

ENERGY & POWER

Danger Of Denying Climate Call

- Energy Efficiency: The Future of Power Generation
- Empowering Bangladesh Through 100% RE By 2050
- Work on Paris Agreement Implementation Can Be Completed in Madrid

Special Issue



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BANGLADESH:

Amin Court Building (2nd floor), 62-63 Motijheel Commercial Area, Dhaka -1000, Bangladesh.
Tel : +880-2-5716-0955 **Fax :** +880-2-5716-0966 **E-mail :** m2kttc@gmail.com

SINGAPORE:

Block 428, Clementi Avenue 3 # 10-430, Singapore-120428.
Tel:+65-8299-8715 **E-mail:** info@m2kttc.com **Website:** www.m2kttc.com

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Editor
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Magazine Administrator
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Arunima Hossain
Mohiuddin Miah
Assistant Online Editor
Aditya Hossain

Design & Graphics
Md. Monirul Islam
Photography
Bulbul Ahmed

Production
Mufazzal Hossain Joy

Computer Graphics
Md. Uzzal Hossain

Circulation Assistant
Khokan Chandra Das

Editorial, News & Commercial

Room 509, Eastern Trade Center
56 Inner Circular Road (VIP Road)
Naya Paltan. GPO Box : 677
Dhaka-1000, Bangladesh
Tel & Fax : 88-02-58314532
Email: ep@dhaka.net
energypower@gmail.com
Website: www.ep-bd.com

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EDITORIAL

Climate activists and civil society all over the world are urging repeatedly that major polluting countries must contribute massively for saving the climate vulnerable countries and saving the mother earth. The climate vulnerable countries using their own resources are endeavoring for reducing GHG emissions for achieving NDC set targets although they have no obligations for this. They desperately need additional fund for reducing more GHG emission. This financing must come as grant and not as loan or insurance. The developed world is not agreeing to this argument. Required investment is the demand of time and nature. If we fail to respond positively to the call of the nature, world civilization, our earth and our light would move towards destruction. Natural calamities have become a frequent phenomenon worldwide. This frequency would assume catastrophic level if we continue to fail in our obligations. Nature would take revenge and its intensity would take the world civilization and mother earth to the brink of destruction. Therefore, good senses must prevail in discussions and decisions at the COP25.

highlights

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The implementation of Paris Agreement is expected to start in 2020. For that to happen, all unresolved matters need to be resolved at COP25. I believe we can achieve those in Madrid, Spain. The world community with enabling political will can achieve this through negotiation. I think America has committed a mistake through walking out of the Paris Agreement. Rest of the world remains sincerely committed to the agreement.

The United Nations Decade of Sustainable Energy for All (2014-2024) has recognized the importance of energy issues for sustainable development. The energy sector generates around two-thirds of global greenhouse gas (GHG) emissions. If the humanity wants to avoid global warming (temperature rise) above 2°C, the world needs to stop building any new greenhouse gas emitting electricity infrastructure as well as to remove all carbon emissions..

Madrid is all set to host the COP25 (the 25th session of the conference of parties) as the governments, members of civil society and NGOs, and environment activists have already started gathering.

The main negotiation on implementation of Paris Agreement to protect the world from climate change impact starts on December 2 and is scheduled to continue until December 13. The organizer, Chile, regretted holding the global event only one month before amid citizen's protest. Then Spain showed interest in hosting it and it was ..



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

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CNOOC Appoints CEO, Chairman

CNOOC Ltd. has appointed Xu Keqiang as CEO.

Since April 18, 2017, he has served as an executive director and president of the company.

In addition, CNOOC has appointed Wang Dongjin as chairman and chairman of the Nomination Committee.



Xu Keqiang

Port of Nagoya Performs First LNG Bunkering Operation

Toho Gas Co., Ltd.

and Mitsui O.S.K. Lines, Ltd. (MOL) announced the implementation of a demonstration test to supply LNG to the LNG-powered tugboat Ishin in the Port of Nagoya. This marked the first LNG bunkering operation in the Port of Nagoya, and the test confirmed that LNG can be safely supplied to vessels at the port.

LNG was transported via truck from the Toho Gas Chita-Midorihama LNG Terminal (Chita-shi, Aichi Prefecture), and supplied with a truck-to-ship system to Ishin, berthed at the Port of Nagoya's Garden Pier.

Also cooperating in the demonstration test were Niyac Corporation, which provides LNG land transport for Toho Gas; MOL Marine Co., Ltd., which provides maritime consulting services, and Nihon-Tug-Boat Co., Ltd., which operates Ishin.

Based on the findings of the demonstration test, Toho Gas and MOL will continue working to reduce the environmental impact of the maritime industry by developing an LNG supply

terminal and promoting the use of LNG fuel by vessels calling at the Port of Nagoya.

Source: MOL



China Approves Investment Projects Worth \$6.3b in Oct.

China's top economic planner

approved eight fixed-asset investment (FAI) projects with combined investment totaling 44.2 billion yuan (about 6.3 billion US dollars) in October, official data showed.

The projects were mainly in the energy sector, according to data from the National Development and Reform Commission.

China's FAI remained basically stable in the first 10 months of the year thanks to robust high-tech investment.

FAI grew 5.2 per cent during the January-October period. Investment in high-tech manufacturing and high-tech services rose 14.5 per cent and 13.7 per cent year on year, respectively.

FAI includes capital spent on infrastructure, property, machinery and other physical assets.

Iran Discovers New Oil Field With Over 50 Billion Barrels

Iran has discovered a new oil

field in the country's south with over 50 billion barrels of crude, its president said recently, a find that could boost the country's proven reserves by a third as it struggles to sell energy abroad over U.S. sanctions.

The announcement by Hassan Rouhani comes as Iran faces crushing American sanctions after the U.S. pulled out of its nuclear deal with world powers last year.

Rouhani made the announcement in a speech in the desert city of Yazd. He said the field was located in Iran's southern Khuzestan province, home to its crucial oil industry.

Some 53 billion barrels would be added to Iran's proven reserves of roughly 150 billion, he said.

"I am telling the White House that in the days when you sanctioned the sale of Iranian oil and pressured our nation, the country's dear workers and engineers were able to discover 53 billion barrels of oil in a big field," Rouhani said.

Oil reserves refer to crude that's economically feasible to extract. Figures can vary wildly by country due to differing standards, though it remains a yardstick of comparison among oil-producing nations.

Iran currently has the world's fourth-largest proven deposits of crude oil and the world's second-largest deposits of natural gas. It shares a massive offshore field in the Persian Gulf with Qatar.

The new oil field could become Iran's second-largest field after one containing 65 billion barrels in Ahvaz. The field is 2,400 square kilometers (925 square miles), with the deposit some 80 meters (260 feet) deep, Rouhani said.

DPDC Diploma Engineers Call for Equity

Diploma Engineers of Dhaka Power Distribution Company (DPDC) at a

program said the government should reform the unified service rules to ensure equity according to seniority for the staff of DPDC.

They were addressing the annual general meeting of DPDC at Institute of Diploma Engineers Bangladesh (IDEB) in the capital recently.

They also urged the authorities concerned to reduce discrimination at all state-run power generation firms.

IDEB President AKMA Hamid attended the program as the chief guest while General Secretary Shamshur Rahman was present as the guest of honor.

DPDC Diploma Engineers Association President Shamshuzaman Khan presided over the meeting.

German Ambassador Visits Siemens Bangladesh Office

Peter Fahrenholtz visited Siemens

Bangladesh office in Dhaka on 25th November 2019. During his visit he learned about topics such as sustainability, open office concept and various other Siemens' initiatives. He enthusiastically engaged with Siemens employees from its various business divisions.

Peter Fahrenholtz said: "Germany is an important partner of Bangladesh. We believe that German companies working in Bangladesh will help enhance the bond between two friendly nations. On behalf of the Govt of Germany, I would like to ensure wholehearted cooperation towards Siemens and its affiliates. Siemens has been present in this country for the past 60 years, and has been steadily contributing towards the country's development, and I wish them success and prosperity in the future."

Prabal Bose, Managing Director and CEO of Siemens Bangladesh Limited, stated: "It was a great honor for us to welcome the Honorable German Ambassador to our Dhaka office. Siemens brings to Bangladesh state-of-the-art technology that adds value to customers and the society, through a com-



PGCB Signs Tk5.13bn Deal with Indian Firm

The state-owned Power Grid Company of

Bangladesh Limited (PGCBL) has signed a deal with an Indian company for construction of 400KV grid transmission line for facilitating 1600MW electricity import from Indian Jharkhand.

Under the deal, the Indian Kalpataru Power Transmission Limited will construct 104 kilometers long transmission line from Bogura to Rahanpur in Chapainawabganj within 24 months at a cost of Tk 513 crore.

The Asian Development Bank (SDB), PGCB and public exchequer will jointly finance the project.

PGCB Secretary Md Jahangir Azad and Kalpataru Power Transmission General Manager Aritar Bush signed the deal on behalf of their respective organizations.



6,000 Meters Illegal Gas Lines Cut Off in Gazipur

Titas Gas Transmission and Distribution Company Limited,

Gazipur regional office, disconnected over 6,000 meters of illegal gas lines of residential houses in Ansar road area of Gazipur recently.

Titas gas authority with the help of Gazipur district administration conducted the drive, led by executive magistrate Mohammed Harun Or Rashid, disconnected those lines from 300 houses in the area. They seized huge amount of pipes and other material using in illegal connection.

Manager of Titas Gas Transmission and Distribution Company, Gazipur regional office, Engineer Ajit Chandra Deb said a



number of illegal gas users connected gas lines in their residences without any permission of the Titas authority. On information, a team of Titas gas Gazipur office conducted a raid.

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BBIN Chamber Launched

Bangladesh-Bhutan-India-Nepal (BBIN) Chamber of Commerce has been launched aiming at fostering connections among

the partner countries.

The chamber was formally launched at a recent program at the Press Club, New Delhi, said a press release.

At the launching function, President of the Indian Economic Trade Organization (IETO) Asif Iqbal told media that the purpose of this chamber is to foster the participation of and dialogue between various stakeholders, including governments, civil society organizations, educational institutions and academic communities of these countries.

"Our task is to promote sustainable policies for regional strategic trade and commerce initiatives with India and Bangladesh spearheading this organization so as to create awareness of various opportunities available in all business areas, motivate commitment at the highest level for their solutions, and thus promote better management of strategic collaborative ideas at national and international levels," he added.

The BBIN will be celebrating Mujib Day in memory of Bangabandhu Sheikh Mujibur Rahman in 2020 in six cities of India – Bangalore, Kolkata, Agartala, Delhi, Mumbai and Hyderabad – with the active participation of businessmen and CEO's of Bangladesh and India under one roof.



Jalalabad Gas Earns Tk 212cr Profit in '18-19 FY

Jalalabad Gas Transmission

and Distribution System Limited earned a profit worth Tk 211.72 crore in the 2018-19 fiscal year (FY). It was informed at the 33rd annual general meeting of the company recently.

Chairman of the Board of Directors of Jalalabad Gas Transmission and Distribution System Ltd and Additional Secretary (Development), Energy and Mineral Resources Division, A B M Abdul Fattah chaired the meeting.

The audited accounts of the company were also approved at the meeting. The total revenue earnings include sales revenue worth Tk 2014.35 crore and other incomes worth Tk 175.07 crore.

Among others, Senior Secretary of Energy and Mineral Resources Division Abu Hena Md Rahmatul Muneem, and Petrobangla Chairman Md Ruhul Amin were also present at the meeting.

Outgoing President of BIPPA Cites Major Achievements

Mohammad Latif Khan at the end of

his two consecutive terms (i.e. four years tenure) as the President of Bangladesh Independent Power Producers Association (BIPPA) cited the top three achievements under his leadership.

BIPPA received support from the government are: Compulsory membership of BIPPA of all IPPs operating in Bangladesh; Eliminated multi-tier taxation on dividend income of Bangladeshi Power Producers; and Exemption of Advance Income Tax (AIT) on imports of plants, equipment and machinery for construction of power plants.

All of which translated to IPPs generating electricity for Bangladesh at a more economical rate. The representatives of thirty-six member companies were present in the Annual General Meeting (AGM).

BIPPA was formed in June 2014, a trade organization that represents fifty-three Independent Power Producers (IPPs) of the country. BIPPA is committed to sustainable production and uninterrupted distribution of electricity, an essential service for the nation's progress and development.



BPC Sees Fuel Oil Stocks Adequate

Bangladesh Petroleum Corporation (BPC) ensured an adequate stock of fuel oil all over the country.

BPC in a press release said, "There is no crisis of fuel oil in the country. There are adequate stocks of fuel oil at every depot of the country."

The BPC also called upon all not to create any obstacle to



movement of tankers in the country. BPC also urged law enforcers to provide security to all oil tankers during the strike of trucks and lorries across the country.



Danger Of Denying Climate Call



Mollah Amzad Hossain

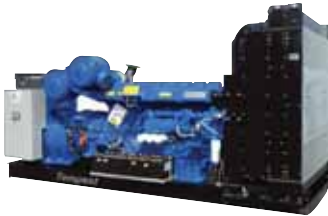


Madrid is all set to host the COP25 (the 25th session of the conference of parties) as the governments, members of civil society and NGOs, and environment activists have already started gathering.

The main negotiation on implementation of Paris Agreement to protect the world from climate change impact starts on December 2 and is scheduled to continue until December 13. The organizer, Chile, regretted holding the global event only one month before amid citizen's protest. Then Spain showed interest in hosting it and it was accepted by the board of the United Nations Framework Convention on Climate Change (UNFCCC).

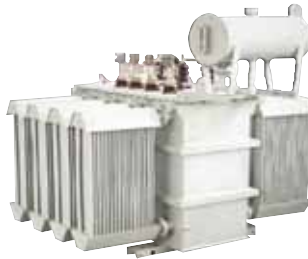
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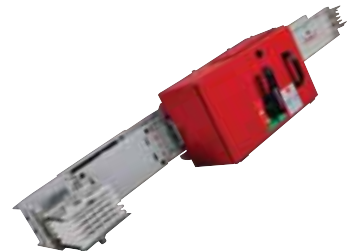
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Millions of activists are set to take to streets across the UK in a global climate crisis protest starting on September 20.

However, people concerned with the issue are optimistic about the availability of fund, required for implementation of the Paris Agreement, would agree upon at the COP25. Rules and procedures, action plan and implementation strategy would also be decided. It is being thought that if these are not agreed upon at the COP25, the commencement of implementation of Paris Agreement from 2020 will be delayed.

The conference is being held at a time when different countries of the world are encountering different types of climate disasters. Bangladesh capital Dhaka has become one of the most polluted cities of the world. Air pollution of different cities and towns including the port city has become unbearable. Threats of frequent cyclones and other natural calamities are growing.

Countries including America, Barzil and Australia are huffing and puffing in managing bush fire menace. Some European countries are struck by flash flooding. Another important matter worth mentioning here that one of the major polluting countries, United States of

America, has walked out of the Paris Agreement. A report of the World Resources Institute evidences that though USA as a state has walked out, yet different states, cities and businesses in USA still remain committed to the Paris Agreement. They represent two-thirds of the US population and business control 70% of the GDP. It will be great news for protecting the mother earth if this continues.

Three recent reports published by the International Panel on Climate Change (IPCC) have sounded wake up alarm for the world leaders. The entire civilization, our land and our sea are in great danger from the adverse impacts of Green House Gas (GHG) emissions if we fail to act quickly now. The IPCC reports also stated that melting of polar glacier would not stop unless we can limit global warming below 1.5 degree Celsius by 2100. The sea level would continue rising and the danger of natural calamities would become more menacing than the previous decades. The Emission Gap Report by the United Nations Environment Program (UNEP)

stated that even if the NDCs declared by different nations are fully implemented, the global warming would rise 3.2 degree Celsius. That will make mother earth exposed to different disasters. The report also states that for restricting the global warming within 1.5-2.0 degree Celsius, the annual GHG emissions reduction rate between 2020 and 2030 must be 7.6%.

