transitions around the world and highlighted the

efforts of governments, the private sector and civil society in bringing new and improved technologies to market.

(5) Session 5, the final session, discussed the opportunities that ambitious climate action presents to countries around the world to create good, high quality jobs. Biden urged for countries to prioritize policies that promote renewable energy deployment, electric vehicle manufacturing, and methane abatement.

Main Goals of the Paris Climate Agreement

(1) To keep global temperatures "well below" 2.0C (3.6F) above pre-industrial times and "endeavor to limit" them even more, to 1.5C;

(2) To limit the amount of greenhouse gases emitted by human activity to the same levels that trees, soil and oceans can absorb naturally- beginning at some point between 2050 and 2100;

(3) Each country sets its own emission-reduction targets, known as national determined contributions (NDCs), reviewed every five years to raise ambition;

(4) For rich countries to help poorer nations by providing "climate finance" to adapt to climate change and switch to renewable energy.

The Leaders' Summit and Bangladesh

Bangladesh is contributing only 0.3 tonnes of annual carbon emission level, while developed nation is about 20 tonnes. In the NDC, Bangladesh committed to reduce GHG emissions in the power, industry and transport sectors of 12 MT CO₂ or 5% below 'business-as-usual' with domestic resources by 2030 as unconditional and 36 MT CO₂ or 15% below 'business-as-usual' with foreign technology support within 2030 as conditional contribution.

The Summit was also important for Bangladesh as the country is an innocent victim of climate change impacts including temperature increase, rise of sea level which cause of higher chance of flood risk and inundation in the coastal areas, causes inside shoreline erosion, population displacement and migration, reduction of mangrove forest. Bangladesh will possibly suffer from

water salinity (tidal water intrusion-goes up inside the country, reduce fresh water), water logging (sea water rise, rain water, flood, while no adequate drainage system), soil salinity, and human diseases. Salinity in water and soil may cause shortage of safe drinking water and food security (hamper for crops production).

Conclusion

The Summits has a significant positive role at the present world climate situation, and hope to expedite the Paris climate goals. The discussions in the Summit would be a new step forward to implement the Paris Climate Agreement – a legally binding international treaty adopted by 196 countries in Paris on 12 December 2015 and that came into force on 4 November 2016. The deal united all the nations for the first time in a single agreement in tackling global warming and cutting greenhouse-gas emissions. The agreement went much further than the Kyoto Protocol of 1997. The agreement had set targets for cutting emissions for a handful of developed countries, but later, the US pulled out and others failed to comply. This is a simple guide to climate change.

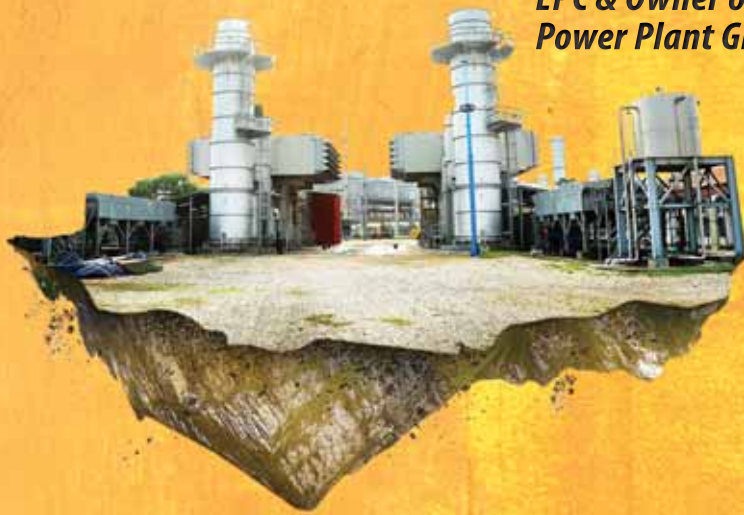
Recommendations

The upcoming COP-26 would be an important event for Bangladesh and the country needs to participate with some reports actively to deal with Paris agreement successfully in the country. The reports should include: Bangladesh country climate report; initiatives and contribution to NDC implementation; the major achievements and success story of the climate adaptation in Bangladesh; future action plan; and detail funding assistances for the climate change programs. It would create a ground for Bangladesh to seek and get support from the climate development fund as well as from the commitments from the Summit discussions took place on 22-23 April 2021.



AKM Monowar Hossain Akhand;
Former Additional Secretary, Ministry of Public Administration
Email: makhand14@yahoo.com

**EPC & Owner of 78.5 MW
Power Plant Ghorashal**



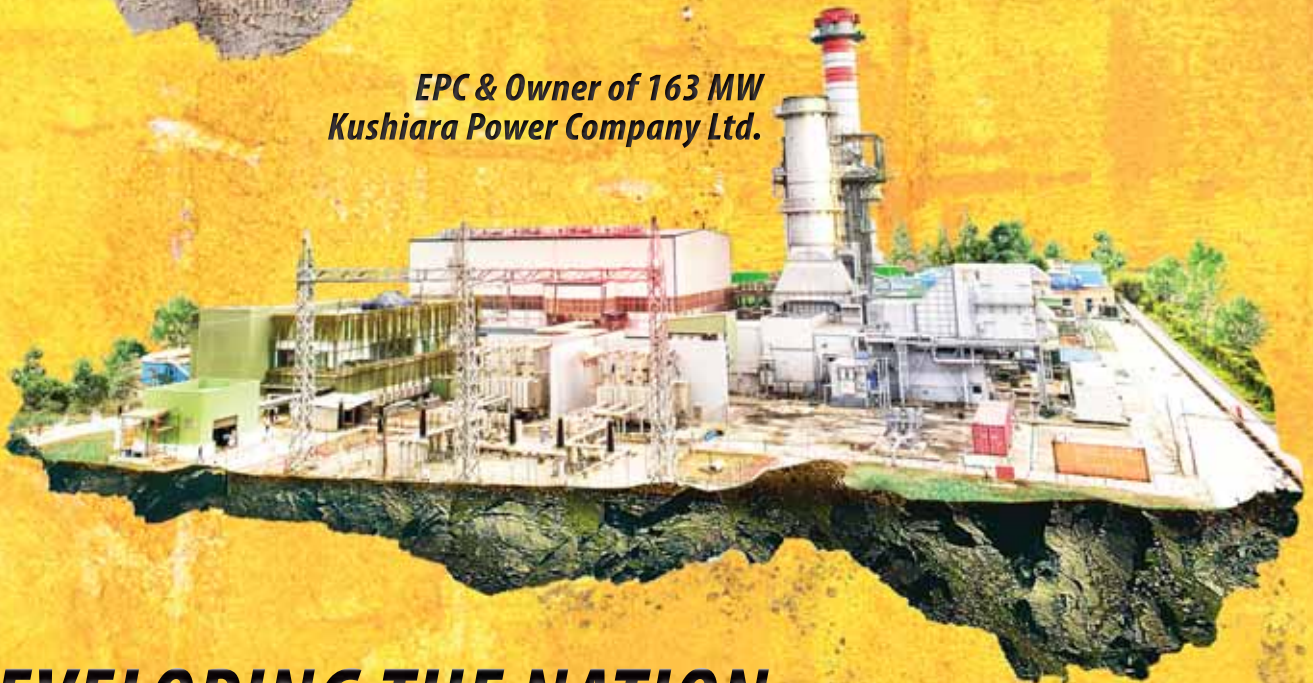
**EPC of Sreepur
163.2 MW Power Plant**



**Aminbazar to Gopalganj 400 KV
73.5 km Transmission Line**



**EPC & Owner of 163 MW
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Experts for Storage Policy in Revised PSMP

EP Report

Experts at a recent virtual seminar said that the electricity storage system is still an expensive option for Bangladesh and suggested accommodating it in the country's energy planning process. Before adopting a plan in this regard, they also recommended piloting various storage options those are readily available across the world at present.

Energy & Power magazine in collaboration with SREDA & GIZ organized the seminar on "Storage Applications in Bangladesh Power System" as part of a series titled "EP Talks".

State Minister for Power, Energy & Mineral Resources Nasrul Hamid was the chief guest of the seminar, moderated by EP Editor Mollah Amzad Hossain. Energy sector experts, policymakers and heads of different utility companies took part in the discussion.

The speakers pointed out that since the government is in the process to revise the Power System Master Plan (PSMP), the issue of storing electricity should be incorporated into the revised document for future reference.

Furthermore, they said, a research study needs to be undertaken to make the best use of technology available and best practices of successful implementation in other parts of the world.

The state minister said that many issues needed to be considered – peak, off peak power in the context of Bangladesh, affordable fuel, storage management, etc.

"If we are to take advantage of renewable energy, there is no alternative to develop storage systems. Besides, electricity demand is less during off peak hours and by way of electricity storage, peak demand could be offset."

He also stressed on looking into the economics of storage system, the technical

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issues which needed to be considered and how it can be made environmentally friendly. If needed, he added, the financing for research into this matter can be obtained from Bangladesh En-

seriously about it. Storage at this moment may not be suitable for us. If the battery system is appropriate for us we can think about it. But we need to do more research. Our peak hours are different than other countries. Our power system is not like other countries.

Globally, all are now thinking about faster generation and cleaner energy. What the western countries are doing now is appropriate for them. But for us, the cost efficiency is the most important. We are always told that why we should go for higher priced options? Some of the challenges you all know. We are in a juncture. Renewable energy till now is a relatively expensive option for us. We have to see what will be the cost to introduce storage and whether it will be vi-



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ergy & Electricity Research Council while SREDA may extend technical support to that end.

Mr Nasrul said that all depends on the cost. In a country like ours, the cost of battery and storage is considerably higher. If we had enough opportunity to generate hydropower we could think

able for us. Then only we can say whether it suits us. This is the main issue.

In his Keynote presentation, Dr. Ahmed Saber, VP Optimization, ETAP, gave a holistic view on where the world stood in terms of technologies available for possible application in power sector of Bangladesh. He talked about various storage options, particularly on utilizing the right battery type. In his opinion, Lithium Ion is the best bet as efficiency is high (80-90%) as compared to Lead-Acid, Ni-Cad. When coupled with Pump Storage (efficiency 70-80%), the power output improves significantly, to be used for big storage, not small storage. Also making big size batteries is no longer a challenge, and can be made up to 100MWh for utility companies. The arguments for battery storage is primarily flexibility, can be built to meet needs, can be used as a source of en-



Nasrul Hamid

ergy and, of course, as storage of electricity. As Bangladesh is now putting more emphasis on renewable energy (RE) as part of its energy fuel mix, the question of storing energy generated by RE becomes pertinent. Because RE is not without its challenges. With solar, there is no consistent energy generation – as it depends on the intensity of the sun. There’s uncertainty due to nature’s fluctuations and a utility service provider cannot guarantee that a 10MW solar plant or wind turbine will everyday generate its full capacity. The problem with solar is high ramp rate, i.e. when sun is strong and base load generation (in California) can go up to 30MWh and the question becomes relevant, can

we handle this high load in thermal power generation? So, there is a lot of fluctuation in generation and the grid is not designed to handle these. One of the remedies to this problem is storage.

Integrating renewable with battery is one such solution. It will mitigate the ramp problem by storing excess energy. It will also lessen transmission congestion by transmitting RE stored energy when RE generation is idle and at off-peak times. It allows for fast frequency response. As for ancillary services, the storage system can compensate for a fluctuation in frequency and provide voltage support. As for spinning reserve, we usually use backup generators – which is very expensive. If storage system is in place, then spinning reserve will be higher and cheaper to maintain. Energy stored in batteries can be bought and sold, depending on peak and off peak rates, which is profitable and this can be done at consumer level because batteries are not expensive. Only downside is that there is a minimum threshold, say 100KW for it to make economic sense. In the United States, there is a system called aggregator, which aggregates all power generated by Electric Vehicles and private small batteries via a controller that works for a certain locality and sell it to the utility companies, while in USA, this power can be traded using FERC Order 2222, which allows anyone having even a 10KWh battery to



Ahmed Y. Saber, SMIEE



Abdul Hasib Chowdhury



Mohammad Alauddin



Mohammad Hossain



Nawshad Haque



Didar Islam



Al Mudabbir Bin Anam



Adil Chowdhury

take part in the power market – buying in cheap rate and selling at higher rate. Since a storage system is better able to handle peak loads intelligently and efficiently, the grid will require less peaking plants. And this in turn will help delay inducting new plants – a major cost savings. Another application for storage system is backup power (outage, wild-fire, storm, flood) and this negates expensive and polluting (noise and CO2) diesel generation. The challenge for designing storage system revolves around size and location. Neither over-sizing nor under-sizing are unhelpful. It’s necessary to properly forecast energy needs to optimize a workable system and ETAP is considered to be the best tool to integrate batteries in a storage system. Such a system is workable for Bangladesh because it will not increase our cost. Rather we get a number of advantages. It will provide reliable power because of grid stability. There will be energy efficiency while cutting down on CO2. It is green energy and it offers flexibility in planning. It will create a massive market for “green” jobs.