An initiative was launched at the climate negotiation in Katowice, Poland in 2018 for framing the Rules Book for implementation of the Paris Agreement. But it could not be finalized. In Madrid COP25, the participating countries must work to finalize the Rules Book. The world leaders expressed optimism that the COP25 would achieve the objectives. Dr Manjurul Hannan Khan, Additional Secretary of the Ministry of Environment, Forest and Climate Change and a member of Bangladesh delegation to the COP25, said that the crunch time for reaching final agreements in climate conference has arrived. He sounded optimistic that the meeting of minds of all parties would be

there in Madrid.

Different analyses and observations indicate that the COP25 would create the necessary momentum for commencing implementation of the Paris Agreement from 2020. During the COP21 in Paris in 2015 all the countries have been requested for submitting the updated NDCs. Most of the countries have already submitted the updated NDCs to the UNFCCC. Many countries including Bangladesh have started finalizing Climate Strategy and Action Plan. Bangladesh would complete it within three months. In September 2019 at the Climate Action Summit in New York, many small and medium countries committed to intensify actions for reducing the GHG emissions for achieving greater NDC targets. Some 68 countries have pledged for this. But it needs to observe what major polluting countries are doing. The COP25 is commencing with high expectations amidst the updated NDCs of countries and against the backdrop of USA walking out of the Paris Agreement.

According to final program of the COP25, some head of the states or governments would attend the COP25. Among them, Bangladesh Prime Minister Sheikh Hasina would lead the country delegation. Apart from participating in the inaugural program, she will address in a special session on adaptation. In addition to highlighting the Bangladesh experience of adaptation, she will press for global funding on behalf of the climate vulnerable countries for confronting adverse climatic changes. The COP25 will be attended by ministers of Energy, Finance and Environment of different countries in high level segment meetings. It is expected that a meeting of minds would be achieved towards adoption of a policy for a low carbon and climate resilient economy of the future world. As a part of it, future NDCs would target for ambitious limit in line with Paris Agreement. The UNFCCC would prepare a synthesis on the basis of NDCs of countries. It will act as a policy paper for reducing GHG emissions.

Governments, civil society, business

and NGOs are expecting that the outstanding elements of the Rules Book would be finalized and agreed through negotiation in Madrid. These are carbon market post-Kyoto Protocol, common timeframe for implementation of NDCs, review of loss and damage and determination of action plan, advance financing and capacity building. A 300-page Rules Book was formulated at the COP24 for implementation of the Paris Agreement. But the issues could not be finalized.

The main priority of COP25 is finalization of the rules for carbon market. More or less 51% of the NDCs state about attaching NDCs with the emission control is a major objective. The money received from carbon market will drive the world towards renewable energy and will play a major role in climate resilience financing. Experts observed that all must remain concerned about these during the finalization of the rules and regulations. The correct accounting of GHG emission would not be possible if the scope of carbon credit accounting is there for both buyers and sellers. Prior to 2020, the carbon market would follow Kyoto Protocol. But the modality of the carbon market operation from 2020 needs to be determined following the article 6 meticulously. We must bear in mind that the emission control mechanism is not affected through tangles of accounting. It needs ensuring that the money received from carbon market directs to adaptation fund and climate vulnerable countries gets higher benefits. Climate activists and civil society have advised remaining vigilant so that the rules are not finalized carelessly. These must be done in environment-friendly manner. Otherwise the carbon market rules would rather have negative impacts than positive one.

The second priority is agreeing on a common timeframe for implementation of the NDCs of the countries. The COP24 reached initial agreements but could be ultimately finalized. The NDCs submitted in 2015 had set implementation timeframe by 2020 and 2025. But the implementation time of NDCs submitted last year set the starting time of implementation as 2031. Analysts sug-

gested that in Madrid negotiation agreement should be reached for implementing the NDCs within the 2031-2035 timeframe.

The third priority is assessment of loss and damage. It is a very sensitive matter. The Madrid negotiation must review and finalize the Warsaw International Mechanism on Loss and Damage 2015 (WIM). WIM was created for ensuring financial assistance of the developing and climate vulnerable through accurately accounting their damage and losses. WIM reviewed and assessed the damage and losses over the past 6 years. It is expected that the Madrid negotiation would ensure the rules and modalities are finalized for financing for the affected countries through final review of the assessment done.

The fourth and final priority is advance financing and capacity development. It is clear that advance financing is a must to enable the climate vulnerable countries achieving double reduction of GHG emission. This financing has to come from Green Climate Fund (GCF). But till now, contribution to the GCF is not encouraging at all. Till now, 28 countries together have pledged for US\$ 28 billion to the GCF. But the actual receipt is only \$ 5.6 billion. In subsequent 2020, \$ 100 billion would be required and every year more \$100 billion. Analysts believe that Madrid conference must ensure the above contribution by rich major polluting countries if Paris Agreement implementation is to start from 2020. Otherwise countries relying on contribution from GCF for achieving NDCs cannot achieve the targets. The main focus of Madrid conference must be confirming the contribution to the GCF.

Inger Andersen of UNEP has told media that the climate investment cost in 2050 would grow US\$ 7.9 trillion. The world's major fossil fuel producers are set to bust global environmental goals with excessive coal, oil and gas extraction in the next decade, the United Nations and research groups said. The 10 nations in focus, including China and the United States, plan to produce fuels by 2030 at levels between 50-120%

over Paris Agreement targets, the study showed. Under that 2015 global pact, nations committed to a long-term goal of limiting the average temperature increase to within 1.5-2.0 degrees Celsius above preindustrial levels. But by 2030, the 10 countries' planned production would lead to 39 gigatonnes (Gt) of carbon dioxide emissions, 53% higher than what is needed to reduce temperature rises to 2C and 21 Gt, or 120%, more than is needed for 1.5C, the report said. Other countries analysed included Russia, India, Australia, Indonesia, Canada, Germany, Norway and Britain. "The world's energy supply remains dominated by coal, oil and gas, driving emission levels that are inconsistent with climate goals," said United Nations Environment Program (UNEP) executive director Inger Andersen.

According to an AFP report, large investment funds are not directed towards achieving climate change mitigation targets. British Organization Influence Map analysing 50,000 investment accounts of 150 financial giants has mentioned that the investment in Oil and Gas Exploration, Coal Mining and Automobile Industry is US\$ 8.2 trillion. They are interested for investment in brown tech-

nology although the Paris Agreement stressed upon giving priority to green projects by private sector investors. For this, the Paris Agreement perceived target of limiting the fossil fuel use especially of coal by 2030 would not be achieved. The use of coal would still remain above 30%.

On the other hand, World Energy Outlook 2019 published recently by the International Energy Agency (IEA) stated that stable policy is absent for restricting increased global carbon emission. It stated that people of many countries of the world are still deprived of quality energy supply. Around 850 million population of the world do not have access to electricity. The rate of growth of energy sector would be 1.4% till 2040. Emissions growth would also match this rate. New policy scenario of expanding use of renewable energy and achieving energy efficiency can limit this growth to 1%. It is being told that Oil use would remain stable till 2030 and gas would remain third in preference. Use of coal would be reduced but can not be eliminated all together. During this period, renewable energy contributing about 50% would take the lead and solar would be the leader. IEA observed that

emission would be reduced but mentionable success may not be visible by 2040. The growth of energy efficiency now is 1.4%. For achieving the target set in Paris Agreement, it has to reach 3% by 2040.

Energy efficiency has huge potential to help reduce carbon emissions, the IEA said. But governments need to take stronger policy action to reverse the worrying slowdown in global energy efficiency improvements, according to a public survey conducted by the International Energy Agency. The survey was carried out to inform the first meeting of the Global Commission for Urgent Action on Energy Efficiency.

A catastrophic scenario has appeared about global warming and NDCs in a UNEP Emission Gap Report. On the eve of a year in which nations are due to strengthen their Paris climate pledges, a new UNEP report warns that unless global greenhouse gas emissions fall by 7.6 per cent each year between 2020 and 2030, the world will miss the opportunity to get on track towards the 1.5°C temperature goal of the Paris Agreement.

It says that even if all current



Collapsing ice sheets at the poles are powerful symbols of a warming world

unconditional commitments under the Paris Agreement are implemented, temperatures are expected to rise by 3.2°C, bringing even wider-ranging and more destructive climate impacts. Collective ambition must increase more than five-fold over current levels to deliver the cuts needed over the next decade for the 1.5°C goal.

2020 is a critical year for climate action, with the UN climate change conference in Glasgow aiming to determine the future course of efforts to avert crisis, and countries expected to significantly step up their climate commitments.

“Our collective failure to act early and hard on climate change means we now must deliver deep cuts to emissions – over 7 per cent each year, if we break it down evenly over the next decade,” said Inger Andersen, UNEP’s Executive Director. “This shows that countries simply cannot wait until the end of 2020, when new climate commitments are due, to step up action. They – and every city, region, business and individual – need to act now.”

“We need quick wins to reduce emissions as much as possible in 2020, then stronger Nationally Determined Contributions to kick-start the major transformations of economies and societies. We need to catch up on the years in which we procrastinated,” she added. “If we don’t do this, the 1.5°C goal will be out of reach before 2030.”

The Intergovernmental Panel on Climate Change (IPCC) has warned that going beyond 1.5°C will increase the frequency and intensity of climate impacts, such as the heatwaves and storms witnessed across the globe in the last few years.

G20 nations collectively account for 78 per cent of all emissions, but only five G20 members have committed to a long-term zero emissions target.

In the short-term, developed countries will have to reduce their emissions quicker than developing countries, for reasons of fairness and equity. However, all countries will need to contribute more to collective effects. Developing

countries can learn from successful efforts in developed countries; they can even leapfrog them and adopt cleaner technologies at a faster rate.

Crucially, the report says all nations must substantially increase ambition in their Nationally Determined Contributions (NDCs), as the Paris commitments are known, in 2020 and follow up with policies and strategies to implement them. Solutions are available to make meeting the Paris goals possible, but they are not being deployed fast enough or at a sufficiently large scale.

Each year, the Emissions Gap Report assesses the gap between anticipated emissions in 2030 and levels consistent with the 1.5°C and 2°C targets of the Paris Agreement. The report finds that GHG emissions have risen 1.5 per cent per year over the last decade. Emissions in 2018, including from land-use changes such as deforestation, hit a new high of 55.3 gigatonnes of CO₂ equivalent.

To limit temperatures, annual emissions in 2030 need to be 15 gigatonnes of CO₂ equivalent lower than current unconditional NDCs imply for the 2°C goal; they need to be 32 gigatonnes lower for the 1.5°C goal. On an annual basis, this means cuts in emissions of 7.6 per cent per year from 2020 to 2030 to meet the 1.5°C goal and 2.7 per cent per year for the 2°C goal.

To deliver on these cuts, the levels of ambition in the NDCs must increase at least fivefold for the 1.5°C goal and threefold for the 2°C.

Climate change can still be limited to 1.5°C, the report says. There is increased understanding of the additional benefits of climate action – such as clean air and a boost to the Sustainable Development Goals. There are many ambitious efforts from governments, cities, businesses and investors. Solutions, and the pressure and will to implement them, are abundant.

As it does each year, the report focuses on the potential of selected sectors to deliver emissions cuts. This year it looks at the energy transition and the potential

of efficiency in the use of materials, which can go a long way to closing the emissions gap.

There has not been even marginal achievement in challenges for limiting the global warming to 1.5-2.0 degrees Celsius compared to preindustrial revolution as perceived in Paris Agreement. The developed world is not even prepared for providing the required fund for advancing towards the target. Major polluter USA has already moved out of the Paris Agreement. According to the Emissions Gap Report, the global warming can be limited to 3.2 degree Celsius even if all countries achieve the present targets of NDCs. For achieving global warming limitation target of 1.5-2 degrees Celsius, the GHG emissions must be reduced to an annual rate of 7.6% between 2020 and 2030.

Climate activists and civil society all over the world in united voice are urging repeatedly that major polluting countries must contribute massively for saving the climate vulnerable countries and saving the mother earth. The climate vulnerable countries using their own resources are endeavoring for reducing GHG emissions for achieving NDC set targets although they have no obligations for this. They desperately need additional fund for reducing more GHG emission. This financing must come as grant and not as loan or insurance. The developed world is not agreeing to this argument.

Required investment is the demand of time and nature. If we fail to respond positively to the call of the nature, world civilization, our earth and our light would move towards destruction. Natural calamities have become a frequent phenomenon worldwide. This frequency would assume catastrophic level if we continue to fail in our obligations. Nature would take revenge and its intensity would take the world civilization and mother earth to the brink of destruction. Hence, good senses must dawn on all now for taking consensus decisions. The COP25 is expected to walk along this way.

EP

Rooppur Nuclear Power Plant



Bangladesh Atomic Energy Commission

Paramanu Bhaban, E-12/A, Agargaon
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Energy Efficiency: The Future of Power Generation

Mohammad Hossain

Bangladesh, like any other emerging developing country, cannot overlook the pivotal role of the power sector in fueling its overall development. All the sectors require a constant and reliable source of electricity for the economy to function and grow. It's an undeniable fact that energy has become one of the most important factors for better economic growth and people's life in Bangladesh. After decades of dependency on domestic natural gas, we find ourselves not equipped with sufficient energy resources in our land, and will gradually rely on imported fuels. Also, we are well aware that the Greenhouse Gas (GHG) emission accelerates global warming, causes climate change and creates havoc to our country by natural calamities. Still, we are committed to the transformation of a happy and prosperous Bangladesh by implementing 'vision 2021' and 'vision 2041 as announced by our Hon'ble Prime Minister Sheikh Hasina. As a result, the government has taken various initiatives to make electricity generation more efficient and affordable for the masses.

Operational Efficiency of Generation Plants

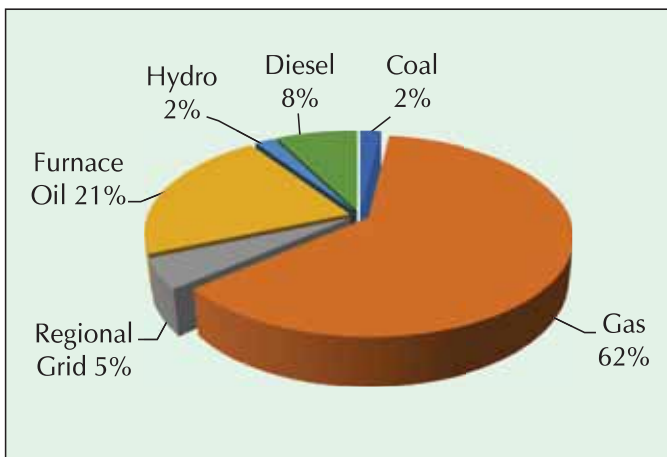
Efficient operation and maintenance (O&M) of the running power plants have been a long-standing critical challenge. Many of the power plants owned by

Bangladesh Power Development Board (BPDB) are age old and running inefficiently. These have become a burden for the sector and need to be augmented. Some of those would require to be retired and replaced by the new ones with modern efficient technology to increase generation efficiency in power sector. We have emphasized the development of new power plants to quickly respond to the growing demand for electricity, and also paid adequate attention to augment the existing plants as well. Bangladesh now sees as large as 22% (or equivalent to 2,200 MW) capacity loss from the installed capacity of 10,000 MW of old power plants. This loss could have been minimized with appropriate augmentation. Adoption and implementation of a proper O&M is of highest priority of the government. Related to this, there is a huge potential for re-powering the existing simple-cycle gas power plants through upgrading them as combined-cycle gas turbine (CCGT). Re-powering and replacement of existing simple cycle gas turbines can free up enough gas to run an additional 600-700 MW baseload CCGT that would eliminate the substantial supply shortfall in the short term. This option has been known for years now and efforts are currently underway for repowering some of the Ghorasal units. There are several

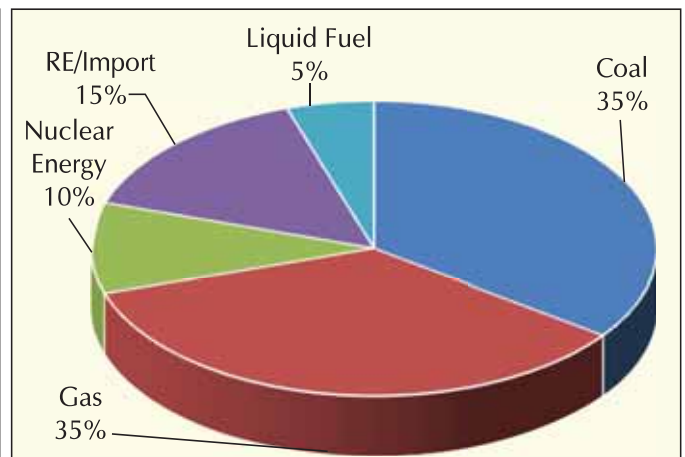
similar projects that could be pursued more aggressively. The longer-term view of limited gas and hence the need to conserve gas is paramount – it requires taking hard decision in the short-term to conserve as much gas as possible.

Captive Power Plants

The government is planning to bring the industries to the grid and gradually reduce the dependency on captive power plants. The government began to allow captive power generation during the mid-1990s due to an unreliable power supply. Around 17% of the total gas consumed currently goes to the captive power plants, which generate around 3,000 MW of electricity. These are basically engine-based and inefficient. The government has also directed the existing captive power plants to increase their thermal efficiency to at least 60%. In order to achieve the 60% target, the captive power plants have been asked to start cogeneration process. Currently, more than 80% of the captive generators in the country are releasing their flue gas into the atmosphere. Some captive plants have already been converted to combined heat and power (CHP) to tackle the severe shortage of gas, but 70% of the flue gas collectively released by the existing captive power plants is still being wasted. Instead, the government has taken initiatives to establish



Fuel Mix- Present



Fuel Mix- 2041

several larger coal and LNG-based more energy-efficient power plants throughout the country.

Fuel Diversification

Natural gas is currently the main fuel for power generation in Bangladesh, but this finite resource won't last forever. Recognizing the importance of primary fuel for power generation, the government is diversifying the fuel mix by gradually shifting to coal, LNG, and other available fuel besides gas. To ensure energy security, the government has prepared PSMP-2016 considering gas, coal, LNG, liquid fuel, dual-fuel, nuclear and renewable energy resources. The government has also taken initiatives to import power from neighboring countries.

Use of Modern Technology

Use of information and communication technology (ICT) solutions is key enablers for improving the efficiency of the power sector. Considering the requirements of Bangladesh, we foresee that information and operational technologies shall play a critical role in Bangladesh's power sector. With the ongoing plans for the implementation of enterprise resource planning (ERP) systems, geographical information system (GIS), metering-billing-collection (MBC) system, supervisory control and data acquisition (SCADA) system, underground substations, etc., the utilities in Bangladesh are well placed to keep pace with the global trends. At present several power plants are being built using ultra-super critical technology.

Efficiency Improvement in Transmission

Transmission capacity in Bangladesh is not growing fast enough to cope up with the power generation, resulting in supply bottlenecks in important commercial corridors and industrial hubs. Unexpected outages, like the November 2014 countrywide blackout, perpetuate concerns about the security and stability of the country's power grid. Power system frequency in Bangladesh varies routinely on normal days between 48.9-51.2 Hz, going as low as 48.7 Hz and as high as 51.5 Hz under contingency. This is a major impediment to system efficiency and reliability and also causes severe economic loss including out-of-merit dispatch. We are trying to augment the transmission system up to N-1 principle such that there is adequate redundancy in the system. In order to achieve this we have taken several transmission projects to add more transmission lines and grid substations. Proper monitoring tools with SCADA, EMS have been introduced. Our aim is to transform the grid into SMART grid system.

Efficiency Improvement in Distribution Sector

The present capacity of distribution lines in Bangladesh is about 550,000 kilometers and sub-station capacity is about 20,000 MVA. Despite significant improvements, the current infrastructure is not enough to ensure an uninterrupted supply for all by 2021. A huge number of new distribution lines and sub-stations will need to be constructed to fulfill that goal. Distribution network is being improved through upgradation of

distribution lines and substations, installation of capacitor bank/PFI plants, implementation of pre-payment metering system, reduction of technical and non-technical losses, etc. The government has decided to develop underground distribution system in major cities of the country. The aim is to provide the facility of modern cities with an advance electricity supply system. DPDC and DESCO have adopted several plans to establish underground distribution substations and supply lines to switch to modern country's practice of having underground power-distribution system. At the same time, the consumers are also encouraged to use the efficient appliances. Massive awareness campaign are going on to aware the consumers about energy saving and conservation.

The government has prepared the Energy Efficiency Master Plan, which aims at a reduction of 15 percent by 2021 and 20 percent reduction in energy intensity of GDP by 2030. Despite the enormous potential for EE across all sectors in Bangladesh, there are considerable barriers to large-scale EE adoption and market transformation, particularly across various demand-side sectors. The government has taken all out efforts to develop the power sector in a sustainable way. We firmly believe that we will be able to ensure an efficient power sector and provide quality electricity for the citizen of the country.

EP

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Mohammad Hossain;
Director General,
Power Cell, Power Division



UN Climate Conference & The Planetary Emergency

Mushfiqur Rahman

The 25th UN Climate Change Conference (COP25) is taking place in the Spanish capital of Madrid on 2-13 December 2019. The annual climate conference has become a major event to discuss strategies and action plans to prevent and adopt with climate change and all the consequences that have been threatening the planet earth. The conference is attracting attention of the global community for a number of reasons: In the year 2020, the landmark Paris Agreement, signed by 196 countries of the World, will come into force. The global warming and Green House Gas (GHG) emissions continue to rise in the atmosphere, accelerating climate change. The UN assessment shows that the poor countries are hit hardest due to climate change. Rising sea levels, intense storms, unpredictable weather and rainfall, flood, larger and longer heatwaves have already affecting tropical and sub-tropical regions of the world, including Bangladesh, India, Indonesia and in the countries of East and West Africa. Industrially developed countries are not away from the effects of climate change. The Green Climate Fund (GCF) is created in the Paris Climate Conference in 2015 to assist these climate change victim countries in adopting practices to cope with the consequences of climate change. The governments of industrially developed economies formally agreed to the Paris Agreement to mobilize US\$100 billion per year by 2020 through public and also from bilateral, multilateral and private funds. The second largest GHG emitter and the largest economy of the world, the USA has formally notified the

United Nations on 4 November 2019 that it was withdrawing from the Paris climate accord. The US administration understands that the country will be the only UNFCCC (United Nations Framework Convention on Climate Change) member state and the largest economy of the world, which has signed the Paris Agreement and will withdraw from the global initiative. As a result, the US will stop contributing to the GCF and will end reduction of carbon to atmosphere, roll back of fuel efficiency rules set by former US President Barak Obama.

The climate conference within the framework of the UNFCCC is the international response to climate change. The Paris Agreement have been signed by 196 countries, including the European Union that establishes the basic obligations to stabilize GHG concentrations in the atmosphere at a level that will prevent climate change. The Conference of the Parties (COP) is an important annual international forum for taking stock of where the world stands on climate change and discusses issues related to global warming caused by human activities. The COP25 is expected to gather 25,000 people including the heads of governments and states, politicians, academia, researchers, bureaucrats, activists, observers etc. Last year in Katowice of Poland, more than 20,000 people attended the COP24. The 25th COP is targeting to resolve some of the remaining unresolved issues on the rules that the participating countries (parties) to follow in their efforts to reduce GHG emissions. Also the meeting may announce new initiatives to respond to global

warming to try to advance a global strategy for tackling rising global atmospheric temperatures. Also, the COP25 is expected to reach a consensus on funding for repairing damage of the climate crisis.

The funding issue is especially important for the climate vulnerable, least developed and the small island nations. The GCF support is very important to enable the paradigm shift from “Carbonism” (is a belief that fossil fuel is better than other energy sources and denies the scientific evidences that carbon pollution into atmosphere accelerates climate change and acidification of oceans and water bodies) to low emission and climate resilient development by innovation and investments in mitigation and adaptation projects in the developing world for transformational impacts of climate action. But the paths to secure implementation of the Paris Agreement are not simple mainly as the rich nations in the agreement generally are reluctant to fulfill their pledges to finance the GCF; not all of the major polluting nations want any legally binding date to reduce GHG emissions at the cost of their own usual lifestyles and economic philosophy.

Despite the fact that the Trump administration in the US remains firm on withdrawal from the Paris Agreement, it has to wait until 04 November 2020 (4 years from the date USA entered in the Paris Accord) to realize its intention into effect in accordance with the Article 28 of the Paris Agreement. The Article 28 stipulates that the a party (member country of the Paris Agreement 2015) cannot withdraw from the

Paris Agreement 2015 before four years have been passed from the date the agreement came into effect. President Trump considers that the Paris Agreement is 'unfair, horrible, costly, one sided'. However, optimists consider the Paris Agreement will exist because the rest of the world but USA support it. Instead of fighting climate change as a source of pain, the Paris Agreement 2015 'recognizes that the victors in a post-carbon world those who move first'.

As reported by the German DW, among the above, the US being the biggest economy pledged to contribute US\$ 3.0 billion, followed by Japan (\$1.5 billion), the UK (\$1.1 billion), France and Germany (\$1.0 billion) each. Since then, many of these countries have increased their commitments and more countries have joined the fund. China pledged to contribute to the GCF US\$ 3.1 billion over a non-specific time-frame. A total of US\$ 10.3 billion was promised as well as signed to be paid by 43 countries in 2018, but US\$ 6.5 billion has been paid. Japan is the largest contributor so far followed by the USA, UK, Germany, France and Sweden. USA government has paid US\$ 1.0 billion as first installment and US\$ 500 million as second instalment for the GCF under Obama administration. Soon after President Trump took charge of the US government, he criticized Barak Obama's decision and since then USA did not pay its installments USA pledged.

As per the agreement, USA owes US\$ 2.0 billion or 20% of the total sum that was supposed to be funded by all nations in the first round of funding. Australia also declined to contribute to the GCF following President Trump's decision. So far, the rich economies of the world comprising of 27 countries announced the contribution to the GCF. The Executive Director of the GCF Mr. Yannick Glemarec observes that the increased contributions as positive but still falls short of the amount needed to meet its global goals. He is hopeful that additional resources will be found for the GCF.

The European Union and China are pouring money into renewable energy heavily and these two countries have been controlling the global supply chain of renewable energy products and technology. Critics consider that by withdrawing from the Paris Agreement, President Trump has damaged American credibility abroad. The American credibility crisis has been reflected in the global forums. If USA continues its isolated policies, there might be a time of revaluation in the world arena. The US banks and mighty US dollars will further get isolated and alternative banks and currencies will make US re-entry to market complicated.

In the backdrop of the increasing natural disasters and dwindling bio-diversity, the mainstream political parties in the countries have been compelled to respond on 'unequivocal' public concerns over climate change and human sufferings from global warming. The latest example is the UK election manifesto of the major political parties participating in the election where political parties have supported a transition to net zero GHG emission within a few decades and are competing with each other on the policies how to attain the target. Despite the 'Brexit' debates hanging over the country, UK members of parliament (House of Commons) have unanimously passed (on 30 April 2019) a motion to declare an 'environmental and climate emergency'. Earlier the parliaments of Scotland and Wales declared their won climate emergency. The analysts consider that the approved nonbinding climate emergency motion in the UK parliament was reached unanimously because thousands of people took to the streets for a sustained period of protests from Extinction Rebellion movement, a number of environmental groups, UK Student Climate Network, Friends of Earth and others including the school strikers led by Greta Thunberg.

On 13 November 2019, Bangladesh National Parliament has adopted a motion on planetary emergency arising out of the global climate change, pollution and biodiversity depletion worldwide.

The approved planetary emergency motion ahead of the upcoming COP25 calls for the global community to act urgently and decisively in achieving the net zero (carbon) emissions well before 2050.

The COP25 could be a good forum to present the resolution adopted by the Bangladesh Parliament and share views of the world community on how the planetary emergency can be addressed. The auspicious COP25 forum may serve as an opportunity to discuss the issues related to planetary emergency and help formulate the implementation plans and get supports from the global community on planetary emergency. As Bangladesh remains the most vulnerable hotspots for global climate change and the adverse impacts, it invites 'the global community must act urgently, decisively and with considerably higher ambition in achieving net zero emissions well before 2050, capping temperature rise to 1.5 degree Celsius and transitioning swiftly to low carbon economies as overarching priorities.'

The resolution calls for planetary justice and climate equity so that the climate vulnerable countries are assisted with finance and technology to meet their development aspirations in the quickest and the shortest time.

Prime Minister of Bangladesh Sheikh Hasina will attend the UN Climate Change Conference in Madrid. She is expected to apprise the world leaders on the steps taken by the Bangladesh government to address the challenges of the climate change, and urge the international community for considering climate financing for providing compensation to the climate change affected countries in line with the 'Warsaw International Mechanism'. The COP19 held in Warsaw, Poland in 2013 established the mechanism to address for 'Loss and Damage' with climate change impacts associated with countries that are particularly vulnerable to the adverse effects of climate change.

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*Mushfiqur Rahman;
Mining Engineer Writes on Energy
Environment Issues*

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Can COP25 Achieve Objectives?

Saleque Sufi

The COP25, the UNFCCC managed Conference of Parties, would now be held from 2-13 December 2019 in Madrid, Spain. Originally planned to be held in Chile, but it was cancelled on 30 October 2019 as the government of Chile expressed their inability to host the conference due to political instability. Following withdrawal of major polluter USA from the KYOTO protocol, apprehensions have been triggered world over about the future and ultimate success of the endeavors of the world committee of nations for effectively combatting the climate change from emissions. The Green Development Fund (GDF) received not enough contributions from the major polluting countries. Climate vulnerable countries are struggling. Continued melting of glaciers, rising of sea level, frequent incidents of cyclones, tidal bores, tsunamis, earthquakes, draughts, excessive rainfalls, severe winter continue devastating the communities across the world. In the backdrop of above, the world community will look towards the discussions, debates and meeting of minds of major players in COP25 about the future of climate change control and management.

The 15th session of COP reached the famous Kyoto Protocol (COP15). The CMA2 served as the meeting of Paris Agreement and the 51st sessions of the Subsidiary Body of Implementation (SBI15) and the Subsidiary Body for Scientific and Technological Advice (SBSTA 51) concluded with critical matters still to be resolved and agreed.

At the concluding session of COP24, Chile has been selected as the venue for COP25. The pre-COP meeting in Costa Rica had the target for acting as bridge between the UN Climate Action Summit and COP25. It also discussed about Intergovernmental Panel on Climate Change (IPCC) special report on the Ocean and Cryosphere in a Changing

Climate (SROCC) and unresolved issues of COP24.

There will be few more pre-COP25 meeting. On November 29-30 the second meeting of the Katowice Committee of Experts on impacts of the Implementation of Response Measures (KCI), on November 28-30 the second meeting of the Local Communities and Indigenous Peoples Platform (LCIPP) will be held. On December 1, 2019 the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) would review the events.



The Climate Conference 2019 will be informed the outcomes of other meetings, the UN Climate Action Summit, held in New York, US in September 2019, three Regional Climate Weeks: Africa Climate Week held in March 2019, Latin America and Caribbean (LAC) Climate Week held in August 2019, and Asia Pacific Climate Week held in September 2019.

The highlights of events of COP25 would include the high level part of Pre-2020 stocktaking and a Global Climate Action (GCA) High-Level Event on 11 December 2019.

UNFCC presidency would also convene:

- Convention on Biological Diversity (CBD) and Convention to Combat Desertification (UNCCD) Roundtable on 7 December.
- A Ministerial Dialogue on Adaptation on 10 December.
- A High Level Event on Forests on 5

December

The Presidency will convene, inter alia:

- A Ministerial Dialogue on Adaptation on 10 December;

- A Panel on Nationally Determined Contribution (NDC) Ambition on 6 December; and

- A High Level Event on Forests on 5 December.