The state minister offered his take on the matter stating that induction of any technology globally depends on the cost. In a country like ours, the cost of setting up storage system, particularly batteries and other associated costs may be prohibitive. If we had hydro storage, that would be fantastic, but that’s not possi-

ble for us. But as we are discussing battery storage, it requires more research because there is a gulf of difference between our peak hour and peak hour in developed countries. The trend globally is to generate power as cleanly as possible with less carbon footprint. Western countries can afford the cost, but we have to look into this technology more closely because as a policymaker, I am continuously confronted with questions about why we are going for expensive generation options.

Mohammad Alauddin, Chairman of SREDA and Additional Secretary, pointed out that renewable energy contributes only 3-4% of the installed capacity of Bangladesh now. The SDG target states of increasing this contribution. The 8th Five Year Plan also has provisions for increasing this contribution expeditiously. We are now at the take off stage.

Solar and Wind are our potential renewable energy. The greatest impact is, when we feed RE to the grid, we need higher amount of load of following capacity. We call it LFC. This is reasonably expensive. This is met through peaking power plant. Versatile technology is used in energy storage. Good news is that it is getting cheaper. From 2010 level, the cost now dropped down to one-fifth now. We must have to go for storage for increasing the contribution of RE.

Engr. Mohammad Hossain, Director General of Power Cell, stressed the need for conducting a study. We are using solar in the off grid areas now. Power grid has now been expanded across the country. BUET takes lot of time now for bureaucracy. We could be benefitted if the lengthy process could be curtailed.

Lead acid battery is now used in the easy bikes. Lithium battery is an alternative. There are some issues of pollutions which we need to manage. About net metering, we say that the cost would be reduced if some power can be delivered to the grid. At the end of the year, we may say you have used 50 units, but delivered 10 units to the grid. What happens to the 10 units. We have to work on this. Nuclear power is around the corner. We have use this as baseload. There are works to do.

Consultants cannot do research and development (R&D) said Professor Nurul Islam, an energy expert. We have to do it on long term basis. The government may entrust this to BUET.

Dr. Abdul Hasib Chowdhury, Director at the Institute of Nuclear Power Engineering of BUET, observed that first we have to identify clearly the demand for storage and where there is potential for it? We are making system modeling. PGCB also has model. We have generators, but while trying to collect data, we found not enough data are stored. These can be found through testing. There exists gap as well. We have to think whether the test energy storage can be set up at BUET. We are working on that line. We gave the proposal to EPRC. There was proposal for modeling. EPRC demands innovation, marketable products. Hence we could not find opportunity to do such research. There are some works apart from modeling.

There has to be regulatory mechanism. One single model cannot prove to be economically viable. Battery is not that green when you think about its production and decommissioning. Hence we must not focus too much on green. Bangladesh would have to go big for green interconnection.

Dr. Nawshad Haque, Senior Scientific Officer at CSIRO in Australia, informed that Australia has published First Low Emission Technology Statement. The battery usage target is shown as

AU\$100/ Megawatt –Hour output from battery. If it is converted to Bangladesh currency it will be Tk 6.00 per unit.

Hydrogen would cost less than Aus\$2.0 per kilogram. Lead acid battery, ultra battery, lithium ion battery and nickel cadmium are considered parts of hydrogen storage. Bangladesh should study whether storage would be viable for solar, battery and hydrogen. Hydrogen can be generated during day time when the demand is higher.

Bangladesh needs emergency and uninterrupted power supply. Priority must be given to leveled cost, lithium and storage. Human resource development is also very important. Feasibility study is also essential.

Didar Islam, Managing Director of Solar Intercontinental (SOLARIC) Ltd., said battery is actually a power and energy source. It is also used to start a car. Solar Home System is an example of power source. Such power source can also be used in the grid. In some application, it can be used as dual source. We do not have any parameter to separate power and energy here. There is a challenge of technology here. Now fuel cell is a VRB technology. There are separate parameters here. I am optimistic about VRB. BPRC is now funding in a number of projects. Research works are going on in BUET. In future a national lab will be set up. We are advancing by using local technology.

Large power grid is an obsolete concept these days. Whether we would look towards transmission line or would consider storage. A good model is essential. Expenses can be handled in many ways. It can be done through opening the market. First, we have to develop the model. Many answers can be known from the model.

Adil Chowdhury, Executive Engineer of PGCB, said pump storage is a proven storage. It is widely used in many different countries of the world. We have wide difference between peak and off peak demand. The reason is that our domestic load is considerably higher. Summer and winter load differs greatly. It will greatly benefit if we can use storage during peak demand. We will not require to use expensive liquid fuel-based power plants.

Experts are repeatedly talking about storage use. The cost is a point of discussion now. We are taking power to northern parts of the country from eastern areas. There is no baseload power generation plant there. Storage can be an effective source for catering peak demand in the Northern region.

We are going to use large generation plants soon. There would be possibilities of larger black outs from regional load shedding then. Pump storage is used in countries where nuclear power plants are in use. Some 4-5 gig watt-hours pump storages are used. South Korea and Iran use such storages.

Ancillary services are being discussed. Storage services are used in developed countries. For us, it is complicated. The cost will increase if we use batteries for this. Life time of batteries would be reduced. We have to develop a road map. A policy needs to be formulated for storage. Back up time also needs to be determined. It can be a test case in Northern region.

Engr. Al Mudabbir Bin Anam, Program Coordinator at Renewable Energy and Energy Efficiency Program (REEEP II) of GIZ, said that storage is nothing new in Bangladesh. Solar Home System uses storage. Once we used IPS. That was some kind of storage as well.

Lead-acid batteries dominate Bangladesh market. Around 90% of batteries used in the world is lithium battery. We have seen lithium batteries can be charged quicker. There are issues about security. The cost of storage is being progressively reduced. According to many, the rate of reduction is 7% annually. By 2050, it may go down to 50%. According to International Energy Agency projection, 266 gig watt storage capacity would be required by 2030. Market size would be US\$ 600 billion. The Power System Master Plan is being updated in Bangladesh. Storage must be a feature there. At the same time, more intensive research needs to be done.

The speakers recommended formulation of storage policy which should also be given due consideration in the PSMP. At the same time, they suggested conducting research on the storage facilities while developing skilled human resources.





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Experts Rap LPG Pricing by BERC

EP Report

Energy sector experts at a recent webinar have observed that fixation of LPG retail price by the Bangladesh Energy Regulatory Commission (BERC) would impede supplying quality fuel to the market, and said that it should be left to the market. In response, the BERC representative argued that they would not fix the price every month, rather it would be adjusted at the end of every month commensurate with the Contract Price (CP). The scope of fixing the maximum retail price through discussion between the BERC and the LPG Operators Association of Bangladesh (LOAB) would remain open in case of any emerging situation. The Energy & Mineral Resources Division (EMRD) representative mentioned that the BERC fixed the price to comply with the court's directive.

Energy & Power magazine in collaboration with M2K Technology and Trading organized the virtual seminar on "BERC LPG Pricing and Its Sustainability" on 17 April 2021 as part of a series titled "EP Talks". EP Editor Mollah Amzad Hossain moderated the seminar.

Anisur Rahman, Senior Secretary of EMRD, participating in the seminar as chief guest stated how the LPG pricing by BERC took shape. He said that a LPG user informed him that he had to pay Tk 2,600 for a 35 KG LPG cylinder for which he paid Tk 2,100 a few days ago. He then requested a leader of LOAB to look into it. He promised to look into it. But he did not get back. During the lockdown, the division wanted to send a letter to the BERC to request it to finalize the LPG price. But in the meantime, the court issued a directive to the BERC based on a writ petition by CAB. LOAB could also be a party. In that case, the directives of the court could be different. I believe in a free market economy



the price must not be fixed. But the government usually intercept in case of unusual price spiral. We had a committee for determining a formula for fixing the price and not for fixing the price itself.

service. If necessary, the law would be amended.

The Senior Secretary said that there is a tendency of large operators to knock small operators out of business. It has happened in certain cases. For this, the storage capacity has been increased from 3000 to 5000 tonnes. For this, another Tk 200 crore investment would be required. Small operators are supplying LPG at affordable price. Why large operators cannot do that. I do not want to mention the name of an operator that has set up 11,500 tonnes storage capacity. For this, they have gone for bank loan. I advised them not to go for such huge investment. I have told several times that no operator can import such huge

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He informed that said work was going on for a one-stop service in the LPG business. It is not fair that an operator has to approach 28 different organizations for doing LPG business. In about 2 months, we would reach a stage and in 5-6 months of time under a new policy, we could provide one-stop regulatory



Anisur Rahman

volume of LPG. We are going to set up a deep sea terminal. The transportation cost would be reduced then. Shall we remain in the same position then?

The government is providing subsidy only to LNG. None would pay the price at which we import. No subsidy is given to natural gas. We cannot achieve sustainability through providing subsidy. I pay Tk 2,500 per month for using LPG. I am aware that those using metered gas pay much less. It is not fair that there exist three different prices of fuel for domestic use in the same country. It must go.

He pointed out that during the hearing for price determination, all parties were invited, but none from the LPG distributors and dealers attended the meeting. Their role is important in fixing the

price. The price increase is alright based on the global price hike. But when price declines, why it is not reflected at domestic level? If this cannot be ensured, mere instructions or orders would mean nothing. For lockdown, the new determined price could not be directly introduced. But from next month, it would be strictly followed. The EMRD will take necessary initiative for implementing the BERC determined LPG price. CAB does not accept BERC determined LPG price of Tk 975 per cylinder. Hope all would consider the reality.

Maqbul E Elahi Chowdhury, member BERC, said the BERC used the same indicators those LOAB used for computing LPG price. LOAB is complaining that the operators' profit and distributors' profits have not been included. Possibly they did not properly check it. I would request them to go through the calculation meticulously again. Everything has been addressed. All indicators have been taken into account. Our considered cost in some items is the same like that of LOAB. If their cost is considered, the price of 12KG LPG cylinder stands at Tk 1,265. Reviewing their reports, we found in a report on 8 March that the dropout price was between Tk 956 and Tk 860. Even if we add the distributors' margin, the price does not go so high of TK 1,265. We cannot set a price that does not match the market trend.

Responding to a question about monitoring of price at field level, he said implementation of the BERC directive involves multiple stakeholders. Like BERC, the users, operators and traders have the responsibilities. It will be a mistake if it is thought that the BERC alone would do it.

Responding to a criticism about determining the price by BERC, he said it is not the subject of the forum to determine. Parliament has approved the BERC act. This is the prerogative of the parliament. We cannot discuss and decide it here. If the LPG price can be brought within the affordable limit of low income users, by 2030 an additional demand of 1.0 million tonnes would be created.

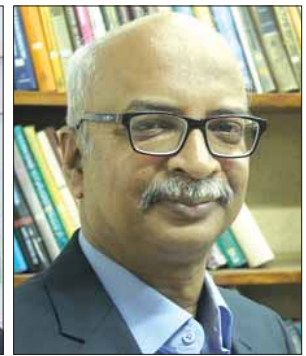
There is 25% subsidy at import stage.



Maqbul-E-Elahi Chowdhury



Jakaria Jalal



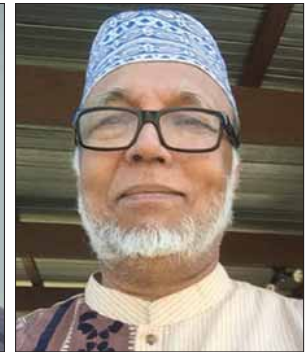
M Tamim



Ijaz Hossain



Humayun Rashid



Khondkar Abdus Saleque

How much difference there can be in fuel price in a country? Pipeline gas is TK 900, which is even less than metered users. LPG users would pay Tk 2500-3000. Is it fair?

There was a talk about cross subsidy in LPG. There was talk about imposing fees on users of pipeline gas. But CAB and LOAB opposed it. Now they are talking about it. Why they change stance from time to time?

There has been discussion about single point contact. How many regulators should be there? This is a legitimate demand. There should be one regulator. We have given our opinion to the government. The ministry would decide. Up to the users' level, operator would ensure safety. About 200 accidents has happened over the past 5 years. It is related to the regulators and hose of the cylinders. We discussed it with the VAT authority. Previously it was tariff based and was 17-18%. Now it has come down to 7%.

It is not correct that we would determine LPG price every month. The

price would only be adjusted with CP. Whenever CP would make large impacts, the price would be adjusted. Other margins would remain the same. The price would come down by about Tk 60 this month.

Energy expert Dr. Ijaz Hossain asked how so many operators came to the LPG business. Business opportunities in Bangladesh is very limited. Whenever any opportunity arises, all rush into that. It can be the nature or characteristic of our business culture or economy.

The keynote presenter showed the demand projection and said it would now slowly grow in the rural areas. The issue of dollar rate fluctuation also came up for discussion. But the exchange rate of Taka with dollar almost remained stable over the last decade. Bulk LPG is imported in smaller vessels, causing increased cost. The government has taken an initiative for developing a deep sea LNG terminal. It is a good move.

There are three players at the ground level - operators, wholesalers and the

retailers. The retailers create issues in pricing. The BERC has determined and announced the price. It would update the price every month. The BERC has shouldered huge responsibility. But it is possible. I have gathered information from the rural areas. The price is coming down.



12 KG cylinders. None can check or monitor. No one would check safety. The BERC should see whether there is a big anomaly in pricing. The best way



can be imposed on defaulters to protect the consumers' interest. Operators licenses can be cancelled in the extreme cases of defaults. The BERC also monitor quality control, check randomly with its inspectors whether the cylinders are 100% full. It would not work if all relax with their fingers crossed after fixing

There is, however, no study in which point of the supply chain the pricing burst earlier. When so many private operators are in business, the government can do a little. Is there any study on how much profit the operators, wholesalers or retailers make? The government should have seen why the market was not transparent? Price fixing in the free market economy is not a solution.

Prof Dr. M Tamim, Dean of Engineering Faculty at BUET, said that it should not be a matter whether there are 28 or 800 operators. The BERC has fixed the price of LPG under the directive of the court. We need to review the provisions of BERC act whether it is mandated to do that. The LPG operators should have challenged when the order was issued.

The regulators usually do not fix the price and if there is a gap, work out a formula for price setting. Rarely the regulators fix price. They finalize the process. Markets fix the price. I am against the way how the LPG price has been fixed. The big operators through forming a syndicate may increase the price. The smaller operators can sell the LPG at lower price. If there is huge irrationality, the BERC can step in.

Rice and pulse are also being imported from abroad. In that case, let the government fix the price of those commodities. The court's directive should be challenged. Even if there is provision in the act, it needs to be reviewed.

The operators get shocked if the price is fixed by the regulator. The big ones may absorb the shock, but the smaller operators might gradually move out of business. On the other hand, we may get bad quality products like 10 KG LPG in

is checking actual price from the market instead of relying on information provided by the operators. Hefty penalties

the price.

Humayun Rashid, President of International Business Forum Bangladesh and

BERC Cuts LPG Price to Tk 906 per 12kg Cylinder for May

The Bangladesh Energy Regulatory Commission (BERC) on 29 April revises down the price of liquefied petroleum gas (LPG) for retail sales in May.

The price cut came as part of the monthly exercise to adjust the price in coordination with the Saudi Contract Price (CP).

As per re-fixed price, the second such adjustment, LPG from the private companies has been fixed at Tk 75.49 per kg, while a cylinder with 12-kilogram capacity has been re-fixed at Tk 906 including VAT, which was Tk 975 earlier.

However, the price of a 12 kg cylinder will remain same at Tk 591 at the government level, as it has no relation with the Saudi CP.

The value of per kg of LPG was considered to be Tk 75.49 including VAT and such price will be applicable for re-fixing the price of other weighed containers.

The Auto gas price was also re-fixed at Tk 44.70 per liter against the current price of Tk 47 under the price adjustment procedure.

"This price will be applicable from the month of May until further adjustment in the Saudi CP," said Md Abdul Jalil of BERC while announcing the new price through a virtual briefing.

"The private companies' LPG price was re-fixed on the basis of Saudi CP," he said.

Normally Saudi biggest oil company Aramco announces its CP for bulk LPG at the concluding state of every month for next month's transactions.

Most of Bangladeshi private companies import their bulk LPG from the Middle-East on the basis of Saudi CP and market it in the country.

The BERC for the first time fixed the retail level LPG price on April 12 after holding a public hearing to comply with a High Court order.

About 20 private companies have been operating in the market with more than 95 per cent market share by annually importing 1.2 million metric tonnes of bulk LPG from mainly Middle-East while the state-owned LP Gas Company is locally producing 25,000 MTs of LPG from locally produced condensates at different gas fields.

বিশ্বাস আর আস্থায় ফ্রান্সের টোটাল এলপি গ্যাস



CEO of Energypac, said a minimum investment of Tk 500 crores is required for LPG business in Bangladesh. Where the money would come from in a financial market that charges 9% interest on bank loans. If one month is required for issuing every license, consider how long it would take for 28 licenses. Is not this ridiculous? The regulator should consider the risks before taking decision in this regard.

If we compare our case with India and Sri Lanka, we find that India has subsidy. We do not have subsidy. Once Sri Lanka had high price. But after setting up deep sea port, the price has come down to a very low level. If the price of LPG is arbitrarily fixed, the investment in the sector may become bad investment? In my opinion, the BERC should be more concerned about the safety. The BERC takes huge license fees from the operators. It will surprise many if they know about the exact amount. This is taken from the operators. Now from the keynote presentation, we find the BERC did not take into account the transportation cost while fixing the price. Even the consumers would not feel comfort if the price cannot be brought to an affordable level.

Engr. Khondkar Abdus Saleque, contributing Editor of Energy & Power, expressed concern over the three different prices of cooking fuel. Those using metered pipeline gas pay about Tk 500 per month. Unmetered users pay Tk 975 and the LPG users have to pay Tk 2500-3000. Until the government can ensure supplying fuel to all at similar or competitive price, there must be a subsidy. The BERC has assumed an onerous task of announcing price of LPG every month. I do not think BERC can do that. He also expressed concern over the unsafe transportation of LPG cylinders and uncared storage system. Also, many accidents took place for using sub-standard regulators and hoses.

Engr. Jakaria Jalal, Head of Division, Sales, Basundhara Group, presented

the keynote paper, saying that the LPG price in global market has significantly increased. LPG is being considered as the preferred cooking fuel now in Bangladesh. However, the price never remained stable since 2015. The price could never be predicted. The Covid-19 made the market price unstable.

He mentioned that we pay the premium price with the Letter of Credit. The price has increased from US\$ 90 to US\$ 120. The number of smaller vessels in the world is limited. Chartering cost has gone higher, freight also increased. Dollar rate fluctuation is also important. Once the LPG cylinder was traded at Tk3000 per piece. Now the price came down due to market competition and increased efficiency.

Many operators have emerged due to expansion of the market. The government has issued licenses to 56 operators, 28 are active now, 8 are operating through satellite plants. Around 20 companies are importing LPG now. Around Tk 32,000 crore has been invested. No other sector has made such huge investment over the shortest period of time. Almost 3 million people are now directly or indirectly involved in LPG business.

He said 20 companies are now competing in the LPG market. It takes Tk 2400-2500 for importing a cylinder. It costs Tk 1800-1900 for manufacturing it in Bangladesh. But these are sold at Tk 800-900 in the market. Subsidy is being given for alluring new consumers. Reduction of Vat and Tax has made positive impact. 5% VAT is now being paid. The National Board of Revenue (NBR) has increased the VAT by 2%. Tk 70-80 is spent as transportation cost for each cylinder.

Bangladesh does not have a deep sea port. We can not import LPG using large vessels. Transportation by smaller vessels add another Tk

60-70. Freight charges also increased. We have to move to 28 different places for getting licenses or renewals. This also adds cost.

The BERC has fixed Tk 975 for 12 KG cylinder. We welcomed it. Where the subsidy to cylinders would come from? That is not mentioned in the pricing. Tk 143.00 has been mentioned as operators margin. But the operation cost is Tk 275. Retailers' margin has been mentioned as Tk 27. A retailer usually sells 200-300 cylinders per month. How can they run business at such a low profit?

The price has been announced in mid-April 2021 based on CP announced in March. Auto gas price has been fixed at Tk 47.92. We used to sell it at Tk 45.00. Companies may not give subsidy to cylinders. That may shrink the LPG market.

Kamal Ahmed Babu, Master Distributor LPG (Jhenaidah), said that the discussants here are blaming us as the consumers blame us too. Where do we go? It costs us Tk 45 for reaching one 12 KG cylinder to the door step of a consumer. But the BERC has fixed Tk 24 as our margin. Where from the rest of the money would come? We have to keep reasonable stock at hand every month. If price changes every month, how the cost of previous month would be accounted for?

The sector experts recommended conducting a market study on priority basis and formulate an appropriate pricing formula based on the study. They also suggested setting up of a one-stop service under a single regulator. They also stressed the need for ensuring strict monitoring at every stage of the LPG supply chain. If necessary, licenses of defaulters should be cancelled. The experts also urged the authorities concerned to reduce the storage capacity of operators to 3,000 tonnes or even less than the threshold.

নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিমিটেড

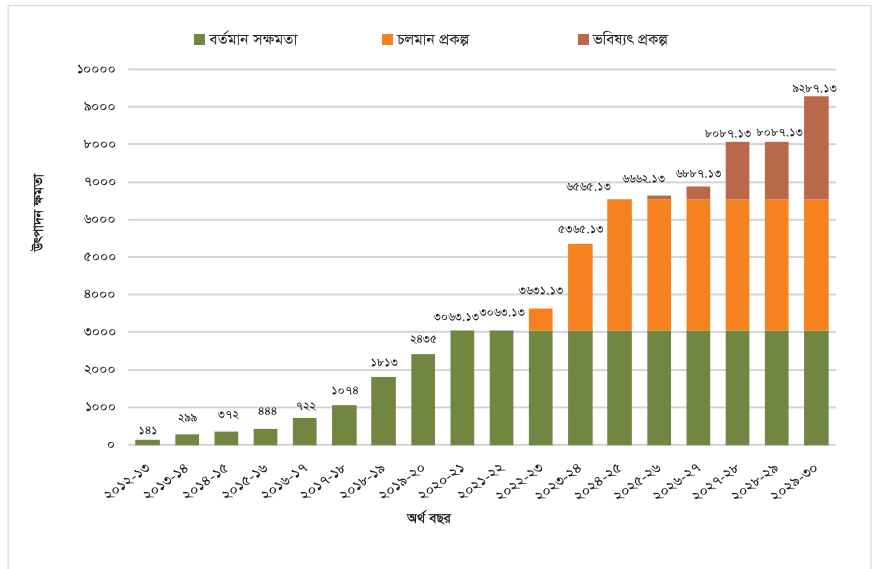
দেশের উন্নয়ন অগ্রযাত্রায় গর্বিত অংশীদার



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

এক নজরে কোম্পানির সার্বিক চিত্র

- মোট বিদ্যুৎ কেন্দ্র - ৯ টি
- বিদ্যুৎ উৎপাদন ক্ষমতা - ৩০৬৩.১৩ মেঃওঃ
- চলমান প্রকল্পের সক্ষমতা - ৩৫০২ মেঃওঃ
- ভবিষ্যৎ প্রকল্পের সক্ষমতা - ২৭২২ মেঃওঃ
- ২০৩০ সাল নাগাদ বিদ্যুৎ উৎপাদন লক্ষ্যমাত্রা - ৯০০০ + মেঃওঃ



নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিঃ

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

(বাংলাদেশ বিদ্যুৎ উন্নয়ন বোর্ডের একটি প্রতিষ্ঠান)

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

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

LPG Price Determination By BEREC Raises Controversy

Saleque Sufi



Acting as per directives of High Court of 25 August 2020 on the basis of a writ petition No -13683/2016, and as per BEREC Act provision, 22b Bangladesh Energy Regulatory Commission (BEREC) announced determination of LPG price for public and private sector Operators. The writ was lodged on behalf of Consumers association of Bangladesh (CAB). As per BEREC determination, BPC supplied 12KG Cylinder LPG price has been fixed at Tk 591 . The LPG price of private sector operators importing LPG liquid from global market the price is fixed at Tk 975.00 for 12 KG Cylinder full of LPG. The price for Autogas has been determined as Tk 47.92 /liter It may be mentioned here that BEREC earlier conducted public hearing on the basis of price suggested by both BPC and private sector operators. BEREC determination has raised controversy among various stakeholders. It could neither satisfy the users nor the private sector operators . BEREC is a quasi-Judicial organization. Some experts observed whether court can direct BEREC. In developed countries Energy Regulatory Commissions verdicts can not be challenged at court. Any aggrieved person or organization can apply to Ombudsman. Bangladesh till now has not engaged any ombudsman.