A Platform for Science Based Ocean Solution (PSBOS) and Platform of Latin American and Caribbean Agricultural Climate Action (PLACA) would also be launched on 3 and 5 December respectively.

The Presidency will also launch the Platform for Science-Based Ocean Solutions (PSBOS) and the Platform of Latin American and Caribbean Agriculture Climate Action (PLACA) on 3 and 5 December, respectively.

Other important events that would take place during COP include roundtable on agriculture – food chain, SDG 14 (Life below water) and SDG 15 (Life on Land), circular economy in cities and buildings, circular economy in packaging and business models, resilience, and SDG6 (clean water and sanitation) and SDG7 (affordable and clean energy).

Action events will convene on industry, water, land use, ocean and coastal zones, energy, transport and human settlements. The SBSTA and IPCC will hold joint special events on SROCC and Special Report on Climate Change and Land (SRCL).

Every time the Conference of Parties (COP) generates huge expectations. Vulnerable community especially in the least developed and developing countries honestly desire positive development and meaningful agreements. Unfortunately, all the high sounding agenda and topics of discussion end with very few outcomes achieved. Trust COP25 will be different and unique. We have one world and we all have religious responsibility to protect and preserve by actions not words.

EP

Saleque Sufi;
Contributing Editor, EP



বিদ্যুৎ বিভাগ বিদ্যুৎ, জ্বালানি ও খনিজ সম্পদ মন্ত্রণালয়

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- ❖ এলইডি বাল্ব ব্যবহার করে অর্থের সাশ্রয় করুন।
- ❖ হলিডে স্ট্যাগারিং এর নিয়মানুযায়ী সাপ্তাহিক ছুটির দিনে দোকানপাট বন্ধ রাখুন।
- ❖ এসি'র তাপমাত্রা ২৫° সেলসিয়াস বা তার উপরে রাখুন।
- ❖ দিনের বেলায় জানালার পর্দা সরিয়ে রাখুন ও সূর্যের আলো ব্যবহার করুন।
- ❖ বৈদ্যুতিক আলোক সজ্জা ও অতিরিক্ত লাইট/ফ্যান ব্যবহার পরিহার করুন।
- ❖ ঘর থেকে বের হবার সময় বিদ্যুতের সুইচ বন্ধ করুন।
- ❖ অবৈধ বিদ্যুৎ ব্যবহার থেকে বিরত থাকুন।
- ❖ ইজিবাইক, অটো রিক্সা ইত্যাদির ব্যাটারি অবৈধভাবে চার্জিং করবেন না।

বিদ্যুৎ বিভাগ

WZPDCL Restores Power Supply Soon After 'Bulbul' Devastation

Mohiuddin Miah

West Zone Power Distribution Company Limited (WZPDCL) has managed to overcome the devastation caused by cyclone 'Bulbul' within a short period of time.

The severe cyclonic storm hit Bangladesh on 9 November 2019.

According to WZPSCL, a total of 528 electric poles were damaged while 698 poles fell down or shifted due to trees, branches of trees, billboards fell down on the electric lines. Moreover, 223 km of line conductor snapped with different types of insulator and pole fittings.

Total financial accumulation of the damage to the distribution system under WZPDCL, Khulna would be approximately Tk 77.2 million.

WZPDCL had also taken various measures for quick recovery of affected electricity systems as per the instruction from the Power Division. Managing Director of WZPDCL Engr. Md. Shafique Uddin convened a meeting on 9 November 2019 at 10:00 AM.

He gave necessary instructions to the officials for restoring the power supply after the storm at the earliest possible time.

WZPDCL has 78 feeders of 33KV under sixty eight 33/11 KV substation. Due to the effect of the cyclone, 41 feeders of 33 KV tripped intermittently on 9 November 2019.

The cyclone hit the highest levels in



Khulna, Bagerhat, Mongla, Pyra, Barguna, Patuakhali, Pirojpur, Jhalakathi, Satkhira, Bhola and Barisal areas under WZPDCL.

Total 15 feeders of 33 KV out of 18 shut down in Khulna district and sadar up-



azila. As a result, the electric line tripped/shut down, even the line conductors were broken.

Immediately after the cyclone, the waiting staff of all the offices of WZPDCL started working with necessary equipments to recover 33KV and 11 KV lines in phases.

All the distribution lines were restored by 10 November, excepting 9 feeders of 33KV under Barishal and Patuakhali circle due to 132 KV grid line failure in this area.

After getting grid electricity at 10:30 am on 11 November, 95 percent of the distribution line under WZPDCL restored within two hours and rest of the feeders were made operational in a very short time.

Finally, the power supply was restored in a very short time as a result of instant action by the officials and staff in accordance with the direction of management from the Center Control Room (CCR) of WZPDCL throughout the entire process of restoration of electricity.

However, WZPDCL is responsible for distribution of quality electricity to the consumers across 21 district sadar upazillas as well as other 20 upazillas in the south-western part of the country.

The company is also working with an eye to prepare a 24 years distribution master plan for its territory in harmony with the Sustainable Development Goals.

Presently, WZPDCL is operating with 68 substations (1738.65 MVA) 33/11 KV, 11,825 kilometers of distribution line with necessary infrastructure and serving a total of 11,92,369 consumers as in September 2019. **EP**

Cent Percent Electrification in All Upazilas by 2021: PM



Prime Minister Sheikh Hasina recently expressed her hope that all the upazilas of the country will come under cent percent electrification coverage by 2021, as the government has been working to illuminate all the homes across the country.

“We hope to give cent percent electricity across the country within the “Mujib Borsho” to be observed from March 2020 to March 2021 marking the birth centenary celebration of Father of the Nation Bangabandhu Sheikh Mujibur Rahman,” she said.

The prime minister said this while inaugurating seven

power plants, that added 790 megawatt power to the national grid, and complete electrification at 23 upazilas, through a videoconference from her official residence Ganabhaban.

“As many as 234 upazilas have so far been brought under cent percent electrification coverage with opening the seven power plants and bringing 23 upazilas under complete electrification,” she said.

The premier said 94 percent people have been brought under the electricity coverage as the power generation now stands at 22,562 megawatt.

EP

Gas Pipeline Leakage Causes Ctg Explosion

The probe committee, formed to investigate the explosion and subsequent wall collapse that claimed seven lives in the city's Patharghata area, found leak in gas pipeline to cause the accident.

The committee formed by Chattogram district administration submitted its 13-page probe report recently. Additional District Magistrate AZM Shariful Islam led the probe body.

Shariful Islam said they found in the investigation that the

explosion occurred from leakage in the gas pipeline from the riser to the customer end. A five-point recommendation was also made to prevent such accidents in future in the



Modern Technology to Ensure Safe, Quick Services: Nasrul

With the latest technologies surely delivering services for suiting to demands of the people, State Minister for Power, Energy and Mineral Resources Nasrul Hamid recently said use of modern technology in the power sector will ensure safe and quick services to all subscribers.

“All power distribution companies will have to introduce modern technology in their utility services aimed at providing hassle free, safe and quick services to the country-wide consumers,” he said this, while inaugurating Aftabnagar and Purbachal 132/33/11 KV grid substations as the chief guest in the city.

Nasrul said Dhaka Electric Supply Company Limited (DESCO) has already brought one-third of all subscribers under prepaid meter and introduced modern technology system.

Chaired by additional secretary Maksuda Khatun, the inaugural ceremony was also addressed by Power Secretary Dr Ahmad Kaikaus and Chairman of Bangladesh Power Development Board (BPDB) Engineer Khaled Mahmood as special guests.

DESCO Managing Director Brigadier General (retd) Md Shahid Sarwar delivered welcome speech and highlighted its activities.

EP



probe report.

Mentionable, seven people, including two women and an eight-year-old schoolboy, were killed and 20 others in-

jured in an explosion and subsequent wall collapse in the southeastern port city's Patharghata area on November 17. The explosion took place near the ground floor of 'Barua Building' at the Brick Field Road in the Patharghata area around 9:00am.

Three separate committees were formed by the district administration, Chattogram Metropolitan Police (CMP) and Karnaphuli Gas Distribution Company Limited (KGDCL) to investigate into the matter.

EP

Pollution to Take Heavy Toll on Cox's Bazar

Cox's Bazar will be one of the most polluted places in the country when the 17 planned coal-fired power plants start operation in the district, predicts a report by two environmentalist organizations.

The power plants would pose a great threat to people's health and livelihood, and biodiversity, it adds.

The government acquired 11,642 acres of land in Cox's Bazar for 17 coal-fired power plants to be built by 2031, according to the report released recently by a fact-finding mission from Bangladesh Poribesh Andolon and Waterkeepers Bangladesh.

The possible environmental or social impact of the plants to the beach town has not been assessed properly, the researchers told a press conference at Dhaka Reporters

Unity.

Bapa President Sultana Kamal said, "Development should be well planned and for the greater interest of people without harming the environment."

"We are not against development. But the government keeps choosing environmentally sensitive areas like forests, hills and sea beaches [to build power plants]. We don't want to be the most polluted country in the world. We want to save Cox's Bazar and Maheshkhali."

Bapa Executive President Abdul Matin said his organization had informed the authorities about the environmental impact of coal-fired power plants in others countries. But the government hadn't changed the plans.

EP

Power, Trade Playing Role for Geopolitical Development in South Asia: Nasrul

State Minister for Power and Mineral Resources Nasrul Hamid recently said power and trade are playing a significant role for coordinated geopolitical development in South Asian countries, according to a release received in Dhaka recently.

"Electricity exchange will help ensure rapid economic development in the region. Technology and expertise may be exchanged for balanced development," he said this while presenting the keynote

paper at Power Summit-2019 in Kathmandu.

Nepalese Energy, Water and Agriculture Minister Bar-



500MW to be Bought from Nepal



The government will import 500 megawatts of electricity from Nepal, said the power and energy ministry in a press release recently.

"We have almost finalized importing power from Nepal's Karnali hydropower project through GMR Group," said State Minister Nasrul Hamid presenting a keynote at a "power summit" in Kathmandu.

Nepal is the second country from where electricity is being imported. Bangladesh first bought 1,160MW of electricity from India.

Officials of the Power Divi-

sion said the purchase rate was finalized at 7.72 cents per kilowatt-hour.

The rates with India vary with a majority being 7.79 cents.

"We are also interested in importing electricity from Bhutan," added Hamid.

"Nepal and Bhutan can also get power from us during the winter season as demand for electricity falls here during the season and increases in Nepal and Bhutan," he said.

Hamid said such cooperation could also be enhanced with the Seven Sister States of India.

EP

shaman Pun, Bhutanese Economic Affairs Minister Loknath Sharma and Nepalese Independent Power Producers Association's Vice President Kumar Pandey were

present and spoke in the summit.

Bangladesh is importing 1,160 MW of electricity from India per day, Nasrul said, adding "We are also interested to import power from Nepal and Bhutan."

"Nepal and Bhutan also could import power from Bangladesh during the winter because electricity demand in Bangladesh is usually less during the season. On the other hand, power demand is increased in Nepal and Bhutan during the winter," he said.

EP



পাওয়ার গ্রিড কোম্পানী অব বাংলাদেশ লিঃ POWER GRID COMPANY OF BANGLADESH LTD.

(An Enterprise of Bangladesh Power Development Board)

Head Office: Aftab Nagar (Beside NLDC Building), Badda, Dhaka-1212, Bangladesh

মানসম্পন্ন বিদ্যুৎ নিরবচ্ছিন্নভাবে দেশের সকল মানুষের নিকট পৌঁছে দেয়াই আমাদের অঙ্গীকার

- * গ্রীড উপকেন্দ্র, গ্রীড লাইন ও টাওয়ার জাতীয় সম্পদ, তা রক্ষা করা সকলের দায়িত্ব।
- * গ্রীড 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 গ্রীড লাইন ও টাওয়ার হতে নিরাপদ দূরত্বে স্থাপনা নির্মাণ করুন।
- * বৃক্ষ রোপনে গ্রীড 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।



FSRUs Still Operate at Half Capacity

Pipeline constraints are still pushing the country's overall import of LNG (liquefied natural gas) and its re-gasification almost half the total capacity.

State-run Petrobangla is currently re-gasifying around 550 million cubic feet per day (mmcf) of LNG from two LNG import terminals, FSRUs, against their capacity to re-gasify around 1,000 mmcf.

Petrobangla has deals with the terminal owners to pay around US\$ 450,000 (Tk 38.25 million) per day for re-gasification of up to around 1,000 mmcf of LNG, a senior Petrobangla official said.

According to the deals, Petrobangla is required to pay the US's Excelerate En-

ergy's FSRU (floating, storage, re-gasification unit) around

\$237,000 per day and Summit's FSRU around \$ 217,000 per day.

It will have to pay the same amount to Excelerate Energy and Summit Group, no matter it re-gasifies the agreed quantity or less, he added.

Both the deals are on a take-or-pay basis that means Petrobangla will have to pay the aforesaid amount after commissioning of the FSRUs, no matter it re-gasifies or not.

Both the FSRUs are designed to re-gasify around 500 mmcf, which is the agreed quantity between Petrobangla and contractor.

A senior official of state-run Gas Transmission Company Ltd (GTCL) said the existing pipeline infrastructure has a maximum capacity to supply around 650 mmcf of re-gasified LNG (RLNG).

EP



No More Gas Rationing for Industries

The government has decided to stop natural gas rationing for industrial units to allow non-stop supply of the fossil fuel to major industries.

"We have decided to ensure non-stop supply of natural gas to industrial units, especially factories under BGMEA, BKMEA and BTMA to help those industries run at their maximum capacity," said a senior official at Titas Gas Transmission and Distribution

Company Ltd.

"The state minister and secretary also

instructed us to ensure non-stop gas supply to industries," he added.

The government has withdrawn the 12 years long rationing in industrial units during the then caretaker government.

The official also said garment factories and textile mills will get the priority in getting uninterrupted gas supply.

EP

Ensuring Electricity Govt's Highest Success: Mannan



Planning Minister MA Mannan has identified enhancing electricity coverage to nearly 95 percent areas as the government's largest success in last 10 years.

"Development work is going on across the country all the time. It is not a slogan only. We can see its reflection everywhere, even in rural market places," he commented recently.

"People now get food, clothing and electric lights are available in almost all the households," he said, adding: "Ensuring electricity for 95 to

96 percent households is the best success of Prime Minister Sheikh Hasina."

The minister's comments came as he was addressing the closing function of a week-long development fair of Palli Karma-Sahayak Foundation (PKSF) in the capital as the chief guest.

The wave of this change has swelled other parts of the globe as well, including Africa, Asia and America as Bangladesh's development has been a burning issue, Mannan claimed.

EP

Reliance on Energy Import Delays Fresh Tender Launching

The government's delay in launching fresh bidding for hydrocarbon exploration is pushing Bangladesh to rely heavily on energy imports, thus putting mounting pressure on economy, industry insiders said.

Petrobangla has recently finalized the latest model production-sharing contract (PSC) after three years' rigorous work since 2017.

The formula was aimed at launching the bidding round

for oil and gas exploration at unexplored blocks.

But the state entity is still to invite bidders from interested international oil companies (IOCs) to explore the yet untapped hydrocarbon potential.

"We're awaiting a green light from Energy and Mineral Resources Division of the ministry to launch the bidding round," a senior Petrobangla official said.

EP

Govt Plans to Divert Gas from Power Plant to Commission Bhola 212MW Plant

The commissioning of the newly-constructed Bhola 212MW dual-fuel power plant, sponsored by Indian Shapoorji Palionji, is likely to be delayed due to lack of natural gas supply to feed the plant.

To address the issue, Bangladesh Power Development Board (BPDB) is planning to divert gas from a 225MW state-owned plant.

Shapoorji Palionji had earlier signed deals with the government in 2017 to start electricity generation from the plant by December 28, 2019.

To supply fuel to the power plant, Sundarbans Gas Company Ltd earlier signed a gas

supply agreement with the company on August 28, 2017, to complete the construction of the gas transmission facility 90 days before the commencement of the commercial operations of the newly constructed power plant.

But, the company is yet to award the work order to construct seven-kilometer pipeline and other facilities to supply gas to the new plant, official sources said.