Another question being raised is that when 98.5% of LPG liquid is imported from global market and price changes every month on the basis of Saudi Aramco announced Contract Price (CP), should BEREC fix the price ? In open market economy, fixing price of a commodity is not an universal practice. This is usually based market competition. This write up would attempt discussing the matter in a bit detail. The matter is related to public interest as in Bangladesh about 8% of the population in gas distribution franchise enjoy the opportunity of using pipeline supply of gas. Even there those who have metered supply pays half of what users having no meters pay. On top of that there is allegations of the existence of few lakhs unauthorized domestic connection. Following gas crisis emerging in 2010 government suspended providing new gas connection for domestic use. In such situation 90% of the population have to pay 4 times the price that the persons enjoying metered gas supply. How can this be explained in a democratic country? Did BEREC take into consideration during determining LPG price? Is not the government committed to supply power and energy to all citizen at affordable cost?

Can BEREC Fix LPG Price.

Let me quote from the act

Quote

22. Functions Of The Commission.

Subject to the provisions of this Act, functions of Commission shall be as follows:-

b. to ensure efficient use, quality services, determine tariff and safety enhancement of electricity generation and transmission, marketing, supply, storage and distribution of energy;

Unquote

From above we find BEREC has mandate for determining tariff for marketing ,supply ,storage and distribution of energy.

Now we have to see how Energy is defined in the act?

Quote:

Chapter One: Preliminary

2. Definitions:

In this act unless there is anything repugnant in the subject or context -

b. "energy" means the electricity, gas and petroleum product;

Unquote

LPG is either Propane (C₃H₆) or Butane (C₄H₁₀) or a mix of both. This is petroleum product. This clearly demonstrates that BEREC is mandated to determine LPG price. Now question arises why a Court directive was essential for determining the price? Why BEREC did not do it on regular basis? The next question is it a global practice determining the price of a global com-

modity the major component of the price of which changes every month based on CP announced by Saudi Aramco?

How It Is Done In Other Countries?

In many ways Australia is not comparable with Bangladesh in any matter be it Energy or Cricket. But in matter of reliance on global market for LPG import, Australia is same as Bangladesh. Former Energy Secretary Nazimuddin Ahmed and Former Chairman Petrobangla Istiaque had great inside view of Australian utilization of LPG as domestic, industrial use and use of Autogas during their visit in 2015 . Bangladesh LPG market before 2015 was not that big. The above two gentlemen upon return developed policy and got it approved for countrywide wider use of LPG. Government issued license to 56 private sector companies of which 28 are now active along BPC in LPG market.

Australia, like Bangladesh, imports almost the entire LPG from global market. The taxes are added with CP. Then bottling and storage charges are added . Australian Energy Regulator (AER) set a formula how the supply to end user would be determined . Australia supplies LPG to different users from 15,000 Refueling stations spread across the country. Transportation costs varies on distance from the source of supply. Price varies according to market demand. The users can swap LPG cylinders from the fuelling stations. The Autogas is supplied to vehicles at refueling stations . The price can change from hour to hour and at different refueling stations in same city. However, every operator has to keep AER in-

Price of LPG on 12]April 2021

Countries	LPG Price US\$/Liter
Algeria	0.068
Saudi Arabia	0.200
Russia	0.376
Australia	0.721
India	0.719
Korea	0.801
Switzerland	1.006
France	1.033
Sweden	1.318

formed about market operation and safety on monthly basis. AER inspectors are authorized to inspect any operators' storage facilities and outlets any time for safety audit.

The global average price of LPG is now US\$0.66 / liter . Countries, which are rich in natural gas resource including LPG, have lower price and those, which import bulk LPG from global market, have higher price.

LPG is heavier than value and natural gas is lighter than air. During leakage gas emits vertically while after leakage LPG propagates horizontally. Hence during transportation and storage of LPG we have to be additionally careful.

Bangladesh Situation:

Without assessing market development through reliable feasibility study and without strengthening regulatory organizations with required skilled human resources, EMRD of MOEMR provided license to 56 private sector operators for LNG import , bottling and distribution in Bangladesh. Of them, 28 companies are currently operating in Bangladesh alongside Bangladesh Pe-

troleum Corporation (BPC). 20 companies import LNG. 98.5% of LPG is imported from global market . ERL gets some as by product during refining of crude oil. SGFL extracts some from its gas fields. 3 million people are either directly or indirectly engaged in LPG business. The combined annual capacity of LPC operators is 2 million tonnes and is growing. The annual demand is 1.2 million tonnes. The operators have engaged distributors for distributing their brands all across Bangladesh. In the recent past Bangladesh introduced Autogas, which is gaining popularity. Tk 32,000 Crores have already been invested so far in LPG industry. The operators need renewing permits from several organizations every year as there is no single agency authorized to handle all these permits. BPC itself being in LPG business also is an operator. Observers have regularly highlighted this as a conflict of interest. There are allegations about compromise of safety in some cases, specially during transportation and storage in remote areas . In some cases, unspecified regulators and hoses are used. While investigating some incidents of LPG use related accidents it has been found that regulators and hoses are responsible for causing accidents.

Absence of deep sea port and shallow draft of Bangladesh ports do not let large vessels to carry LPG from sources to Bangladesh. Also these days for high demand in different countries smaller vessels have to be hired at higher cost. This higher cost is added to import cost. Bangladesh follows Saudi Aramco announced CP every month. The import taxes and duties are added to the cost. Large operators manufacture LPG cylinders . Huge subsidy is given for cylinders. The LPG price used to be determined through competitions. In recent past the price came down well within affordable limits of users.

Government following the depletion of proven gas resources suspended providing new connection of gas to new domestic and commercial consumers from 2010. This created a

Calorific Values of Cooking Gas

Fuel	GCV (KJ/KG)	NCV KJ?KG	GCV KJ/ Normal Cubic Meter	NCV KJ/ Normal Cubic Meter	Density KG/ Normal Cubic Meter
Natural Gas	67.851	61.303	42.119	38.058	0.621
Propane	50.367	46.390	101.321	93.156	2.008
Butane	49.530	45.762	133.559	123.092	2.690
LPG	49.907	46.042	117.230	107.915	2.344

GCV = Gross Calorific Value , NCV =Net Clarific Value.

stimulus for widening LPG market even within gas franchise. But LPG could not become competitive to heavily subsidized pipeline gas supply. There are allegations that in gas franchise those having prepaid metered connections pay as low as Tk 500 per month, while those unfortunate not having prepaid metered connections even within gas franchise have to pay about Tk 1000 per month. On the other hand, vast majority now would need to pay over Tk2,000 for using LPG. Government must look into such disparity. Somehow or other some way must be worked out for making LPG price competitive to pipeline gas. If government cannot resume pipeline gas connections to new users it should gradually phase out pipeline gas supply all together.

Government sensing the over supply of LPG decided to let some major operators exporting bulk LPG to some neighboring Indian states having supply constraints. That decision sparked protest in Bangladesh as some quarter misunderstood considering this as Bangladesh decision for exporting natural gas. Bangladesh for meeting its own demand imports LNG. No question arises for exporting natural gas at all.

LPG Demand Growth in Bangladesh.

LPG market started growing steadily from 2012 and jumped exponentially in 2016 and 2017. It dropped in 2018 and 2019 and started growing again in 2020. The growth could be higher if Petrobangla could eliminate huge unauthorized connections in gas franchise and ensure accountability in gas distribution. Moreover, observers suggest for gradually phasing out domestic use of pipeline gas. Bangladesh imports expensive LNG and as such supply of expensive LNG must not be supplied at administered low price

LPG Demand Growth

Year	Growth
2012	17%
2013	14%
2014	10%
2015	23%
2016	100%
2017	123%
2018	34%
2019	18%
2020	47%

to a small section of population.

Challenges Of LPG Business In Bangladesh:

In present scenario on ongoing avalanche of COVID country like Bangladesh needs objectively assessing its fuel options. We are not sure when Bangladesh can expedite in exploration campaign for petroleum in onshore and offshore. Imported LNG would become more and more dominant. The own gas in future from offshore own be as cheap as now. Bangladesh would become reliant on LPG for domestic and commercial use. Autogas will continue to penetrate the market as popular automotive fuel. Bangladesh must consider the following constraints of LPG business as significant investment has already been made.

- Deep Sea Port: For reducing the import bill added with shipping cost, a deep sea port has become essential for all imported fuel. Matarbari sea port is already under construction. It will meet partial requirement of coal and LNG. BPC has initiated action for developing a LPG terminal. When completed it will address a major constraint of LPG business.
- Huge Regulatory Expenses: Private sector operators have to take permits and permissions from several organizations paying fees. And is often harassed. Government must decide on a single point contact. BPC being an operator must

not remain a regulator at the same time.

- Safety Must Not Be Compromised: BERC or Explosive directorate must be strengthened with trained manpower for policing safety of LPG bottles during transportation and storage. Safety must not be compromised
- BERC Should Not Fix LPG Price; Given the present reality of LPG business depended on global market price and CP declared by Saudi Aramco every month BERC must not fix the price. It should be left on market competition. BERC must lay down a formula and oversee the market through ensuring accountability of operators using its auditors. Every operator must send reports regularly to BERC about price, safety and other according to BERC set KPI.

Conclusion: BERC Act mandates it for fixing price of Petroleum products. It did not fix price of LPG in the past. It does not also fix the price diesel, motor spirit and other petroleum products. The price of these products depends to a large extent on global market price. The present reality does not suggest that BERC should fix price of LPG. It should rather set a formula based on which price of LPG can be monitored. BERC can act as single point contact for regulating LPG business. BPC must expedite setting up of LPG terminal at Moshkhali. Government can review duties and taxes so that LPG can be supplied at affordable cost. Government should resume supply of pipeline gas through installation of pre-paid meter for all or phase out pipeline gas supply all together. Media (print and electronic) should educate users about safe use of LPG.



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Saleque Sufi;
Contributing Editor



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How to Predict National Economies in Post-Recovery of Pandemic

Serajul Islam Quadir

There are a lot of debates about how the global economy will recover if once the world can be totally or to a large scale, be free from the curse of the present crisis due to pandemic for Covid-19. We have different scenarios from the different international bodies. For example, we saw that the World Bank predicts the economy will grow in a moderate way, whereas the International Monetary Fund (IMF) is more cautious in expressing its optimism, but the Asian Development Bank is rather liberal and has been showing the world a better way. U.S.A says that its economy will grow like a V shape. The Chinese authorities are more optimistic in repairing its national economy. But what is reality, what the economists and experts' thinks – are what we should consider.

Most of the corona-hit countries including Bangladesh announced several hundreds of thousands crore Taka worth of stimulus packages to support the crisis and recoup the almost broken down economy. The value of the global support package is almost \$26 trillion, according to a global report. This support is again backed by quick arrival of vaccines and these phenomenons have fueled a faster recovery than expected. But the reality is that the education sector is still struggling to get back to normalcy, a big crisis is in job markets, debt level is widening, and inequalities are there among races, generations, and geographies. All these will leave long lasting scars, particularly in the poorest countries.

It was thought after a year or a bit more that the world had somehow

overcome a grueling year and a ray of hope was there. But this thought soon vanished with the second wave with more bite and severity that hit more than the past year. The effects that we witnessed are more than the past year's on the health and economic fronts and it would not be easy to address overnight.

The decline in global gross domestic product last year was the biggest since the Great Depression of 1929. The International Labour Organization estimates it cost the equivalent of 255 million people full-time jobs. Researchers at the Pew Research Centre reckon the global middle class shrank for the first time since the 1990s.

The costs will fall unevenly. A score card of 31 metrics across 162 nations devised by Oxford Economics Ltd. highlighted the Philippines, Peru, Colombia and Spain as the economies most vulnerable to long-term scarring. Australia, Japan, Norway, Germany and Switzerland were seen as best placed.

Now the policy makers realized that to go back to the pre corona standard will take time. "The aftermath of Covid isn't going to reverse for a lot of countries," the chief economist of the World Bank said.

Not all countries will be affected equally. The International Monetary Fund sees advanced economies less affected by the virus this year and beyond, with low-income countries and emerging markets suffering more - a contrast to 2009, when rich nations were hit harder. With US GDP next year forecast to be even bigger than projected before Covid-19, propelled

by trillions of dollars in stimulus, the IMF's projections show little residual scarring from the pandemic for the world's No. 1 economy.

The World Bank warned in a January report of "a decade of global growth disappointments" unless corrective action is taken. It estimated global output was on course to be 5% lower by 2025 than its pre-pandemic trend and that the growth rate at which inflation ignites is set to drop below 2% in the next decade, having already declined to 2.5% in the 2000s from 3.3% in the prior decade.

Economists around felt that there will be a need for right policy and accordingly steps are required to undertake. A thorough shake up aiming to reshape the economy will be necessary particularly keeping the hard hit class of the society in mind. One way out includes encouraging policies that create incentives for business to innovate and invest, particularly in climate change. Central banks and most governments are already signaling they will keep the stimulus running hot.

The right kind of policy mix could push the rebound towards a full recovery, according to Catherine Mann, chief economist at Citigroup Inc. "Innovation supports higher productivity growth, and new investment raises living standards," she said. "Key too is strategies to keep and train workers to take advantage of the higher productivity opportunities."

Countries that were quick to control the virus are sending warning flares about the uneven road ahead. After initially enjoying a V-shaped recov-

ery, New Zealand's economy contracted in the final three months of 2020 as the absence of foreign tourists that left a hole that locals couldn't fill.

In China, where the pandemic has been under control for almost a year, reduced retail spending has slowed the broader recovery.

"Focusing on headline GDP, with the U.S and China engines humming the world is set for a triumphant 'V' shape recovery. Beneath the surface, divergence between advanced and emerging markets, superstar firms and their smaller rivals, and high - and low-skill workers points to scars that will take longer to heal," said Tom Orlik, the chief economist of Bloomberg.

History shows those five years after country-specific recessions, long-term growth expectations were typically 1.5 percentage points lower than in those without recessions, according to the World Bank.

The crisis has accelerated the use of

robots in both manufacturing and in the services industry as workers and customers need to be protected from the spread of disease. While that's spurring hopes for a revival in productivity growth, millions of jobs will be threatened with a question mark over whether enough new ones will be created in the process.

Over 100 million people in eight of the world's largest economies may need to switch occupation by 2030, according to McKinsey & Co. Those most likely to suffer skill gaps are the less educated, women, ethnic minorities and the young.

"A lot of those jobs are gone forever," said Eric Robertson, Standard Chartered Plc global head of research. "Low-wage jobs in marginal companies or marginal sectors are gone as the companies have gone bankrupt or the sectors have been hollowed out. A lot of the more-adaptive companies will have filled the void but with fewer workers."

Longer-term effects will also be evident in human capital after the pandemic locked out children and university students from classrooms for as much as a year in some countries.

The Organization for Economic Cooperation and Development calculated in September that even a loss equal to a third of a year for pupils affected by closures when the pandemic was declared could curb a country's GDP over the remainder of the century. Students in grades 1-12 may see 3% lower income over their lifetimes, the OECD warned, with the poor or those from minority backgrounds hardest hit.

EP

Serajul Islam Quadir;

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



তিশির দিনের পারিবারিক কাগজ

রঙ শিরঙ এর
এপ্রিল সংখ্যা এখন বাজারে

আপনার কপি সংগ্রহ করুন

Education for All

Climate Vulnerability, Covid and Implementation of SDG

Md. Abul Kalam Azad

Series 13

Education is the most powerful weapon which you can use to change the world', this is told by Nelson Mandela. SDG 4 speaks about education; ensure inclusive and equitable quality education and promote lifelong learning opportunities for all having 10 targets and 11 indicators.

In developing countries enrollment in primary education is 91% but 57 million children of school age are out of the school, one out of four girls is not in school. One data shows that 50% out of school children of school age live in Conflict affected area. 103 million youth lack basic literacy and skills; among them more than 60% are women. In Bangladesh we find 4 million children is out of the school. They are mostly from disadvantaged group of people; a good number have the dropout for insolvency. Cyclone, flood, river erosion, sea level rise along with all other climate related event make the education for the vulnerable more difficult. Super cyclone Amphan in May 2020 alone caused full or partial damage to 2,000 educational institutes in Southern part of our country.

In this SDG 4 education, first priority is given on primary education and in 4.1 the target narrated that by 2030 ensure all girls and boys complete free, equitable primary and secondary education leading to relevant and effective learning outcomes. We have the parameters on proportion of young children in Grade 2-3, how many boys and girls could complete the primary education and also how do they manage the proficiency level in reading and

mathematics. In the monitoring report baseline data on this issue were considered; reading Bangla baseline data in 2015 is 41% where mathematics has 20% and at the end of primary that is the grade 5, 49% could read Bangla and 25% having the mathematics. In the next SDG target 4.1.2, completion rate of primary education, baseline data for 2019 that we had 82.6% complete primary education; we have a target to reach 87% by 2025 and 95% by 2030. Another SDG target that ensure all girls and boys have access to quality early childhood development care and pre-primary education so that they are ready for primary education. Bangladesh government put much more emphasis on this and specifically now target is fixed for the 24 months to 59 month old children. We had the data of having these types of completion in 2012-2013 is 63.9% with a target to reach 80% and 100% in 2025 and 2030 respectively. In organizational learning before the official primary entry age, 2015 data shows that only 39% had the participation rate. This is one of the most important areas to take the boys and girls into the mainstream of education. So, we fixed our

target at 90% and 100% in 2025 and 2030 respectively.

For ensuring SDG targets in primary education, infrastructure facility is much more important. Before independence in 1971, primary education was in a very bad shape; primary schools having very minimal facility, thatched house or tin roof house was very common with rain drop during the rainy season. After independence, Bangabandhu Sheikh Mujibur Rahman undertook massive program for the development of primary education including nationalization of more than 26,000 primary school teachers along with their schools. Unfortunately, this type of primary education-friendly initiative didn't continue after 1975. But again, when Awami League government came into power in 1996 to 2001 and from 2009 till date, remarkable programs for primary education along with the nationalization of primary schools and the services of the teachers were taken. Facilities for these schools in terms of infrastructure has developed a lot. In the rural areas, government had a special scheme for having at least one primary school in each village. With that special program, primary education got much more importance in terms of infrastructure, electricity, internet for pedagogical purpose and computer; also, materials for the students with disabilities, basic drinking water, single sex basic sanitation facility and basic hand wash facility that is the wash indicator in primary schools. If we look at the typical rural village of Bangladesh nowadays, one will find beautiful con-





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



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

মানসম্পন্ন বিদ্যুৎ নিরবচ্ছিন্নভাবে দেশের সকল মানুষের নিকট পৌঁছে দেয়াই আমাদের অঙ্গীকার

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





struction, a good design with a beautiful fencing. We strongly believe this encourages the children to be in school. The baseline data of 2015 shows that 58% of primary school have electricity but internet and computer for a pedagogical purpose was not good, that was less than 1%. For the infrastructure and materials for the students with disabilities 34% Primary School were equipped, 82% schools had basic drinking water facility and 48% school had the single sex basic sanitation facility; all these developed a lot with a target to reach 100% in all the area by 2030.

Primary schools having the facilities for sanitation and water increased the number of students attending schools and reducing the dropout levels. Government has a special program for the 'midday meal'. Under the coverage of UNICEF in some of the area special programs are being run and local initiative as encouraged by honorable Prime Minister to provide midday meal is working very well; more than 6000 schools are already under this program with the local support; these also increase the attendance of schools in primary level. We need to ensure midday meal for all the schools.

In primary education, we need to ensure the equity, question of relevance in

curriculum, need to ensure the child-friendly environment for education, for the teaching and learning process sustainability of this and balanced approach. We need to fix up the learning outcomes for the children and catch them green for preparing them to be a better child for the whole globe. Morality, sincerity, honesty starting from early age, having the education on reasonable behavior, dealing with the nature, important area to work with the children.

For monitoring of the Primary Schools, we have a robust plan of monitoring from the upazilla through the government officials and also a team to look into the overall primary school activities are set in upazilla level. We are facing huge challenges to reach 100% primary education and also reducing the dropout to 0%. In terms of good practices, education in Pre-Primary School in mosque-based education. publication of books for aboriginal students in their own language, distributing free books every year for all the primary and high school students 320-360 million books a year. This is one of the landmark programs of Bangladesh government working for the development of primary education.

The challenges we face in primary edu-

cation is a huge number; in terms of quality, because of the huge number very difficult to achieve. We are on the gateway of achieving the number with more emphasis on quality. Gradually the digital device, the Teachers' Portal initiated by A2I are doing a landmark development for the primary school teachers. During this Corona, students of urban areas could do very well with their digital devices keeping some limitation for the rural and hard to reach area and for hard to reach family also.

In the meantime, we got about 100% of electricity in all the households but smartphone or television, laptop keep some limitation for the rural area students along with the issues of connectivity that is the broadband connection. We are very hopeful to overcome these challenges very soon. Ultimate target to educate the nation, giving more emphasis on primary education is the prime area of work for the government. Role of non-government organization along with some big organization like BRAC they have their remarkable role in achieving primary education in hard to reach area especially in the coastal belt, hawor and Char area. Some innovative ideas like school on boat created so much so sensation and also attraction which could fulfill uncovered area of rural village in terms of primary education. Rising demand of reviewing the education policy is also touch the primary education area keeping in mind to build the character of a boy or girl having healthy body and healthy mind.

Co-Curriculum activities including ICT based activities, songs, sports and games, reading books, joining cultural events need to be taken care of. Ensuring quality primary education will lead the nation to be more equitable, more educated, more skilled.

EP

Md. Abul Kalam Azad;
Former Principal Secretary and
Principal SDG Coordinator

Speedy Power Supply Act May be Extended by 4 Years

The government is likely to extend the implementation of the Speedy Supply of Power and Energy (Special Provision) Act 2010 by another four years.

Ministry of power, energy and mineral resources (MoPEMR) made a draft of four-year extension proposal till 2025, official sources confirmed.

“We have discussed the extension last month and hopeful to get a final outcome on it after lockdown,” an official concern said on the condition of anonymity.

The Speedy Supply of Power and Energy (Special Provision) Act 2010 will be expired on October, 2021.

Following the public procurement rules, it took around 16 months to set up power plant including additional four months to float tender to evaluation and implementation of each project, the ministry justified.

“The special power act 2010 will allow to implement such project within 6 to 12 months in private sector,” it said.

EP

BP Strikes Oil Offshore Louisiana



BP-operated Mad Dog field, was drilled to a total depth of 23,530 feet (7,172 meters) in 4,108 feet (1,252 meters) of water.

Operator BP holds a 50-percent working interest in Puma West. Chevron

and Talos each hold a 25-percent stake.

“Our resilient and focused hydrocarbons business is core to BP’s strategy, and in the Gulf of Mexico we invest and explore in the reservoirs we know best,” remarked Starlee Sykes, BP’s senior vice president for the COM and Canada.

“We are using our seismic expertise and drilling capability to safely find and develop advantaged oil and gas.

EP

BPC Profit Down as Global Oil Price Up



The Bangladesh Petroleum Corporation’s (BPC) profit has come down drastically as the oil price globally is witnessing an uptrend despite the unrelenting coronavirus pandemic.

The corporation now counts a profit of only Tk 0.25-0.30 per liter in diesel, which was around Tk 3.0 per liter in February.

It, however, incurs a loss of roughly Tk 6.0 per liter in furnace oil trade and makes

a profit of around Tk 2.0 per liter in octane trading.

Diesel retails at Tk 65 per liter, furnace oil at Tk 41, kerosene at Tk 65, octane at Tk 89 and petrol

at Tk 86 in domestic market.

The corporation sells around 15,000 tonnes of diesel a day in the domestic market, said a senior official.

Diesel is the key petroleum product that the BPC mostly imports from the global market.

Among other products, it imports a nominal quantity of furnace oil, marine fuel and octane to meet the local demand.

EP

TOMONITM Intelligent Digital Solutions

The Domo de San Pedro Geothermal Power Station in Nayarit, Mexico, is the first geothermal power plant in the world to add Mitsubishi Power’s TOMONITM intelligent digital solutions to improve efficiency and reliability.

Proven to increase profitability of gas and steam turbine plants around the world, TOMONITM solutions are now being applied to improve geothermal power plant competitiveness through asset optimization, analytics for operator and maintenance support, and artificial intelligence.

Mitsubishi Power built the 25

megawatt (MW) Domo de San Pedro plant under a turnkey engineering, procurement and construction contract completed in 2016.

Because geothermal production wells change over time and steam conditions diverge from optimal design, geothermal plants must be optimized to compensate for these changes.

Mitsubishi Power’s TOMONITM solutions now provide the plant with the tools to diagnose and predict operating conditions and to develop optimal solutions that improve plant performance and reliability.