Due to delay in the tendering procedure, the Sundarbans Gas Company Ltd will need another 10 months to implement the pipeline project.

EP

RNPP: Significant Progress in Equipment Manufacture & Shipment

While Bangladesh is expecting its first megawatts of nuclear energy in the coming years, manufacture of various machineries and equipment is running in full swing in Russia. Some of them have already reached Bangladesh, some have been shipped and others are still in manufacturing process.

Lower semi-vessel of the Reactor Pressure Vessel (RPV) of Unit 1 has been assembled at the Volgodonsk Branch of AEM-technology under Atomash. The company is a part of Engineering Division of Rosatom – Atomenergomash.

Head and shells of the reac-

tor core were assembled for subsequent welding of joints and heat treatment of joint welds. Following completion of the process the lower semi-vessel will undergo different inspection operations. Then it will be jointed to the already manufactured upper semi-vessel.

The Reactor represents a vertical cylindrical body with elliptic bottom with the Core and other equipment inside it. In the upper part of the vessel there are nozzles for coolant supply and removal, and also nozzles for emergency coolant supply in case of circuit depressurization.

EP

ABB Proves World-First Subsea Power Technology System

ABB's pioneering subsea power distribution and conversion technology system is commercially viable, bringing groundbreaking potential for cleaner, safer and more sustainable offshore oil and gas production, following the completion of a 3,000-hour shallow water test.

For the first time worldwide, energy companies will be able to access a reliable supply of up to 100 megawatts of power, over distances up to 600 kilometers and down to 3,000 meters water depth, at pressures that could shatter a brick.

This is all achievable with a single cable with little or no maintenance for up to 30 years, making oil and gas production feasible in far out and deep ocean environ-

ments.

The \$100 million research, design and development Joint Industry Project (JIP) between ABB and Equinor with its partners Total and Chevron was initiated in 2013.

The validation of the shallow water test at a sheltered harbor in Vaasa, Finland, means the majority of the world's



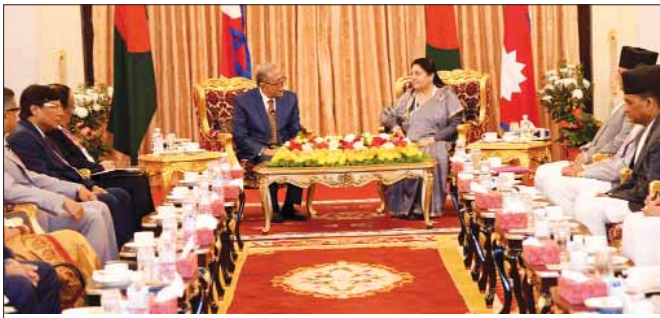
offshore hydrocarbon resources are now in reach for electrification.

"This milestone marks an outstanding achievement and is the culmination point of an inspirational technology development achieved through tremendous dedication, expertise and perseverance. It is the result of intensive collaboration by over 200 scientists and engineers from ABB, Equinor, Total and Chevron in a multi-year, joint effort," said Dr. Peter Terwiesch, President of ABB's Industrial Automation business.

EP



Hamid for Enhanced BD-Nepal Cooperation in Energy



President Abdul Hamid and Nepal President Bidhya Devi Bhandari lead the bilateral meeting during recent visits in Nepal

President Abdul Hamid stressed the need for enhancing cooperation between Bangladesh and Nepal through strengthening connectivity.

Addressing a banquet hosted by Nepalese President Bidhya Devi Bhandar recently, Hamid stressed the importance of strengthening road, rail and air connectivity, water resources management, power and energy, especially hydropower generation and boosting tourism as the two countries have immense potential in

these areas.

Bangladesh attaches greater importance to its relations with Nepal, said the President adding that the people of Bangladesh recall with deep gratitude the moral and material support extended by the political leadership and the people of Nepal during the War of Liberation in 1971.

"Our two countries and people are bound together with the ties of history, culture and language," Hamid said.

EP

Eastern Refinery to Remain Closed for 35 Days for Overhauling

The sole state-run Eastern Refinery Limited will remain closed for 35 days for its overhauling.

The shutdown started on November 16 as all the units of the company will be under maintenance during this period, said an official.

Besides, larger parts of the machineries will be opened up for cleaning and old parts of oil refineries will be replaced with new ones during this time, according to him.

"It is a scheduled shutdown for overhaul every two years.

We notify the BPC to keep sufficient reserves of fuel oil beforehand. We usually go forward with the shutdown after we receive the approval of the BPC. So, there will be no shortage of fuel," he said.

According to the BPC, there is a daily demand of around 800 tonnes of octane, 800 tonnes of petrol and 11,000 tonnes of diesel in the country.

The BPC has a reserve capacity of around 13 lakh tonnes of fuel oil, including six lakh tonnes of diesel.

EP

Power Div Favors Captive Power Generation

The Power Division favors the captive power generation until an uninterrupted power supply is ensured to industrial units.

"We have favor to relax the new condition for captive power aspirants to get natural gas supply for producing electricity to run their industries until ensuring uninterrupted power supply to industrial units," Additional Secretary of the Power Division AKM Humayun Kabir suggested.

He made the suggestion at a meeting held recently by Bangladesh Energy and Power Research Council (BEPRC) with its chairman Subir Kishore Chowdhury in the chair.

As per the suggestion from the power division, the

BEPRC has decided to recommend relaxation of the condition for textile and industries.

Now, entrepreneurs, who want to operate captive power plants, will need no objection certificate (NOC) from power distribution companies with a view to discouraging them to use captive power.

To this effect, the Energy and Mineral Resources Division under the Ministry of Power and Energy issued an official order signed by Deputy Secretary Dr Mohammed Moniruzzaman last August.

The order said aspirants of captive power have to collect their NOC from power distribution companies before applying for captive power sanction.

EP

Korean Posco Considers Spurning Deep Sea Block

South Korean oil and gas firm Posco International has intended to relinquish deep sea block DS-12, dealing a blow to the country's quest for discovering new hydrocarbon reserves.

Posco has informed the Energy and Mineral Resources Division under the Ministry of Power, Energy and Mineral Resources about its intention to leave the deep sea block unexplored, said a senior energy ministry official.

Earlier, the Korean firm had long been searching for a partner to drill an exploratory well in the block area, but none came up.

Sources said the hike in the

latest model production sharing contract, PSC, for the next round of offshore bidding might have prompted Posco to relinquish the block expecting a higher price in future.

Under the existing PSC, the Posco would get natural gas price at around US\$6.50 per mmBtu (million British thermal unit) with a 2.0 per cent annual price escalation from the date of first gas production.

But under the newly-adopted PSC, gas price has been set at around \$7.26 per mmBtu with a 1.5 per cent annual price escalation from the date of first gas production.

EP



নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোং লিঃ North-West Power Generation Company Limited

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified

(An Enterprise of Bangladesh Power Development Board)

ইউটিসি টাওয়ার, ০৮ পাছপথ, কাওরান বাজার, ঢাকা- ১২১৫।

ফোন: +৮৮ ০২ ৯১৪৫২৯১-৯২, +৮৮ ০২ ৯১৪৫৪২৭-২৮, ফ্যাক্স: +৮৮ ০২ ৯১৪৩৭৪৫

Web-site: www.nwpgcl.gov.bd, Email: info@nwpgcl.gov.bd

বিকশিত বিদ্যুৎ উৎপাদক

দেশের উত্তর-পশ্চিমাঞ্চলের ক্রমবর্ধমান বিদ্যুৎ চাহিদা পূরণ এবং লো-ভোল্টেজ সমস্যা নিরসনকল্পে বিদ্যুৎ খাত সংস্কারের আওতায় কোম্পানি আইন, ১৯৯৪ অনুসারে বিদ্যুৎ উৎপাদন ব্যবস্থায় গত ২৮-০৮-০৭ ইং তারিখে বাংলাদেশ বিদ্যুৎ উন্নয়ন বোর্ডের একটি প্রতিষ্ঠান হিসেবে নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিমিটেড গঠিত হয়। সিরাজগঞ্জ ১৫০ মেঃওঃ পিকিং পাওয়ার প্লান্ট নির্মাণ প্রকল্প, খুলনা ১৫০ মেঃওঃ পিকিং পাওয়ার প্লান্ট নির্মাণ প্রকল্প এবং ভেড়ামারা ৩৬০ মেঃওঃ কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র উন্নয়ন প্রকল্প নিয়ে কোম্পানির প্রাথমিক কার্যক্রম শুরু হয়। বর্তমানে সিরাজগঞ্জ ২২৫ মেঃওঃ কম্বাইন্ড সাইকেল পাওয়ার প্লান্ট (১ম ইউনিট), খুলনা ২২৫ মেঃওঃ কম্বাইন্ড সাইকেল পাওয়ার প্লান্ট, ভেড়ামারা ৪১০ মেঃওঃ কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র, সিরাজগঞ্জ ২২৫ মেঃওঃ কম্বাইন্ড সাইকেল পাওয়ার প্লান্ট (২য় ইউনিট), সিরাজগঞ্জ ২২৫ মেঃওঃ কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র (৩য় ইউনিট), সিরাজগঞ্জ ৪০০ মেঃওঃ (±১০%) কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র (৪র্থ ইউনিট) এবং মধুমতি ১০০ মেঃওঃ এইচএফও চালিত বিদ্যুৎ কেন্দ্র জাতীয় গ্রীডে বিদ্যুৎ সরবরাহ করছে।

কোম্পানির চলমান প্রকল্পসমূহের মধ্যে রূপসা ৮০০ মেঃওঃ কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র নির্মাণ প্রকল্প এবং সিরাজগঞ্জ ৭.৬ মেঃওঃ গ্রিড কানেক্টেড ফটোভোল্টায়িক সোলার বিদ্যুৎ কেন্দ্র প্রকল্পের কাজ এগিয়ে চলছে।

দেশের ক্রমবর্ধমান বিদ্যুৎ চাহিদা পূরণের লক্ষ্যে নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোং লিঃ এবং সিএমসি, চায়না-এর যৌথ উদ্যোগে গঠিত বাংলাদেশ-চায়না পাওয়ার কোম্পানি (প্রাঃ) লিমিটেড-এর আওতায় পটুয়াখালী জেলায় পরিবেশ-বান্ধব অত্যাধুনিক আন্ট্রা সুপারক্রিটিক্যাল প্রযুক্তি ব্যবহার করে আমদানি-নির্ভর কয়লা-ভিত্তিক পায়রা ১৩২০ (২× ৬৬০) মেঃওঃ তাপ বিদ্যুৎ কেন্দ্র (১ম পর্যায়) বাস্তবায়নের কাজ প্রায় শেষের দিকে। ইতিমধ্যে ১৯ সেপ্টেম্বর, ২০১৯ তারিখে পায়রা ১৩২০ তাপ বিদ্যুৎ কেন্দ্র (১ম পর্যায়) এর জন্যে প্রথমবারের মত ২০,০০ টন কয়লাবাহী জাহাজ বিদ্যুৎ কেন্দ্রের জেটিতে এসে পৌঁছেছে। আশা করা যায়, অত্র বিদ্যুৎ কেন্দ্রের ১ম ইউনিট ডিসেম্বর, ২০১৯ এবং ২য় ইউনিট জুন, ২০২০-এ বিদ্যুৎ উৎপাদনে সক্ষম হবে। এছাড়া, কোম্পানি কর্তৃক অধিগৃহীত একই স্থানে পায়রা ১৩২০ (২× ৬৬০) মেঃওঃ তাপ বিদ্যুৎ কেন্দ্র নির্মাণ প্রকল্প (২য় পর্যায়) বাস্তবায়নের লক্ষ্যে ইপিএসি চুক্তি স্বাক্ষরিত হয়েছে এবং অত্র কোম্পানি ও সিমেন্স, জার্মানি এর যৌথ উদ্যোগে পায়রা ৩৬০০ মেঃওঃ এলএনজি-টু-পাওয়ার প্রকল্প বাস্তবায়িত হবে। সম্প্রতি যৌথ উদ্যোগে ৫০০ মেঃওঃ নবায়নযোগ্য জ্বালানি ভিত্তিক বিদ্যুৎ কেন্দ্র স্থাপনের জন্য এনডর্রিউপিজিসিএল ও সিএমসি, চায়না এর মধ্যে সমঝোতা স্মারক (এমওইউ) স্বাক্ষরিত হয়েছে। এছাড়া, ভবিষ্যৎ পরিকল্পনার অংশ হিসেবে কোম্পানি আগামীতে বেশ কিছু মেগা প্রকল্প বাস্তবায়ন করবে।

নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানি লিঃ বিদ্যুৎ কেন্দ্র নির্মাণ প্রকল্প বাস্তবায়নে এবং বিদ্যুৎ কেন্দ্র পরিচালন ও সংরক্ষণে অনবদ্য ভূমিকা পালন করে আসছে। 'বিদ্যুৎ ও জ্বালানি সপ্তাহ ২০১৮'-এর উদ্বোধনী অনুষ্ঠানে দ্রুত বিদ্যুৎ উৎপাদন বৃদ্ধির স্বীকৃতি স্বরূপ মাননীয় প্রধানমন্ত্রী শেখ হাসিনার হাত থেকে পুরস্কার গ্রহণ করেন কোম্পানির প্রধান নির্বাহী কর্মকর্তা প্রকৌঃ এ. এম. খোরশেদুল আলম। কোম্পানির বর্তমান বিদ্যুৎ উৎপাদন ক্ষমতা ১৮১৩ মেঃওঃ। আশা করা যায়, ২০২৫ সালের মধ্যে কোম্পানি প্রায় ১০,০০০ মেঃওঃ বিদ্যুৎ উৎপাদনে সক্ষম হবে। এছাড়া, কোম্পানিটি দ্রুততম সময়ে শক্তিশালী ব্রাড ইমেজসহ দেশের নেতৃত্বশীল বিদ্যুৎ উৎপাদনকারী সংস্থায় পরিগণিত হবে।



দ্রুত বিদ্যুৎ উৎপাদন বৃদ্ধির স্বীকৃতি স্বরূপ মাননীয় প্রধানমন্ত্রী শেখ হাসিনার হাত থেকে পুরস্কার গ্রহণ করছেন নর্থ-ওয়েস্ট পাওয়ার জেনারেশন কোম্পানির প্রধান নির্বাহী কর্মকর্তা প্রকৌঃ এ. এম. খোরশেদুল আলম



ভেড়ামারা ৪১০ মেঃওঃ কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্র

Empowering Bangladesh Through 100% RE by 2050

Jahangir Hasan Masum

The United Nations Decade of Sustainable Energy for All (2014-2024) has recognized the importance of energy issues for sustainable development. The energy sector generates around two-thirds of global greenhouse gas (GHG) emissions. If the humanity wants to avoid global warming (temperature rise) above 2°C, the world needs to stop building any new greenhouse gas emitting electricity infrastructure as well as to remove all carbon emissions from the energy system by 2050. This envisage that every country must have an energy transition roadmap to electrify all energy sectors with 100% renewable energy (RE) if they want to reverse global warming and increase energy security. Nevertheless, the transition from fossil fuels to renewable energy requires significant shifts not only in technology and finance, but also in political choices.

Domestic carbon emission reduction requires innovative solutions to mobilize investments in energy, transport, industry and information and communication technologies, as well as greater focus on energy-efficiency policies. Investments in fossil fuel production like coal-fired power plants could turn into stranded assets if renewable energy sources achieve market dominance or if power generation depends totally on imported fossil fuel. For example, India's two largest coal power projects in Gujarat (Adani Powers and Tata Power) are no longer competitive because the price

of coal imported from Indonesia has nearly doubled within a decade. India has already cancelled plans to build nearly 14 gigawatts of coal-fired power stations because solar has become cheaper than coal. China and India are reducing their domestic coal use but funding new overseas coal projects. Sri Lankan government has decided not to construct any coal power plants in the future, though the existing coal power plants will continue to operate.