EP

Nakoso IGCC Plant Begins Operations in Japan



technologies, got underway on April 16.

Mitsubishi Power manufactured the core air-blown IGCC system, including the coal gasification furnace. The project called for creation of the world's largest IGCC configura-

tion, roughly twice the scale of the Nakoso Unit 10 (former IGCC demonstration plant) completed earlier.

This is the first domestically developed air-blown IGCC system of such large scale in commercial use. Compared to the Unit 10, power generation efficiency has been substantially enhanced reaching 48%², which was enabled by the gas turbine's having a higher combustion temperature. **EP**

A consortium led by Mitsubishi Power1, a subsidiary of Mitsubishi Heavy Industries (MHI) Group, has completed the construction of an integrated coal gasification combined cycle (IGCC) plant in Iwaki, Fukushima, that was followed by the formal handover to the customer, Nakoso IGCC Power GK.

Operation of the new facility, which is a high-efficiency, clean commercial power plant incorporating the world's most advanced coal gasification

Coal to Lead Vietnam Power Generation Over Next Decade, says GlobalData

During the period 2020–2030, the renewable power generation in Vietnam is expected to increase its share from 5.1% of the total generation to 17.4%.

Despite this, it is estimated that coal power generation will reach 177.7TWh by 2030 contributing almost 39% of the total power generation in the country maintaining its current dominance, according to GlobalData, a leading data and analytics company.

According to GlobalData's report, 'Vietnam Power Market Outlook to 2030, Update 2021 - Market Trends, Regulations, and Competitive Landscape', Vietnam's power consumption will increase

from 217.1TWh in 2020 to 361.5TWh in 2030. In 2020, the total power generation in Vietnam stood at 241.1TWh, of which 104.9TWh (or 43.5%) was sourced from coal-fired power plants.

In February 2020, the National Steering Committee for Power Development presented a proposal to scale back the development of new coal plants owing to financial restrictions and local environmental concerns.

Similarly, in March 2021, Japan's 'Mitsubishi Corporation' announced its withdrawal from the development of 2GW coal-fired power plant owing to concerns over climate impact. **EP**

IEX Announces CBET Integrated SA Power Market

The Indian Energy Exchange, India's premiere energy marketplace, has announced commencement of the Cross Border Electricity Trade (CBET) on its platform.

This is a first-of-its kind initiative for the Exchanges to expand their power markets beyond India to the South Asia region towards building an integrated South Asian regional power market.

In a remarkable development following the notification of CBET Regulations by CERC in the year 2019 and the recent notification of CBET Rules in March'21 by the Central Electricity Authority (CEA), NVVN has secured approval from the CEA, for

Nepal's participation in the day-ahead market on the Exchange.

Currently, the Cross Border Trade with neighboring countries for India stands at about 18 BU conducted through the medium to long term bilateral contracts.

As per the CEA and CERC, as on date, India imports 8.7 BU from Bhutan and exports 2.37 BU and 7 BU to Nepal and Bangladesh, respectively.

The power trade with these countries is expected to increase to about 40 BU by FY22 and 70 BU to FY 27, according to a study by IRADe. **EP**

Global LNG Suppliers Seek Long-Term Deals

Global LNG (liquefied natural gas) suppliers are lobbying Bangladesh to secure long-term deals with an eye to ensuring a stake in the booming energy sector.

The interested suppliers include new firms as well as those who have already inked initial deals and memorandums of understanding (MoUs) with the state-run Petrobangla over the past several years.

They recently wrote to energy and mineral resources division, showing their interest to supply LNG under long term, a senior energy ministry official said recently.

Indonesia's Pertamina, Malaysia's Petronas, Brunei's Brunei LNG and Switzer-

land's AOT Energy AG are among the suppliers that have already inked MoUs or letters of intent with Petrobangla, he said.

They are awaiting final sales and purchase agreements (SPAs).

The firms are in queue to strike long-term supply deals seeing the growing demand for LNG here and consistent purchase from both long-term suppliers and spot market.

Currently, Bangladesh is importing LNG under long-term deals from two global suppliers – Qatar's Qatargas and Oman's Oman Trading International (OTI). **EP**

5 Workers Killed as Cops Open Fire at Banskhali Power Plant Site

Five workers of an under-construction coal-fired power plant were killed and at least 21 others injured during a clash with police in Banskhali upazila of Chattogram recently.

Workers of the SS Power I Plant, a joint venture involving S Alam Group, alleged that the law enforcers opened fire on their peacefully demonstration demanding arrears and pay hikes. They said they were supposed to get arrears of one to three months.

Police and workers said the incident took place in the power plant area under Gandamara union.

Witnesses said several hundred workers had been staging demonstrations over several demands, including payment of arrears.

Police went to the agitators and requested them to go back to work, claiming that the factory owners had agreed

to meet all the demands.

But the workers did not believe the police and demanded that high officials from the power plant come and talk to them.

A few minutes later, police appeared again and started firing shots in the air to disperse the protesters.

Later, workers regrouped and started throwing brick chunks at the law enforcers, who had taken position nearby. At this, police started firing indiscriminately, leaving some dead and many other injured, witnesses said.

Apart from Raihan, the other deceased were identified as Rony of Chuadanga, Md Rahad of Kishoreganj, Shuvo of Narsingdi, and Mahmud Reza of Banskhali, said district police and Chattogram Medical College Hospital (CMCH) police outpost sources.

EP

Coal Power Plant to Remain Growth Driver in India: Fitch

Coal-fired power plants will be the primary driver of infrastructure investment in India's power sector over the next decade, Fitch Solutions said recently.

The country hosts 40 coal-fired power plant projects currently under construction involving a combined investment of 40.2 billion dollars and accounting for 61 GW of capacity.

Additionally, the country is home to 73 coal-fired power plant projects currently in planning involving over 80 billion dollars in investment and adding up to 124 GW of capacity.

The event will engage the leaders to help shape the global, regional and local agenda in the energy sector including Power, Energy Transition, Oil & Gas, Renewables, Coal, Digital Transformation among others.

Coal-fired power development in India will also benefit from a supportive policy environment with the government having advanced a number of policies in recent years to support the continued development of thermal capacity and coal-fired power plants in particular in the market.

EP

Gas Crisis Hits Textile Millers



smooth supply of natural gas to its member mills so they could continue production and pay workers before Eid-ul-Fitr.

The BTMA in separate letters to PM's power, energy and mineral resources

adviser Towfiq-e-Elahi Chowdhury and Titas Gas Transmission and Distribution Company Ltd made the appeal.

In the letters, the BTMA said if the current situation prolongs, millers would fail to maintain export orders in time and also be unable to pay wages to workers.

The situation might deteriorate law and order, the organization warned.

EP

The country's primary textile millers recently expressed the fear that they might fail to meet the existing export orders due to gas crisis.

They said production at some 60 mills in Madhabkhola, Sripur, Baniarchala, Bhabanipur and Gazipur areas remained almost suspended for insufficient gas supply.

The Bangladesh Textiles Mills Association (BTMA) urged the government to ensure

Atomash Ships Reactor Plant for Bangladesh

The Volgodonsk Branch of AEM-technology has started shipping the equipment of the reactor plant.

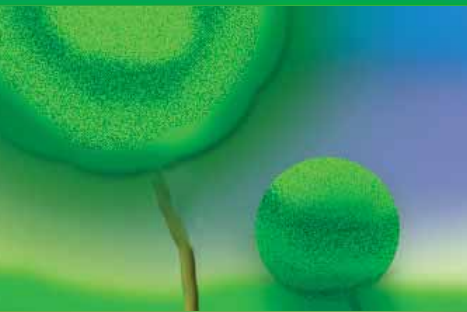
The customer will receive the vessel for the VVER-1200 nuclear reactor and the first two steam generators for the second power unit of Rooppur Nuclear Power Plant (RNPP) under construction in Bangladesh.

The nuclear reactor was manufactured for two years, the manufacturing process includes 768 operations, including 143 control points.

The plant's specialists carried out the whole range of testing, including hydraulic test of the vessel with the standard cover of the upper unit. During the test, the maximum pressure (24.5 MPa), which is 1.4 times higher than the operating pressure, was created inside the reactor.

The final stage of the equipment manufacturing is test assembly with the internals. The core barrel, core baffle, and the protective tube unit were installed into the reactor vessel in the design position.

EP



Green page

Bangladeshi Scientists Develop Green Solar Cell



Bangladeshi scientists have made a breakthrough in developing an environment friendly non-toxic solar cell named copper bismuth oxide (CuBi_2O_4) absorber based, thin film heterojunction solar cell.

The efficiency level of the novel CuBi_2O_4 cell is 26%, 4% lower than a conventional solar cell that has toxic elements and is expensive to afford as well.

However, its efficiency is still higher than cadmium telluride and copper indium gallium selenide (CIGS) solar panels that have 22-23% efficiency.

Also, the CuBi_2O_4 is non-toxic and comparatively cheaper to manufacture than silicon solar cells which are widely used in the market.

"It is a theoretical study. In the near future, we will try

to do practical work once the Covid-19 situation normalizes," Research Co-author Sheikh Rashed Al Ahmed told a local newspaper. "This is the first research of its kind," he said.

Other researchers are Adnan Hosen of Pabna University of Science and Technology and Md Suruz Mian of Seikei University in Japan.

Sheikh Rashed Al Ahmed, an associate professor at Pabna University of Science and Technology, said the newly developed solar cell would be disposable chemically which would not require highly sophisticated equipment.

Existing solar cells and panels are hard to dispose of and have toxic elements like cadmium telluride, and gallium.

The proposed cell, which was described in the study, "Simulating the perform-

ance of a highly efficient CuBi_2O_4 -based thin-film solar cell," published in *SN Applied Sciences*, is still at the academic level.

"We are heading to address some issues including cost and fabrication process. These two areas are contributing factors to the cost of the existing solar panel," he said, adding that the materials for the new panel are abundant locally, and it is a process-based solution.

Researchers said that the CuBi_2O_4 -based thin-film solar cell will reduce the cost as it will not need costly waivers for fabrication.

"Cost of our solar cell will be lesser than the conventional solar panel as our solar light absorber materials are abundant locally," said Sheikh Rashed Al Ahmed.

EP

Midland Bank Signs Deal for Green Funds

Midland Bank Ltd (MDB) signed participation agreements for Green Transformation Fund (GTF) and Technology Development/Upgradation Fund (TDF) with Sustainable Finance Department of Bangladesh Bank recently, says a press release.

Under the schemes, as Authorized Dealer (AD)/Participating Financial Institute (PFI), MDB shall be eligible to access low cost financing to invest in export oriented businesses related to green initiatives and enterprises associated with technological development or upgradation with a view to enhancing competitive capacity and sustainability across the industries in Bangladesh.

In the signing ceremony, Khondkar Morshed Millat, General Manager from SFD, presided over the event. Md. Ahsan-uz Zaman, Managing Director and CEO, signed the participation agreement on behalf of MDB.

Md. Zahid Hossain, Deputy Managing Director and CRO, Mohd. Javed Tarek Khan, Head of Institutional Banking Division, Mostofa Sarwar, Head of Credit Risk Management Division and Md. Shafiqul Islam, Head of Structured Finance were present during the signing ceremony.

From Bangladesh Bank, Chowdhury Likat Ali, Deputy General Manager, Mohammad Zakir Hossain, Joint Director and Md. Abu Rayhan, Deputy Director were also present.

EP

পর পর ২ বার
শীর্ষ আবার

বসুন্ধরা
এল. পি. গ্যাস
লিমিটেড



শ্রেষ্ঠত্বের
ধারাবাহিকতায়

বসুন্ধরা এল. পি. গ্যাস

শ্রেষ্ঠত্ব অর্জন করা কঠিন। কিন্তু আমরা বিশ্বাস করি, সত্যিকার অর্থে বিজয়ী সেই, যে শ্রেষ্ঠত্বের অবস্থান ধরে রাখতে জানে। বসুন্ধরা এল. পি. গ্যাস আপনাদের আস্থা ও ভরসায় অর্জন করেছে বেস্ট ব্র্যান্ড অ্যাওয়ার্ড এবং পর পর দুইবার আন্তর্জাতিক শ্রেষ্ঠত্বের স্বীকৃতি 'সুপারব্র্যান্ড অ্যাওয়ার্ড'। আপনাদের এই ভরসা অক্ষুণ্ণ রাখতে আমরা প্রতিজ্ঞাবদ্ধ। ভরসা রাখুন, স্বাচ্ছন্দ্যে থাকুন।



হটলাইন: ১৬৩৩৯

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ভরসা রাখুন স্বাচ্ছন্দ্যে থাকুন

IDCOL Partners Seek Govt Intervention in Loan Write-Off Issue



Five largest partner organizations (POs) of state-owned IDCOL, which played a vital role in expanding the solar home system (SHS), are now seeking the government's intervention to resolve the loan write-off issue.

Otherwise, they say, they will be deprived of the benefit and face huge losses.

Official sources said IDCOL recently forwarded a proposal to the Bangladesh Bank seeking a write-off approval of Tk 306.41 crore default loans for its 39 POs. Its 44 POs have about Tk 1,400 crore in default loans.

They said these loans, provided by IDCOL, became default because of the government's fast grid power expansion program.

"Grid electricity expanded to the off-grid areas that discouraged SHS consumers to pay back the loans they received from POs. Such unpaid loans finally made the POs defaulters in paying back the IDCOL," said a top official of a firm involved in the renewable energy program.

IDCOL had distributed the loan after receiving funds from different donor agencies, including the World Bank.

According to World Bank's latest data, an estimated \$1,094.93 million was invested in the HSH project to provide electricity to about 20 million people - which means about \$266 per household.

Of the investment, 63 percent came from the World Bank, 14 percent from the Asian Development Bank and 12 percent from the Japan International Cooperation Agency.

The entire fund was distributed by IDCOL as a soft loan which resulted in saving Bangladesh \$1,852 million while providing clean energy since 2003, says a recent World Bank survey.

Coal India Signs First 100 MW Solar PPA

In its maiden venture into solar power, state-owned miner Coal India Ltd (CIL) announced it had signed a first-of-its-kind power purchase agreement for the sale of 100 Megawatt (MW) solar power with Gujarat Urja Vikas Nigam (GUVNL).

The company had won a 100 MW solar power project in March in a reverse auction conducted by GUVNL. The tenure of the agreement period is for 25 years.

CIL said it is serious in its intent to pursue solar power as an alternative green energy source and for that it has rolled out a plan for 3,000 MW of solar power generation by 2024.

The event will engage the leaders to help shape the global, regional and local agenda in the energy sector including

Power, Energy Transition, Oil & Gas, Renewables, Coal, Digital Transformation among others.

The firm plans to invest around Rs 13,500 crore in solar power projects through company's internal resources, Special Purpose Vehicles (SPV) and bank loans.

"Solar will replace coal as a key energy provider in future and we are laying the groundwork to remain relevant in the country's energy sector. We plan to venture into solar power generation in a big way," a senior executive of CIL said.

The miner secured the project work with a stipulation that it enters into a PPA for the establishment of a solar power project and supply the power generated to GUVNL within 18 months from the date of inking the PPA.

EP

Greenpage

US Targets 30 GW of Offshore Wind by 2030

The Biden administration has revealed new offshore wind leasing and development goals.

The Interior, Energy, and Commerce departments have established a target to deploy 30 GW of offshore wind in the US by 2030.

The Bureau of Ocean Energy Manage-



ment (BOEM) has identified nearly 800,000 acres (1,250 sq mi) as wind energy areas (WEAs) in the New York Bight, between Long Island and the New Jersey coast.

The agency will now initiate an environmental review, with public input, on these areas in federal waters for potential offshore wind leasing.

BOEM will prepare an environmental assessment (EA) to consider potential environmental consequences of site characterization activities and site assessment activities associated with issuing wind energy leases in the WEAs.

The EA also considers project easements associated with each potential lease issued, and grants for subsea cable corridors in the New York Bight.

BOEM has 16 active commercial wind energy leases off the Atlantic coast.

EP

AGL, Wärtsilä Partner on Hybrid Energy



AGL and Wärtsilä have signed a memorandum of understanding (MOU) to produce large-scale hybrid energy systems to commercial and industrial customers.

The agreement will allow the development of systems which integrate renewable behind-the-meter and off-grid technologies to improve energy efficiencies and supply.

AGL Chief Operating Officer, Markus Brokhof, said AGL is excited to be developing these innovative systems with Wärtsilä, which will provide customers with a broader range of options on their energy.

"This agreement is another way in which AGL is responding to the evolving needs of our customers to deliver the best technologies and innovations available to create more sustainable and energy efficient operations," Mr Brokhof said.

"This partnership is aimed at supporting customers with over 20MW of energy requirements and will allow AGL to offer greater energy solutions as businesses seek to reduce emissions while maintaining security of supply."

Sushil Purohit, President, Wärtsilä Energy, said the company was excited to support AGL's customers on their journey towards a decarbonised energy system.

"AGL is a long-term and valued customer for Wärtsilä and we are happy to collaborate on developing a hybrid solution that will be a key in enabling a stable and reliable grid, while lowering emissions and system level costs," Mr Purohit said.

EP

MAN Energy Solutions to Partner on World's Largest LAES Project

Highview Power, a global leader in long duration energy storage solutions, has selected MAN Energy Solutions to provide its Liquid-Air Energy-Storage (LAES) turbomachinery solution to Highview Power for its CRYOBattery™ facility, a 50 MW liquid-air, energy-storage facility – with a minimum of 250MWh – located in Carrington Village, Greater Manchester (UK).

The liquid air energy storage plant uses cryogenically-liquefied air as a medium for storing energy.

It is especially suitable for special applications that require large amounts of energy over a discharge time of several hours, and enables fluctuating, renewable sources to bear base-loads.

The MAN turbomachinery train will

form the core of the CRYOBattery facility that, upon completion, will form one of Europe's largest battery-storage systems. This will ultimately supply clean, reliable, and cost-efficient long-duration energy storage – primarily from renewable sources.

Javier Cavada, President and CEO of Highview Power, said: "Highview Power believes in partnering with companies that share our commitment to a decarbonized world, and awarding MAN the contract to build out our Carrington facility reinforces that commitment.

MAN is well-respected in the industry and has an impressive track record of building large energy assets. We are proud to be working with them on this significant project."

EP

Greenpage

China Plans to Raise Minimum Renewable Power Purchase to 40pc

China will force regional grid firms to buy at least 40 per cent of power from non-fossil fuel sources by 2030 in order to meet the country's climate targets, according to a new government document.

Grid companies will steadily increase the amount of power purchased from clean generation sources from 28.2 per cent in 2020 to 40 per cent by 2030, according to a draft policy from the National Energy Administration (NEA), verified by a person with direct knowledge of the matter.

President Xi Jinping pledged last year to make China "carbon neutral" by 2060, and said in December it would boost the share of non-fossil fuels in primary energy consumption to around 25 per cent by 2030 from a previous commitment of 20 per cent.

"To ensure President Xi's climate targets...(China) will set more stringent targets for non-fossil fuel consumption," the NEA document said.

Power procured from non-hydropower renewable sources will reach a minimum of 25.9 per cent by 2030, up from 10.8 per cent last year, according to the draft plan, which has been opened up for consultation with stakeholders until Feb. 26.

The targets suggest China will rely on solar and wind to meet its renewable goals, and move away from the construction boom of large-scale hydroelectric projects in recent years.

In December, Xi also said that China will boost its installed capacity of wind and solar power to more than 1,200 gigawatts (GW) by 2030.

EP

High-Level Climate Consultations Build Expectations for Glasgow



Change Xie Zhenhua discussed the climate crisis.

The two Special Envoys released a joint statement at the conclusion of their meeting.

The fifth session of the Ministerial on Climate Action was the first ministerial meeting of the year on international climate action in the lead-up to UNFCCC COP 26.

Ministerial-level representatives have been gathering virtually and in-person to firm up commitments and shared understandings for how they will collectively respond to the climate crisis.

The most recent consultation took place from 15-16 April 2021, in Shanghai, China, during which US Special Presidential Envoy for Climate John Kerry and China Special Envoy for Climate

The statement highlights that the two countries are “committed to cooperating with each other and with other countries to tackle the climate crisis,” and this should include enhancing their respective actions and cooperating in multilateral processes.

The Special Envoys recalled their two countries’ leadership and collaboration leading to the entry into force of the Paris Agreement, and indicated that they are committed to pursuing efforts to implement its objectives, “including by taking enhanced climate actions that raise ambition in the 2020s.”

EP

Tesla Delivered Record 185K Vehicles in Q1 2021

Tesla delivered and produced a record number of vehicles in the first quarter of 2021. According to data presented by Tradingplatforms.com, Tesla delivered an estimated 184,800 vehicles in Q1 2021.

On the back of a strong second half of 2020, Tesla continued its strong performance into the new year.

The American electric vehicle (EV) company set a company record by delivering 184,800 vehicles to its cus-

tomers in the first quarter of 2021. The figure is close to a 109% YoY increase from 2019’s Q1 figures and the largest quarterly deliveries recorded by Tesla.

Tesla also produced a record amount of vehicles in Q1 2021 with 180,338. Production only rose by .3% QoQ but increased by a staggering 76% YoY.

Sales of Tesla vehicles were primarily driven by two new models, the Model 3 and the Model Y which saw sales increase significantly.

EP

Energy Working Groups Release Draft Reports

The outcome of the High-level Dialogue on Energy will be based on the five reports currently being prepared by technical working groups.

The initial drafts have been released for discussion at working group meetings in April.

Meanwhile, UN Member States who serve as global champions are preparing Energy Compacts, and stakeholders are invited to submit input on each theme through an online form.

Preparations for the UN’s 2021 energy summit are advancing through the work of five inter-agency, multi-stakeholder groups. The initial drafts of five thematic reports

have been released for discussion at working group meetings in April.

The UN Secretary-General will convene the high-level dialogue on energy in September 2021 at the level of heads of state and government.

The event will result in a non-negotiated outcome that identifies roadmaps to achieving SDG 7 (affordable and clean energy) by 2030 and net-zero emissions by 2050, consistent with the Paris Agreement on climate change.

The dialogue’s outcome will be based on the reports currently being prepared by the five working groups.

EP

India Needs \$401 bn Capex to Fight Climate Change: Report

The country needs over USD 400 billion in capital investment which could save over 100 GW of energy and 1.1 billion tonne of greenhouse gasses between 2015 and 2030, if it goes ahead with the measures to control pollution under the Paris climate agreement, says a report.

Since the country is set to far exceed most of its 2015 Paris Agreement targets on climate change, analysts are keenly watching whether India raises its pollution curtailment targets or signals a ‘net carbon neutrality’ deadline at the two-day Climate Summit that began recently.

The government’s push towards blending ethanol up to 25 per cent and move towards

green hydrogen are encouraging, Bank of America Securities said in a note -- which is the Earth Day and also the opening day of the two-day climate summit being pushed by US President Joe Biden.

“Over 2015-30, India could drive USD401 billion in capex, which could lead to over 106 gw in energy savings, and 1.1 billion tonne per annum reduction in Co2 and impacting 99 stocks with a market capitalization of USD 1.4 trillion,” BofA said in a note.

The event will engage the leaders to help shape the global, regional and local agenda in the energy sector including Power, Energy Transition, Oil & Gas, Renewables, Coal, Digital Transformation among others.

EP

Global Carbon Emission Set for 2nd Biggest Increase in History: IEA



New IEA report sees global energy-related CO2 emissions rising by 1.5 billion tonnes in 2021, driven by a strong rebound in demand for coal in electricity generation.

Global energy-related carbon dioxide emissions are on course to surge by 1.5 billion tonnes in 2021 – the second-largest increase in history – reversing most of last year’s decline caused by the Covid-19 pandemic, a new IEA report released recently shows. This would be the biggest annual

rise in emissions since 2010, during the carbon-intensive recovery from the global financial crisis.

The IEA’s Global Energy Review 2021 estimates that

CO2 emissions will increase by almost 5% this year to 33 billion tonnes, based on the latest national data from around the world as well as real-time analysis of economic growth trends and new energy projects that are set to come online.

The key driver is coal demand, which is set to grow by 4.5 percent, surpassing its 2019 level and approaching its all-time peak from 2014, with the electricity sector accounting for three-quarters of this increase.

EP

UNDP Reveals Top 12 Entrepreneurs

The United Nations Development Program (UNDP), École Polytechnique fédérale de Lausanne (the EPFL), Orange and SAP have released the 12 finalists of the Growth Stage Impact Ventures (GSIV) for Sustainable Development Goals (SDGs) initiative, which aims at identifying and showcasing midcap impact ventures in developing countries with the catalytic potential to drive both large impact and yield sustainable profit.

As the second cohort of the initiative, the selected finalists represent the most innovative and investment-ready ventures

that are transforming access to health, energy, and waste management in developing countries.

A highly competitive selection, the process starts with nominations from impact investors and UN agencies. Finalists represent the best 5% of the 240 recommended enterprises that met the criteria across the world.