The costs of renewable energy technologies are dropping rapidly and making renewable energy economically attractive for power generation. The levelized cost (the all-inclusive cost over the lifetime) of electricity from renewables is already cheaper than coal, natural gas and nuclear in Germany, Australia, the USA, Spain and Italy. By 2021, it will be cheaper than coal in China, India, Mexico, the UK and Brazil. In 2017, India for the first time has witnessed that solar is cheaper than coal, when an auction for a 500-megawatt solar facility resulted in a tariff of just 2.44 rupees. The wholesale price (3.2 rupees) charged by a major coal-

power utility is 31 per cent higher than this solar tariff. In 2017, 26 of 28 European Union member states signed an agreement to build no more coal-fired power plants from 2020 onwards. More than 1.5 million households in Germany are producing their own renewable electricity. In the rural areas of Germany, 180 bioenergy villages have taken responsibility for their own electricity generation. The number of cities powered by at least 70% renewable electricity has more than doubled in 2 years, from 42 in 2015 to 101 in 2017. By end 2018, 176 companies committed for 100% renewable energy target, among them are large cooperation's such as Ikea, Coca Cola and Apple. International financial institutions like the World Bank and the Asian Development Bank have started to move away from coal-related investments.

The aspiration of Bangladesh to achieve middle income status is directly linked with meeting the challenge of ever-increasing electricity demand in the coming years. Although the energy policy goals (security of energy supply, reducing energy poverty, and ensuring energy sustainability) could be met via renewable energy, the renewable energy is still underdeveloped in Bangladesh. As a leading member of the Climate Vulnerable Forum, Bangladesh has adopted highly ambitious voluntary goals to produce 100% of their electricity through renewables by 2050.



The World Bank approved \$55 million to expand use of clean renewable energy in rural areas of Bangladesh where grid electricity cannot reach easily

A recent study undertaken by the University of Technology Sydney (Australia), Coastal Development Partnership (Bangladesh), Bread for the World (Germany) and the World Future Council (Germany) suggests that 100% Renewable Energy by 2050 is feasible, economically viable and socially beneficial for Bangladesh. The

study highlights that electricity will become the major renewable 'primary' energy by 2050, not only for the direct use for various purposes, but also for the generation of synthetic fuels for fossil fuel substitution. Wind power (on- and offshore) and solar photovoltaic would be the main pillars of future power supply after 2040. According to the study,



Wind power project in Bangladesh

100% renewable energy is possible without extensive storage capacities. In fact, the study does not foresee any role for storage before 2030. The increasing consumer electricity prices in Bangladesh could provide an opportunity for RE sources to compete with conventional energy sources. The study also highlights that Bangladesh has the technical possibilities to implement new innovative technologies such as floating RE installations and to reduce its future dependence on energy imports significantly.

Integrated scenario modelling is very important for long-term strategic planning and policy-making. The study has modeled target-oriented energy scenarios to understand the relationships between different energy demand types in an economy, over a longer time period of 30-40 years. Energy scenarios are an "if-then" analysis that provides decision makers with an indication of how they can shape the future energy system. Scenarios cannot give definitive answers to how the future energy system could look like, because all scenarios are based on a set of assumptions for GDP growth, population increase, renewables industry growth, fossil fuel phase-out, industry sector development and technological advancements. The study has also explored options available to change the energy supply system by 100% renewable energy. The reference case (BAU) was based upon the

PSMP 2016 and the Bangladesh Policy Road Map for Renewable Energy.

The 2030 Agenda for Sustainable Development is the key driver of national and global development paradigm to achieve a life of dignity for all, including future generations, in harmony with nature. The interconnectedness between social progress, economic growth and environmental sustainability, is reflected in the Sustainable Development Goals (SDGs). To reach 100% electricity supply from renewables, and be in line with the Paris Agreement and achieve the Sustainable Development Goal 7, around 200 GW of generation capacity will have to be added by 2050. The accelerated development of wind and solar photovoltaic sources between 2020 and 2030 is crucial in order to meet the development targets stipulated by both Agenda 2030 and national development plans to achieve universal access to electricity and clean cooking.

To meet the 100% target, the annual rates for solar PV installations must increase to around 5 GW between 2025 and 2035 and further increase to around 10 GW per year until 2050. By 2050, electricity could provide 40% of the transport sector's total energy demand. A full decarbonisation of all sectors seems possible with increased import shares of renewable electricity and fuels. It is assumed that synthetic fuels and hydrogen will not enter

Bangladesh's energy system before 2040. After 2045, the dispatchable conventional gas power plants will be converted to operate on hydrogen and / or synthetic fuels to avoid stranded investments and also to move the country towards decarbonized power system.

Bangladesh has substantial off-shore wind potential with

134GW within 50 to 120km off the coast. This is being complemented by around 16GW of on-shore wind potential, mostly located in the coastal areas of Khulna, Barisal and Chittagong. Therefore, small-scale, off-shore wind turbines along the coastline and on the islands hold great potential in Bangladesh. Wind resources can significantly reduce Bangladesh's reliance on energy imports and foster energy sovereignty. For Bangladesh, wind turbines optimized for lower wind speed are required, and should be used in inland locations. The declining offshore gas sector can benefit from increased off-shore wind deployment as workers and parts of the infrastructure can be re-used (e.g. ships, supply equipment).

Bangladesh has roughly 191 GW of solar photovoltaic generation capacity (including rooftop PV). Bangladesh has almost 6,250 km² of available land for PV where 156 GW of solar power can potentially be harvested through utility scale solar farms. Due to its particular geography and closeness to the sea, and its large offshore wind potential and solar potential in high-risk flood-prone areas, floating RE technologies and storage devices are especially well suited for use in Bangladesh. Up to 31GW of floating PV potential could be added to the country's energy mix by 2050.

To facilitate the transition towards renewables as efficient as possible and harvest

offshore wind and solar resources, power grids need to be able to transport large loads from the coast further north inland. Offshore wind will require transmission lines to the load centers of Bangladesh. Some parts of the gas infrastructure could be refitted to transport offshore energy into the load centers. Other infrastructure requirements include the increasing role of on-site renewable process heat generation for industries and mining and the generation and distribution of synthetic fuels. Smart grids and efficient demand side management measures as well as storage would play an important role for flexible grid integration and load balancing, in order to assure secure supply of energy.

The study shows that by 2050 the RE industry will create 1.1 million jobs while the BAU scenario will result in a mere 0.1 million jobs. Jobs in the BAU scenario will drop 7% below 2015 levels by 2020 and then remain at a low level. Strong growth in the RE sector on the other hand increases total energy sector jobs by 268% by 2020. The greatest share of jobs will be created in the solar sector.

Additional investments (in addition to the investment proposed in the PSMP 2016) between US\$ 80 to US\$ 140 billion until 2050 are required to transition towards a 100% RE system. Nevertheless, such additional investment needs will be overcompensated by fuel cost savings. Fuel cost savings during the transition towards a 100% RE system (RE has no fuel costs) will reach up to US\$ 140 to US\$ 200 billion. 100% RE requires innovative finance mechanisms for distributed and stand-alone renewable energy systems, and research into state-of-the-art RE technologies (electric rickshaws and cars, light rail, floating solar homes etc.) and heating systems.

Electricity production and efficient use of electricity, both are critical to a successful low-carbon transition. While the future costs of electricity generation from renewables will lead to a slight increase in prices over the next 10 years, it will lead to lower costs afterwards. While renewables produce energy for free after the first decades, fossil fuel plants incur continuous fuel costs and will thus continue to be a burden on the

economy. Furthermore, renewable energy-based electricity generation contribute to the local economy as the money spend for electricity generation remains in the country and will not be spend on imported fuels.

Transitioning to 100% RE will drastically reduce the rate of CO₂ emissions. Without addressing energy efficiency simultaneously to renewable energy generation, Bangladesh will not be able to meet the 1.5°C limit. To achieve the stipulated reduction of CO₂ emissions, energy efficiency standards for electric applications, buildings and vehicles will need to be strengthened in order to maximize the cost-efficient use of renewable energy and double energy productivity by 2030. Efficiency improvements in the heating sector are even larger than in the electricity sector and can help to reduce the currently growing energy demand for heating by 4% in 2050 – a reduction of about 100PJ/a compared to the BAU scenario.

Currently Solar Home System (SHS) development is not coordinated with the national grid expansion plans of the Bangladesh government. It is important for Bangladesh to develop a technical and economic concept along with a real test case to interconnect SHS to a micro grid in a first step and, in a second step, several micro grids to a distribution power grid, equal to those in industrialized countries. As a third and final step, distribution grids will be interconnected to a transmission grid. Although the potential for SHS is not considered in the 100% RE pathway, the study has identified that solar roof-tops have potential up to 35 GW power.

In order to use Bangladesh's utility scale solar photovoltaic as efficient as possible, the breakdown of the utility scale photovoltaic potential into specific locations for solar PV, agricultural solar PV and floating solar PV is required. Further research is required into floating solar in rivers with changing currents and tidal waters, and standardized floating devices as well as floating storage devices to avoid battery damage in flooding situations. The integrated floating solar homes could increase the housing area

in flood-prone and coastal areas. The exact offshore wind areas both in regard to the available wind resource as well as the offshore wind power grid capacities need to be precisely identified. Further research is required to develop off-shore wind industry in Bangladesh.

A long-term 100% RE target with supporting RE policies needs to be set for the deployment of renewable power generation. To facilitate long-term investment certainty, instruments such as feed-in-tariffs or power purchase agreements are necessary. To achieve universal access to clean cooking solutions by 2030, phase out of unsustainable biomass for cooking and a direct leap from cook stoves to electrical cooking is necessary. The government-owned development financial institution IDCOL could make use of existing micro-credit models or revise current investment strategies to promote the adoption of RE technologies (electric rickshaws and tri-cycles) and heating technologies to shift away from traditional biomass. To meet the national goal for 100% RE by 2050, the Sustainable and Renewable Energy Development Authority (SREDA) should take the lead to initiate an energy system transition towards a low carbon economy with the long-term vision of 100% RE by 2050.

As developing nations achieve higher living standards, energy consumption will increase, in turn increasing GHG emissions through use of fossil fuels. Carbon emissions will not spontaneously decrease if the country continues to develop its economy without adopting instruments for mitigating climate change. Bangladesh could be a champion of the low carbon economy, if the government provides supporting policies and financial resources to gradually shift away from fossil-fuel energy production and use along with energy efficiency measures. Renewables can tackle both the challenges of economic expansion and reliable energy access, if the energy strategy of Bangladesh takes an integrated approach across heat, mobility and electricity.

EP

Jahangir Hasan Masum;
Coastal Development Partnership

১৯ বছরে ডিপিডিসি

DPDC STEPS IN TO
Advanced Metering Infrastructure

AMI

- গ্রাহক সংখ্যা ৬ লাখ থেকে ১৩ লাখে উন্নীত
- অনলাইনে বিদ্যুৎ সংযোগের আবেদন গ্রহণ
- ৭ দিনের মধ্যে আবাসিক সংযোগ প্রদান
- অনলাইনে বিদ্যুৎ বিল গ্রহণ
- সিস্টেম লস ১৮.১৮% থেকে ৭.২৯%-এ হ্রাস
- মোবাইল অ্যাপস এর মাধ্যমে মিটার রিডিং সংগ্রহ
- Kiosk মেশিনের মাধ্যমে গ্রাহক সেবা প্রদান
- এসএমএস-এর মাধ্যমে গ্রাহককে বিদ্যুৎ সংক্রান্ত তথ্য প্রদান
- অনলাইনে গ্রাহক অভিযোগ নিষ্পত্তি
- বিতরণ লাইন ৩,৭০০ কিলোমিটার থেকে ৫,৪২৪ কিলোমিটারে উন্নীত
- বিদ্যুৎ চাহিদা ৯৫৭ মেগাওয়াট থেকে ১৬৭১ মেগাওয়াটে উন্নীত
- ৪ লক্ষ ১৪ হাজার প্রি-পেইড মিটার স্থাপন



সম্মানিত গ্রাহকদের প্রতি অনুরোধ

- পিক আওয়ারে (বিকাল ৫টা থেকে রাত ১১টা) এসি ইন্সট্রি মাইক্রো ওভেন, পানির পাম্প ব্যবহারে বিরত থাকুন
- পিক আওয়ারে স্টিল ও রি-রোলিং মিলসহ শিল্প-কারখানা বন্ধ রাখুন।
- অফ পিক-আওয়ারে এসি ২৫ ডিগ্রি সে.-এ সীমিত রাখুন
- বিদ্যুৎ সাশ্রয়ী LED বাল্ব ব্যবহার করুন
- অপ্রয়োজনীয় বাতি, ফ্যান ও সুইচ বন্ধ রাখুন
- নিয়মিত বিদ্যুৎ বিল পরিশোধ করুন
- রুফটপ সোলার ব্যবহার করুন বিদ্যুৎ খরচ সাশ্রয় করুন
- প্রি-পেইড মিটার ব্যবহার করুন বিদ্যুৎ বিলের ঝামেলা থেকে মুক্ত থাকুন
- বিদ্যুৎ লাইন থেকে নিরাপদ দূরত্বে থাকুন

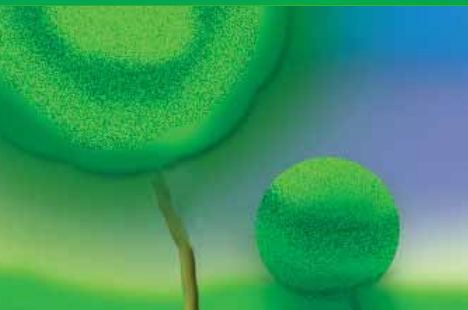


ঢাকা পাওয়ার ডিস্ট্রিবিউশন কোম্পানি লিমিটেড (ডিপিডিসি)

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Green page

Move to Enlist Chartered Energy Auditors for Large Industries

A move is underway to enlist chartered energy auditors for large industries and commercial structures rated to be designated consumers (DS) under a certain rule by early next year.

According to official sources, Sustainable and Renewable Energy Development Authority (Sreda) will enlist the auditors to empower them to conduct audits in the



DS category industries and commercial structures.

"Now under a process, some 175 candidates are going to sit for exams to emerge as energy auditors. Those who will pass the examinations will be eligible for being enlisted as professional chartered energy auditors like chartered accountants," said a Sreda official.

He said the government promulgated Energy Audit

Regulations 2018 in August 2 last year under the Sustainable and Renewable Energy Development Authority (Sreda) Act, 2018 to conduct mandatory energy audit for large energy consumers.

"At present, there're more than 1,000 such DS category consumers. But we've selected 100 of them for energy audit initially," he noted.

Sreda sources said the organization has moved to appoint the energy auditors through a process defined in the energy efficiency regulations as part of its initiative to enhance energy efficiency of industries and large consumers.

Under the move, they said, a standard curriculum has already been formulated while applications sought from eligible candidates who want to take up energy auditing as a profession.

Responding to the move, 175 candidates have already applied to obtain certificates from Sreda as 'Chartered Energy Auditors'.

Awareness is Essential for Energy Efficiency: Nasrul

State Minister for Power, Energy and Mineral Resources Nasrul Hamid recently said awareness is very essential for ensuring energy efficiency as well as conservation.

"We have to make the people aware about energy efficiency because for the greater interest of the nation. Our Prime Minister Sheikh Hasina always switches on herself while entering into

the office and switches off while leaving it," he said when formally inaugurating a two-day International Conference on 'Energy Efficiency Conservation Awareness (EECA)' as the chief guest at a city hotel recently.

The state minister emphasized on creating awareness among the subscribers across the country, which can reduce electricity consumption and increase efficiency along with conservation while using their electric appliances.

Power Division Secretary Dr Ahmed Kaikus and Charge d Affairs of embassy of the Federal Republic of Germany Burkhard Ducoffre spoke as the special guests among others.



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IDCOL Wins Financial Innovation Award 2019

Infrastructure Development Company Limited (IDCOL), a government-owned non-banking financial institu-



tion, has won the Financial Innovation Award (FIA) 2019 under the category of Best Sustainable Finance Initiative for implementing the Solar Irrigation Pump Projects.

The award was given to IDCOL based on the successful introduction of green finance initiative to smallholder collectives and farmers through an innovative business model. IDCOL is the first organization from Bangladesh that received this prestigious award.

S.M. Monirul Islam, Deputy CEO & CFO of IDCOL received the award on behalf of IDCOL at an award ceremony held at a hotel in the United Kingdom on 21 November 2019. **EP**

10 KW Floating Solar Plant Commissioned at Mongla

Country's first floating solar power plant of 10 kilowatt capacity has been commissioned at Mongla under Bagerhat district recently.

The Solar EPC Development Ltd, a local company, installed the facility with technical assistance from its Indian business partner at Mongla port municipality water treatment site.

Power Division additional secretary Mo-



hammad Alauddin visited the site on the day to see the progress of the pilot project.

The innovative aspect of the project offers promising prospects for expanding the floating technology in the country and a bright future for this cutting-edge Bangladesh industry, says a press release.

"We are very proud of commissioning the floating solar pilot project. Our proposed 15 megawatt floating solar project will reflect a committed and positive ecological transition involving citizens and regions," said Solar EPC managing director Ezaz Al Qudrat A Mazid.

The company signed a memorandum of understanding with the Mongla port municipality in June 2019 for development of a total of 15 megawatt floating solar power plant in the pond of the municipality. **EP**



Bangladesh Sets Standard for Solar Accessories

Complaints about sub-standard, cheap PV imports from China – and notably, India – have been heeded by Dhaka, which has issued a requirement for modules, inverters, charge controllers and batteries to attain IEC electrical standards.

The government of Bangladesh has heeded the call from domestic solar manufacturers to introduce minimum standards on PV modules, inverters, charge controllers and batteries.

Bangladeshi manufacturers have been echoing complaints made by similar solar industries in the EU, United States and India, that it is impossible for them to compete against a rising tide of cheap solar imports. However, in a twist to the



tale heard elsewhere, it is products made over the border in India – as well as in China – which have attracted the ire of domestic manufacturers.

With solar project developers reportedly also complaining poor quality products are threatening the sustainability of the Bangladeshi solar market, the government has unveiled Bangladesh Standard requirements for solar imports.

The Sustainable and Renewable Energy Development Authority (SREDA) has demanded PV modules imported to the country must meet International Electrotechnical Commission standards.

With two laboratories thus far approved to test imports, more will be accredited in due course. **EP**

Bangladesh to Renegotiate Solar Tariffs for Projects Which Miss Deadlines

Officials in Dhaka frustrated by the lack of progress on several PV projects have decided to punish tardy developers by setting new power prices which reflect the falling costs of solar project development.

The government of Bangladesh has decided to cut the tariff due to contracted solar power plants which do not come online on time.

The decision was taken at a review meeting chaired by Power Division senior secretary Ahmad Kaikaus to consider progress in constructing solar plants in the nation.



Power Division officials say only four of the 23 PV projects for which letters of intent have been issued have taken shape: a 20 MW facility in Teknaf; an 8 MW plant in Panchagarh, a 7 MW scheme in Kaptai; and a 3 MW asset in Jamalpur.

The slow progress comes despite the government having signed power purchase agreements (PPAs) for 11 facilities with total generation capacity of 685 MW. On top of that, letters of intent have been issued for a further 12 projects with a total capacity of 760 MW.

The government moved to cancel deals relating to two facilities with a total generation capacity of 250 MW as Power Division officials reported many agreements to grant permission for solar plants had already expired, or were about to, with little indication of progress on the planned projects.

EP

Abu Dhabi Receives Bids for Planned 2GW Solar Scheme

Abu Dhabi utility firm, Emirates Water and Electricity Company (EWEC), received bids for a planned 2 gigawatt solar photovoltaic project being developed in the Al Dhafra region of the emirate.

The company, a subsidiary of Abu Dhabi Power Corporation, tendered financing, construction, operation and maintenance packages for the solar



plant in July, for which 24 firms pre-qualified to bid. An award is expected in the first quarter of next year, the company said.

"A range of international energy sector experts" and international consortia submitted bids on the scheme, a company spokesman said, declining to specify a number.

The project, which will be built via an independent power producer (IPP) model, will be spread across an area of 20 square kilometers and could provide electricity to 110,000 households across the UAE, according to EWEC.

IPPs are typically not owned by the state but build and operate power plants for the sale of electricity to buyers, which could include a utility, the government or end users.

EP

Asia Pacific's Clean Energy Bill to Hit \$3.5 Trillion By 2040

New research has indicated that the Asia Pacific decarbonisation bill could hit USD 3.5 trillion by 2040. This includes investments in solar, wind, hydrogen, nuclear, and hydropower, collectively referred to as zero-carbon energy between now and 2040, under an accelerated transition scenario.

The majority of Asia Pacific's decarbonisation bill will come from the power and transport sectors, as both accounted for over 50 percent of the region's carbon emissions last year. This significant shift requires investment and support from all stakeholders especially China and India, new research by Wood Mackenzie has revealed.

Speaking at the inaugural Wood Mackenzie Energy and Commodity Summit Singapore, Prakash Sharma, head of Markets and Transitions in the Asia Pacific, said that "in our base case, we forecast the share of zero-carbon energy increasing from 8 percent in 2018 to 17 percent in 2040.

"In our accelerated transition scenario case for the Asia Pacific, we forecast the share of zero-carbon energy reaching 35 percent by 2040 with green hydrogen capturing up to 3 percent in the mix. In the mobility sector, the share of electric vehicles increases up to 65 percent of new sales by 2040 in the scenario case compared to an average of 25 percent in the base case."

As per the research, the energy demand in the region is expected to grow 15 percent from 2019 to 6,800 million tons of oil equivalent in 2040. Currently, net fossil fuel imports account for 25 percent of the region's demand. Despite ambitious government targets, national oil and gas companies have been struggling to ramp up oil and gas production.

EP

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Australia PM Denies Climate Link

Australia's Prime Minister recently denied his climate policies had caused unprecedented bushfires ravaging the country and insisted his government was doing enough to tackle global warming.

As dozens of new blazes



Scott Morrison

scorched the countryside and the country's largest city was cloaked in hazardous smoke, conservative leader Scott Morrison defended his climate record, saying Australia was "doing our bit".

His comments came after weeks spent refusing to speak about the link between climate change and deadly fires described by the emergency services as unprecedented in number and scale for the early bushfire season.



Photo Exhibition on Climate Change Begins at British Council

Ahead of the world climate conference, COP25 from December 2 in Madrid, the German Embassy, in collaboration with the British High Commission, British Council and GIZ launched a photo exhibition under the motto: Climate Change – Time for Action on 20 November 2019 at British Council in Fuller Road, said a press release.

The exhibition will remain open till 5 December 2019.

Md Shahab Uddin, Minister for Environment, Forest and Climate Change inaugurated the exhibition and also

handed over the first prize to the winner of the photo competition.

The German Ambassador Peter Fahrenholtz and the British Chargé d'Affaire Md Kanbar Hosein Bor appeared in the event as special guests and handed over the prizes among the other winners.

Representatives from the government of Bangladesh, different diplomatic missions, UN missions and bilateral agencies, civil society, academia, news media and interested individuals from diverse background attended the event.



Thrust on Joint Efforts to Face Climate Change Impacts in Barind Areas



Scientists and researchers at a discussion in Rajshahi recently mentioned collective efforts of all government and non-government entities concerned has become an urgent need to protect the existing agriculture system from the adverse impacts of climate change in vast tract of Barind area.

Water scarcity and droughts pose serious threats to the livelihood of farming communities and the economy in almost entire Barind areas due to the adverse impacts of climate change.

They came up with the observation while addressing a drought conference 2019 styled "Water Scarcity and River Management" at Shaheed Sukharanjan Samaddar Students-Teachers Cultural

Center in Rajshahi University (RU).

Institute of Environmental Sciences (IES) of RU and Paribartan, an NGO, jointly organized the conference where more than 130 people consisting with scientists, researchers, environmentalists, development activists, farmers and students attended.

Omor Faruque Chowdhury, MP, addressed the conference as chief guest while RU Vice-chancellor Prof Abdus Sobhan and its Pro-VCs Prof Ananda Kumar Shaha and Prof Chowdhury Jakaria spoke as special guests with IES Director Prof Golam Sabir Sattar Tapu in the chair. Paribartan Director Rashed Ibne Obayed welcomed the participants.



Greta Thunberg Awarded Int'l Children's Peace Prize

Swedish teen activist Greta Thunberg was awarded an international children's peace prize recently, for her work in the struggle against climate change which has resonated with schoolchildren across the world.

Cameroonian peace activist Divina Maloum, aged 15, also received the International Children's Peace Prize,

awarded by the Dutch Kids Right organization, which has been handing out the prize since 2005.

Thunberg rose to international prominence last year when she founded the "school strikes for the climate" movement. Tens of thousands of children around the world have now got involved.



SDGs Unattainable Sans Combating Climate Change Impact: Minister



Environment, Forest and Climate Change Minister Md Shahab Uddin has said achieving SDGs will not be achieved unless negative impact of climate change isn't successfully combated.

"We will not be able to achieve the SDGs if we fail to combat the impact of climate change," he said.

He said this while inaugurating the 5th Sub-Regional Workshop on 'Community Resilience to Climate Change in the Bay of Bengal' as the Chief Guest.

The workshop was jointly organized recently by a group

of nongovernmental organization including Bangladesh Unnayan Parishad and Concern Worldwide in the city.

Describing the intensity of the impact of climate change, the Climate Minister also noted that it isn't only affecting the environment but also greatly damaging the country's economy and social life.

"Such unhealthy situation is being driven by climate change will hamper all development works which ultimately increases hunger and poverty will stand in the way of achieving the SDGs goals," he noted.

EP

Global Refiners Raise Cleaner Shipping Fuel Output Ahead of IMO 2020

Global oil refiners have upgraded processing units and adjusted operations to raise output of low-sulphur residual fuels and marine gasoil (MGO) to prepare for stricter shipping fuel standards that kick in on Jan. 1, 2020.

The new International Maritime Organization (IMO) rules prohibit ships from using fuels containing more than 0.5 percent sulphur,

compared with 3.5 percent through the end of December, unless they are equipped with exhaust-cleaning "scrubbers".

The shipping industry consumes about 4 million barrels per day (bpd) of marine bunker fuels, and the rule changes will impact more than 50,000 merchant ships globally, opening a significant new market for fuel producers.

EP

Qatar to Work with Bangladesh on Climate Issue

Ambassador of Qatar to Bangladesh Ahmed Mohammed Nasser Al-Dehaimi recently said that Doha will work in cohesion with Dhaka on the climate change issue.

The ambassador evinced such interest when he made a courtesy call on Environment, Forest and Climate Change Minister Md. Shahab Uddin at his secretariat office here, said a press release.

The government of Qatar always raises voice in the international forums on the climate change issue, he said, adding that if necessary his country will sign a memorandum of understanding (MoU) with Bangladesh, apply mutual experiences and implement multipurpose programs to face the adverse impact of the climate change.

EP



Hydrogen Fuel Cell Systems for Large Vessels Under Development

If large vessels are to sail zero emission at high speed over long distances, battery solutions does not contain enough energy. Fuel cells running on hydrogen is a solution to this, and the Havyard Group, with Havyard Design & Solutions and Norwegian Electric Systems (NES), is now conducting pioneering work on the development of a system that will become the biggest of its kind for ships.

The first phase of the Havyard Group's groundbreaking work is completed, and the company is now entering into the approval stage for the hydrogen system together with Linde Engineering as tank supplier and PowerCell Sweden AB as

supplier of fuel cells.

According to the project manager for the Havyard Group's FreeCO2ast project, Kristian Osnes, Linde is a significant player in the market for designing and manufacturing equipment for cryogenic gases.

"We believe they are the right partner for finding solutions that will ensure safe storage and control barriers for cryogenic hydrogen on board ships. The regulations for these solutions have not yet been developed, and we are pleased to have Linde on-board when entering the approval process, which we expect to be very challenging," he said.

Source: Havyard Group EP

Study Examines Women's Ability to Adapt Effectively to Climate Change

New research led by the University of East Anglia (UEA) suggests that male migration and poor working conditions for women combine with institutional failure or poverty to hamper women's ability to adapt to climate variability and change in Asia and Africa.

There is growing concern about sustainable and equitable adaptation in climate change hotspots - locations where climatic shifts, social structures, and livelihood sensitivity converge to exacerbate vulnerability.

Examining gender within these debates highlights how demographic, socio-economic and agro-ecological circumstances combine in complex ways to impact the experiences and outcomes of climate change in specific contexts.

Entrenched social structures create power relations that shape women's and men's experiences of vulnerability

through their access to resources, divisions of work, and cultural norms around mobility and decision-making, all of which determine their ability to adapt.

Drawing on data from 25 case studies across hotspots in Asia (India, Nepal, Pakistan, Bangladesh, Tajikistan) and Africa (Kenya, Ghana, Namibia, Mali, Ethiopia, Senegal), the study shows how and in what ways women's agency, or ability to make meaningful choices and strategic decisions, contributes to adaptation responses.

The study, published today in the journal *Nature Climate Change*, involved researchers from the UK, Nepal, India, Pakistan and South Africa. They argue that environmental stress weakens women's agency even when household structures and social norms are supportive, or legal entitlements available.

EP

Easy Jet Announces Steps Toward Zero-Carbon Future

British no-frills airline easyJet recently made initial steps to reduce its carbon footprint, offsetting emissions from all flights in an industry first -- and revealing research into greener engines.

"I am proud that we have announced that from today we will be the world's first major airline to operate net-zero carbon flights across our whole network," said Chief Executive Johan Lundgren in a results statement.

"We are doing this by offset-

ting the carbon emissions from the fuel used for all of our flights.

"We recognize that offsetting is only an interim measure, but we want to take action on our carbon emissions now."

The carrier announced the news, expected to cost it around £25 million (\$32 million, 29 million euros) in 2020, alongside a modest drop in annual profit as the short-haul sector faced challenging trade.

EP

BD Should Claim Compensation for Climate Change Loss During COP25

Bangladesh should claim compensation for loss and damage caused by climate change during the next Conference of Parties (COP) meeting as its consequences to this effect are increasing, said an expert.

Dr Saleemul Huq, senior fellow in the climate change group International Institute for Environment and Development (IIED), said despite being a climate change adaptation country, damage and loss facing the country are quite high as no steps are taken by some countries responsible for climate change.

"They do not want to take measures and even do not want to compensate," he said

while addressing a national level dialogue organized jointly by UN Women, Bangladesh Centre for Advance Study (BCAS) and Empower Women for Climate Resilient Societies in the city prior to holding of COP 25 of UNFCCC.

The dialogue with stakeholders voicing issues, concern and making recommendations for the upcoming UNFCCC COP 25 was addressed, among others, by Additional Secretary to Ministry of Women and Children Affairs Aynul Kabir, UN Women Country Director Shoko Ishikawa, Country Director of ActionAid Bangladesh Farah Kabir and Director of Department of Environment Mirza Shawkat Ali. **EP**



Ensuring Public-Private Partnership for SDGs Stressed

Speakers at a seminar recently laid emphasis on ensuring public-private partnership (PPP) to attain sustainable development goals (SDGs).

They also suggested the government to take necessary measures to eliminate the barriers for PPP implementation to achieve the desired goals.

Dhaka School of Economics (DScE) organized the seminar

titled "Public-Private Partnership for Entrepreneurial Venture: Perspectives of Bangladesh" on DScE campus, said a press release.

Palli Karma-Sahayak Foundation (PKSF) Chairman Dr Qazi Kholiqzaman Ahmad said PPP is good an initiative for balanced development, but scope for inclusion of private sector has to be increased.

He opined ease of doing business and introduction of one stop services also have to be ensured to become successful in PPP. **EP**



Dhaka Air Quality Deteriorates

As winter sets in, the quality of air in Dhaka poses major health risks to citizens with pollution reaching severe levels.

The prevalence of particulate matter in the air has multiplied beyond the tolerable limit, according to the Bangladesh Meteorological Department.