All ventures will participate in a virtual pitching event on June 3rd, 2021, then attend the SDG Finance Geneva Summit, during the Building Bridges Week in late November 2021.

EP

EVC to Install 100,000 Electric Vehicle Charge Points by 2026

If we take a look at the evolution of transportation systems around the world, we can see the future of cars is electric—but how far is the future? Is it too distant? Actually, no. There are people across the world who would buy an electric car tomorrow — if only they had easy access to a charger.

Across the UK, the EV charging infrastructure is failing to keep up with the demand for electric vehicles. A recent Policy Exchange think tank stated that the UK would need around 400,000 public charge points by the turn of the decade in order to match motorists charging requirements.

Born out of the realization of

the mass shortage of EV charging points throughout the UK, Brighton-based EVC is on a quest to build a sustainable future by swiftly responding to the demands of the oncoming EV revolution. “Our mission is to bring accessible charging across the UK by installing 100,000 EV charge points by 2026” declares Nick Ballamy, Managing Director of EVC.

To encourage the uptake of EV charge points, EVC specializes in residential and commercial charging solutions; providing their clients with free EV charging infrastructure to futureproof their car parks whilst offering competitive pricing tariffs.

EP

Power Companies Urge Biden to Implement Policies to Cut Emissions 80pc by 2030



sure the electricity industry cuts carbon emissions 80 percent below 2005 levels by 2030, the group of 13 power interests, including generators Exelon Corp, PSEG and Talen Energy Corp, said in a letter to Biden.

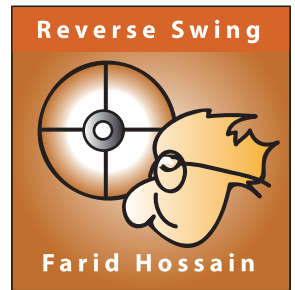
The letter did not mention Biden’s goal to fully decarbonize the power sector by 2035 as part of his strategy to fight climate change. But it said the 2030 timeline is consistent with Biden’s wider goal of decarbonizing the entire economy by 2050.

“A federal policy framework can be designed to support the power sector’s deployment of strategies that are technically feasible, ensure reliability, and maintain affordability for customers,” said the letter, sent to Biden.

EP

Climate Summit

WORLD LISTENED WHEN SHEIKH HASINA SPOKE



The climate summit, held on April 22-23, was timed to coincide with the Earth Day. It was a well-thought-out plan as it sent a bigger message to the world to save our planet threatened with high levels of Green House Gas emission.

The summit of the leaders of 40 big and small nations was called by President Joe Biden of the United States reconfirming that his country is back on the international effort to turn the tide of the climate change impact and is prepared to play the leadership role which was ceded during four years of President Trump. This has been a key take-away from the virtual summit, first of its kind.

At the summit, President Biden has demonstrated that he matched his words with concrete action.

He has committed the US to cutting its emissions in half by 2030. Washington is also urging other countries to do more. to keep their near-term emissions cutting commitments.

Good that other developed countries are taking clues from the United States and reiterating their pledges. The UK promised a 78 percent cut from 1990 levels by 2035, Japan is aiming for a 46 per cent cut by 2030 and Canada has put forward a cut of 40-45 percent from 2005 levels by 2030. The European Union is also stepping up its climate action, pledging to reduce emissions by 55 percent below 1990 lev-

els by 2030. Like the US, these countries and the EU all also have pledges to reach “net zero” emissions by 2050.

The goal as set by the Paris Agreement is to bring down the earth’s temperature below 2 degree Celsius, preferably to 1.5 degree Celsius.

The re-entry of the United States in the climate stage holds out hope for the developing nations which are most vulnerable to emissions, global warming and the climate change-related natural disasters: floods, cyclones, droughts. Even the COVID pandemic that has been ravaging the world for more than a year can be distantly linked to global warming.

As Prime Minister Sheikh Hasina, president of the Climate Vulnerable Forum (CVF), told the other leaders at the summit “The Covid-19 pandemic has reminded all that any global crisis can only be addressed through a strong collective response.”



She placed four specific proposals on how to better combat the climate change impact in the spirit of “Together we win, divided we fall.”

Our prime minister called for an immediate and ambitious action plan by developed countries to cut their carbon emissions and lower the global temperature at 1.5°C. The focus should be both on mitigation and adaptation. She urged the developed nations to attain the target of \$100 billion Green Fund which should be balanced 50:50 between adaptation and mitigation. The other two suggestions are, major economies, international financial institutions, and private sectors should come forward with plans for concessional climate financing.

She spoke of innovation, green economy and carbon-neutral technologies and a provision of technology transfer among nations. “Despite being a climate-vulnerable country with resource constraints, Bangladesh has emerged as a global leader on adaptation and mitigation,” she said.

Today’s world listens to our prime minister with serious attention because of the considerable progress Bangladesh has made in economy, social development and climate change adaptation.

This has been another major take-away from the summit.

EP

Deepest Condolence



We deeply mourn the sad demise of Mrs. Nina Shaheen Chowdhury, wife of Mr. Osman Kaiser Chowdhury, Group Director and CEO, Power & Engineering Division of Beximco Group, who breathed her last on 29th April, 2021 (Inna Lillahe-Wa-Inna-IllaihiRajun).

Mrs. Chowdhury was the symbol of liveliness to Beximco Power family. She was an avid nature lover, a devoted social worker and a philanthropist. Her kindness and generosity touched the lives of many other people around her. Her absence will be deeply felt by her family and friends all over the world.

Beximco Power family conveys its heartfelt condolences to the bereaved family so that they can withstand the irreparable loss.

Team Beximco Power

It's Not Time To Go For Electricity Storage

Setting up of rental and quick rental power plants to make up the huge power deficit was necessary, but continuing with the plants cannot be appreciated because it is increasing the generation cost. It is possible to reduce the cost in the long run with appropriate planning and its proper and transparent implementation.

Prof Abdul Hasib Chowdhury, Director of the Institute of Nuclear Power Engineering at BUET, made the observation in an exclusive interview with Energy & Power Editor **Mollah Amzad Hossain**.

How do you evaluate the present state of the country's power sector?

The generation phase of the four-phase power value chain from generation to consumption has achieved a notable success. The installed capacity crossed 20,000MW, but there is hardly any information about the real generation capacity. Generator reliability data is not available to us. In our generation system, 38 percent of the capacity is based on reciprocal engines which could be found nowhere in the world. It is also creating lower inertia in the grid. It was one of the factors of the grid blackout that took place in the country in 2014.

The capacity of the transmission system can be termed moderate with evacuation problems at some points and, very low capacity utilization at some other points. The generation dispatch system is not yet fully automated. So, the system needs to be controlled through making phone calls. There are also weaknesses in load balancing and controlling of frequency. The development of the transmission system is not well-planned.

The distribution sector development is

demand-driven and it always faces challenges in supplying electricity. However, the distribution companies, including Bangladesh Rural Electrification Board (BREB), have made good progress.

The biggest problem of the power sector is inadequate average demand, which however rises to around 13,000MW occasionally. On the other hand, the demand falls sharply to 3,500-4,000MW in case of the incidents of severe storms and rainfall. The power sector in the industrially developed countries witnesses peak load in the daytime, but here in Bangladesh it is witnessed in the evening due to higher demand in the domestic consumption than that of the industrial consumption. It is another big problem that the industrial consumers are not willing to use the grid power.

The generation cost increased due to rising import of fuel oil for power generation in the last one decade. What should we do to reduce the generation cost in the long term?

It's not true that the generation cost increased only due to imports, the situation has been created also due to lack of coordinated planning and farsightedness. For example, it was necessary that the power crisis could be faced well through setting up of the rental and quick rental power plants. But now, it cannot be appreciated continuing with the plants anymore. On the other hand, it is in no way can be accepted that required fuel cannot be supplied to the power plants which are already set up, and keeping the baseload plants idle due to lack of evacuation facilities. It proves lack of proper planning and weak management. Through ensuring proper planning, transparent implemen-



Prof Abdul Hasib Chowdhury

There is no lack of capabilities and willingness in research and innovation activities in BUET and other universities, but there is lack of initiatives from the industries as they do not approach with their requirement and necessary funding. BUET has set up a center to facilitate such activities.

tation, strong management and improving generation efficiency, the cost can be reduced.

Uninterrupted supply of quality power could not be ensured yet due to inefficient transmission and distribution systems as compared to generation. How do you evaluate the deficiency?

The policy decision at the national level should reflect the demand forecast by the field level, and it should be reflected in the Power System Master Plan (PSMP). Questions are being raised about the accuracy of the demand forecast. And, this plan is being formulated

by the foreign experts since adopting the first such plan. The government should ensure participation of local professionals, academics, economists and planners while formulating the next PSMP, which is urgent for a balanced development of the sector. In all, proper implementation of a good plan should be ensured. Partial implementation or implementation of projects not envisaged in the PSMP would rather create problems, which are already evident in the country's power sector.

The nuclear power plant is expected to start generation in 2024. Do you think the transmission system can be made dependable by then?

It would act as a baseload power plant. The system frequency should be maintained within the frequency limit that would not fluctuate beyond plus-minus 0.5 Hz. It is being examined now, but the preparation is not yet that good. There are certain vulnerable points in the grid. Grid reliability and vulnerability studies needs to be carried out and plan should be made to enhance reliability and to eliminate its weaknesses.

Bangladesh could not yet adopt EV policy which is a demand of time. What reform should be brought in the distribution system in this regard?

There are presumably around 15 lakh easy bikes presently running in the country, but those cannot be termed as electric vehicles (EVs). Walton has also taken an initiative to produce such vehicles. There should be an assessment on how much of these vehicles are needed and what types of vehicles would be replaced by these ones. Proper forecasting about power demand for the transportation sector is necessary. It would be appropriate for the power sector to start taking preparation for finalizing plan in this regard by next 1-2 years.

What measures should be taken to expedite contribution of renewable energy to power generation?

In Bangladesh, renewable energy is mainly solar dependent while wind has

not been explored well. Solar PV system is being installed recently in the rooftops of industrial and commercial buildings with the introduction of the net metering policy. If the trend continues, the investors will get return on investment and that would create a positive impact. It would also encourage others to invest here. Availability of land is the main problem for installation of the utility scale solar power plants in Bangladesh. Many investors could not arrange necessary land despite signing agreement to set up solar power plants. Agriculture land cannot be used for solar power generation. The government should identify suitable land for renewable energy (RE) projects through zoning of land. The PGCB then can plan transmission infrastructure more suitably for such projects. This will help expedite the RE power generation program.

Many countries in the world are considering storage as the main tool to increase the use of renewable energy. What Bangladesh should do about the storage and what technology Bangladesh should adopt?

Storage is not yet urgent for Bangladesh because the contribution of solar power to the national grid is very limited as of now. It would rather increase the cost of solar power. However, we should start piloting the storage system to achieve technical capabilities, efficiency and experience. This will also help us to prepare energy storage related policies and regulations.

What should be done to encourage and connect the industrial sector with the national grid and make the power sector commercially successful?

The key word is reliability. There is no alternative to ensure uninterrupted supply of quality power to bring industries into the grid. Some industries in the country are now drawing power from the 230kV and 132kV transmission grids for higher grid reliability while others are depending on captive generation. Power distribution utilities will have to invest more in the industrial zones to improve their service reliability. Indus-

tries will then gain confidence on the availability of electricity and gradually start using it.

Bangladesh still lack required industry-academia linkage which is essential to develop skilled human resources. What should be done to develop the linkage?

There is no lack of capabilities and willingness in research and innovation activities in BUET and other universities, but there is lack of initiatives from the industries as they do not approach with their requirement and necessary funding. To do these jobs in a more coordinated manner, BUET has set up a Research and Innovation Center for Science and Engineering. It may be mentioned here that the BUET worked with the DESCO on developing pre-paid smart energy meters during the period from 2004-2011. The initiative helped develop the advanced technology-based meters and manufacture it commercially.

How do you evaluate the government's present policy in developing the power sector? Do you have any suggestion to include in the policy?

The policy should be adopted in a manner that would help increase the power demand. At present, the country's per capita power consumption is only 550 kWh, which should be increased by five times if we want to take it to the level of Thailand. We are constrained by limited land and we should be cautious about using land for managing increased quantity of electricity. The transmission and distribution systems should be upgraded to higher voltages. The grid should be interconnected with Nepal, Bhutan in addition to India. We should also consider grid interconnection with the ASEAN countries and China through Myanmar. It would help strengthen the non-carbonized portfolio through importing the renewable energy. It would also contribute a lot to reduce the import dependence on primary fuel and enhance energy security.

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