Dust generated by construction projects such as the metro rail, among others, permeates the air in addition to the plumes of smoke emitted by nearby brick kilns.

According to a study by IQ Air Visual, a Swiss-based group that gathers air-quality data globally, and Greenpeace, Dhaka was the second most polluted

capital in the world behind New Delhi in 2018.

Growing concerns over the poor air quality eventually prompted the judiciary to step in as the court ordered the authorities to spray water in dust-prone areas of the city twice a day in a bid to curb pollution. Yet, the level of pollution in the capital remains alarming, particularly in the absence of any visible initiative by the government to alleviate the situation.

A lack of coordination between different departments of the government is further hampering efforts to control air pollution, said a Department of Environment official.

Particle pollution, also called particulate matter or PM, is a mixture of hazardous solid and liquid particles in the air that can lead to serious health issues. The particles vary in sizes, ranging from 2.5 (PM2.5) to 10 (PM10) micrometers in diameter, and its prevalence in an area is used to determine the quality of the air.

EP



'Bulbul' Batters Power Supply

Cyclone 'Bulbul' took a heavy toll on electricity supply across the country, especially in the southern region, snapping distribution lines, damaging poles and transformers.

Electricity connections in many districts across the country, including the coastal

and southern areas, were disrupted, affecting some 5.0 million consumers.

Fiscal loss worth around Tk 181 million was initially assessed owing to the cyclone 'Bulbul', a senior official of the Bangladesh Power Development Board (BPDB) said.

Loss worth around Tk 100 million was reported in the Rural Electrification Board (REB) areas, Tk 75 million in the West Zone Power Distribution Company Ltd (WZPDCL) and some Tk 6.0 million in the BPDB areas, the official added.

EP



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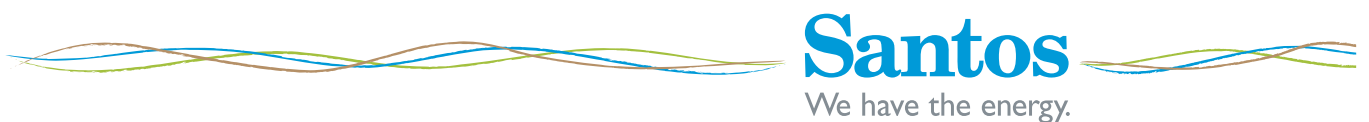




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Keeping Well With Clean Water

It is well known that scarcity of drinking water is acute as freshwater aquifers are not available at suitable depths and the surface water is highly saline in south-west Bangladesh. Households are mainly dependent on a few water technologies and sources including Rain Water Harvesting (RWH), Pond Sand Filters (PSF), Reverse Osmosis (RO), and deep tube-wells and pond water for drinking purposes. But as the technologies are expensive and barely affordable for the poor communities who are the majority of the area. Thus, they mostly drink poisoned water from local sources.

Therefore, individuals in these areas often suffer from waterborne diseases. The World Health Organization (WHO) estimates that four out of five cases of child mortality in the areas are related to contaminated drinking water. Lack of access to clean water leads to increased rates of disease, lower attendance rates at school and work, and a drastic reduction in overall life quality.

In addition, most people in the region are unaware of the

increasing salinity and its many implications. According to a study carried by DPHE and the Institute of Water Modelling, 84 percent of people don't know about salinity in groundwater in the country's coastal region.

Deep tube-well is the most preferable option where suitable deep aquifer with low-salinity water is available.

Since G-Gas frequently strives to spread its brand philosophy of "Living well and Staying well" among its communities, stakeholders and the society at large, so in line with the philosophy we have been providing clean deep tube well water to the communities of Dacope upazilla where we operate our operations in eventually resolving the salinity problem. Furthermore, we continuously try to facilitate the neighborhood in terms of Good Health, Good Financial Improvement, Good Living as a whole. Since the inception of our state of the art LPG bottling and cylinder manufacturing plant at Dacope, a very remote and under privileged neighborhood, we have been trying to impact on their quality of lives, employment generation, and social patronization.

River Clean-up Drive - "Nodi Amar Maa"

Rivers are the lifeblood of the Bangladesh economy and social life. Livelihoods have always benefitted from the curving rivers and the urbanization of Bangladesh has also been river-cent-

tric.

To keep our dying lifeline alive and to ensure the sustainability of the water from the rivers, some measurements need to be taken as soon as possible. So as a socially responsible entity, we have initiated an active campaign for the conservation of our rivers.

On that note, G-Gas has come forward with some social responsibility to contribute to the struggle of river saving initiative by doing cleaning campaign named "Nodi Amar Maa". Our people along with the local school and college students, collectively have been doing the river clean up activity in a regular frequency. Also we spread our message for social awareness locally, and through mass media.

Moreover, G-Gas Garbage Bag Campaign that urged the community to keep their surroundings clean as well as their hearts. The campaign ran during the time of Eid-ul-Azha and keeping in line with the holiday's spirit, used a symbolic "Garbage Bag" to ask people to discard their greed, arrogance, anger and envy in an attempt to purify their inner selves as well as their surroundings.

G-Gas also ran its G-Gas Mask Campaign where G-Gas's representatives handed out face masks in the G-Gas shades of yellow, blue and pink to the city's people. Printed with fun icons and images, the masks were given to the city's rickshaw pullers, students, pedestrians, street children and vendors to help protect them against the dust and pollution they are frequently exposed to every day. The campaign reflected the G-Gas's belief that despite the hardships and chaos we face every day, doing a bit of good for each other can always go a long way.

A major campaign of G-Gas is 'Omlan Surjosontanra', which intends to raise awareness and appreciation



River Clean-up Drive Named 'Nodi Amar Maa'

for Bangladesh's martyred intellectuals during the liberation war. The campaign mainly consisted of a website that featured all relevant information on the martyrs, their achievements and contributions. The campaign activities also included Facebook videos, posts and Youtube videos.

G-Gas CNG Trash Bin

The city of Dhaka with an estimated population of 8.5 million is one of the most populated cities in the world. Here littering is a huge problem due to lack of awareness and education. And nowhere is this problem more persistent than in public transports as the people travelling on public transports have no place to dump trash.

G-Gas LPG, a brand that stands for social good and believes in doing good for the society, wanted to create awareness regarding the disposal of trash among the people travelling in public transports.

It was challenging to create the trash bin in a compact size that would fit and be installed easily inside a CNG-run autorickshaw. Also, it was not easy to convince the local CNG drivers to allow G-Gas to install trash bins in their respective CNGs. To address that the size of the trash bin was tactically made to fit inside a CNG keeping in mind the passengers' comfort zone. The trash bin had solid lids to cover the garbage & odor from spilling out inside the CNG. Also, we made sure the trash bin was designed in such a way so that the drivers found it convenient and easy to carry out trash when it gets full. We placed the trash bins in 1,000 CNGs across Dhaka city and urged the passengers to use it. Later, we amplified our campaign with the activation video in social media platforms to create awareness regarding this initiative with a plea



G-Gas placed 1,000 trash bins in CNGs across Dhaka city

to dispose trash responsibly.

At the moment, we cannot yet declare or say how far the brand will go. However, the brand we are creating is to remain top of the people's mind that we are aware of the needs in our society, and how public awareness will result in progress towards a cleaner and healthier Bangladesh. If you look at our Facebook Page or any of our other marketing initiatives, it will be evident that we are not directly asking people to buy G-Gas. Our marketing strategy is all about building public awareness for the society that we live in to promote the people and to promote the society. Our tag line is "valo thakun, valo rakhun", in English this means "stay well and keep well", so we are trying to do so.

In comparison with coal or firewood, LPG is much more eco-friendly. In the case of coal or firewood, it creates smoke, fly ash, bottom ash, and other nasty exhaust, which leads to many chronic pulmonary diseases. Plus, it has negative environmental effects when trees are cut down or coal mining is required.

Question is, how many trees will you cut and/or how long can we keep doing this? At one stage there will be no more trees left to cut down, and this resource will deplete. However, people are real-

izing the importance of trees to the environment and how it helps our eco-system. The best factor is that Bangladesh is moving ahead with economic development thus increasing people's affordability. Though it's true that LPG is not yet readily available, usage has increased in the past couple of years.

The people of Bangladesh are getting more aware day by day of how we can have sustainable development through the use of LPG. As a stakeholder, it is our duty to ensure this sustainability. We are planning to make our factory eco-friendly by making use of solar panels to utilize off-grid power and are even looking to use rain water for our internal water needs and more recently even looking at the possibility of we can make use of wind energy. We are targeting that by 2021, we will be able to make our factory completely eco-friendly.

G-Gas is well on its way to making the dream of a more prosperous nation a reality. With its core value and mission of spreading wellbeing across the country, G-Gas will keep on striving to ensure a brighter future for the country's people.

EP

Neweed Rashid;
Head of Strategic Business
Development, G-Gas LPG

'Work on Paris Agreement Implementation Can Be Completed in Madrid'

The implementation of Paris Agreement is expected to start in 2020. For that to happen, all unresolved matters need to be resolved at COP25. I believe we can achieve those in Madrid, Spain. The world community with enabling political will can achieve this through negotiation. I think America has committed a mistake through walking out of the Paris Agreement. Rest of the world remains sincerely committed to the agreement. I believe America would also return to the negotiation.

Dr. S.M. Munjurul Hannan Khan, Additional Secretary of the Ministry of Environment, Forest and Climate Change, said this in an exclusive interview with Energy & Power Editor *Mollah Amzad Hossain*.

The Rules Book could be finalized during the extended time of COP24 at Katowice. What is Bangladesh's expectation from COP25?

Please note that the Rules Book could not be finalized as yet in entirety. It is expected to be completed at the COP25. Here through negotiation, decisions would be taken about the modality of the NDC implementation, the limit of carbon emission of each party, whether or not carbon emission limit would be mandatory. The decision for getting the grant, not loan, for the countries impacted by climate change would be firmed up. The discussion about loss and damage started from the Warsaw Conference. This will be finalized in Madrid. It is worth mentioning that all unresolved issues need to be agreed at COP25 if implementation of Paris Agreement is to start from 2020. I am well and truly optimistic about the outcome of COP25. Bangladesh will continue its endeavor in different forum for achieving the success.

The COP25 is being held after America has officially withdrawn from the Paris Agreement. What should be America's

role at COP25? Do you think present stand of America has put COP25 into challenge?

Withdrawal of America means they cannot participate in any negotiation of COP25. But I think it is a wrong decision of America. We must bear in mind America is not the entire world. There is no other option for restricting global warming below 1.5 Degree Celcius. Rest of the world is unanimous about this. I believe America would have to return. There is no other option but to implement Paris Agreement.

Around US\$100 billion was supposed to have been accumulated in Green Climate Fund (GCF). But till last year not much has been achieved. But in the UN climate summit, many countries have given fresh pledge for donating money. What kind of success you are expecting about this at COP25?

Implementation of Paris Agreement cannot start till GCF becomes fully operational. GCF must come to light in full at COP25. I am optimistic that GCF would get US\$100 billion by 2020. In subsequent years, US\$100 billion would continue pouring in. On the other hand, rules and guidelines under which climate vulnerable countries would access this fund would also be finalized.

How do you evaluate the commitments of other countries for the implementation of Paris Agreement? Where does Bangladesh stand?

Please note that no country excepting America has withdrawn from Paris Agreement. Rather political commitments of all countries have grown stronger. The entire world now wants the implementation of Paris Agreement starting on time. I am optimistic about its start from 2020. But two years may be required for setting up frameworks for implementation of the agreement. All these would become transparent in



Dr. S. M. Munjurul Hannan Khan

The main focus of Bangladesh Country Paper of COP25 is completing all out standing matters for launching Paris Agreement in 2020. Completing Rules Book, finalizing Loss & Damage Mechanism, Technology Transfer, finalizing GCF and CDM are main elements of the Bangladesh country paper.

negotiations.

Bangladesh has advanced more than many countries about implementation of Paris Agreement. Honorable Prime Minister has played a strong role at home and abroad in global forums advocating implementation of Paris Agreement. Our achievement is far greater than 5% emission reduction with own resources as per NDC commitment. Subject to availability of global financial support, we are ready for achieving another 10% emission reduction.

As per Warsaw decision, the Loss and Damage mechanism needs to be agreed by 2019. Where does Bangladesh stand

about this?

Works have been done over the past few years about Loss and Damage mechanism. The COP25 will review this and finalize where from money would come. Modalities would be worked out about getting finance from bilateral donors and major polluting countries.

Technology transfer is an important matter prior to starting implementation of Paris Agreement. The mechanism for making that effective has to be agreed also.

We will work in different groups and forums for gaining special support for Bangladesh in Loss and Damage mechanism.

Bangladesh is supposed to get finance from GCF in its emission reduction projects. But achievement is not encouraging so far. Why? What Bangladesh needs to do?

GCF has fund constraint. Bangladesh like other deserving countries is not getting money for fund constraint. Two Bangladeshi organizations IDCOL and PKSf are working as National Implementing Entity (NIE) for accessing fund from GCF.

About US\$6 billion of the pledged US\$10 billion has been accrued at GCF. Bangladesh would have no problem in accessing GCF fund when it would be operational in 2020 with US\$100 billion fund.

CDM mechanism is supposed to be a fresh move this time. What is the progress achieved on this so far? How hopeful you are about finalizing CDM in COP25?

CDM mechanism is developed under KYOTO protocol. The term of KYOTO would expire before Paris Agreement coming into effect. Hence the decision for setting up one or few boards to keep the objective of CDM going needs to be taken at the COP25. It will decide how CDM would work in future.

Bangladesh has finalized its NDC. Under this you are working to finalize climate strategy and action plan to implement it by 2030. Where do you stand

now?

Final review of Climate Strategy and Action Plan (BCSAP) is being done now. We expect to finalize this within three months. This has identified what needs to be done for addressing climate change. The action plans have also been worked out.

NDC will be reviewed in 2025. Works are in progress for reducing emissions by 5% utilizing own fund. Works would start for reducing emission by another 10% upon availability of global financing.

As per the NDC, Bangladesh is supposed to reduce emission by 5% using own fund and another 10% accessing global financing by 2025. At what stage you are now?

We are at advanced stage compared to other countries in achieving NDC targets. But works on achieving 10% emission reduction could not be advanced much for not getting global financing. We hope to get fiancé from donor agencies and development partners soon. But these must come as grants. Specially, these would come from bilateral donors, UNFCCC and UNO.

In recent discussions it appears that industries, energy and power sectors have made remarkable achievement in achieving NDC targets, but transport sector is languishing at the bottom. How do you look at it?

You are possibly right. The energy and power sector is far advanced in achieving 5% emission reduction target set in the NDC. There is no doubt that transport sector is lagging way behind. But you know Metro Rail, Elevated Express Highway and other mega projects are being implemented under Mass Transit initiative. Moreover, technological innovations are also being introduced. As a result, transport sector would also achieve the target within the deadline.

Which areas you have stressed upon in the country paper of COP25 and why?

The main focus of Bangladesh Country Paper of COP25 is completing all outstanding matters for launching Paris Agreement in 2020. Completing Rules

Book, finalizing Loss and Damage Mechanism, Technology Transfer, finalizing GCF and CDM are main elements of the Bangladesh country paper.

There have been some dislocations for change of venue but in Madrid COP25 all that requires to bring into effect the Paris Agreement and all rules and guidelines for launching it from 2020 would be completed. The reason for my expectation is that it has been possible to bring all matters to final stage already through intensive negotiations. Hence, Madrid COP would bring the fruits.

Civil society and NGOs are making allegations about the works of the Ministry of Environment and Forest. Public and private sectors are working together to achieve the target of limiting global warming below 1.5 degree C. Where we are now?

Please note that organizations like TIB is bringing allegations without going into details and purely relying on media reports. We have invited them to come and talk with us. After knowing the actual position, they can make their observations. Media reports are coming because of free flow of information about environment sector. There are no negative reflections in the media about our works.

Prime Minister Sheikh Hasina herself would lead Bangladesh team to COP25. What impact it would create you think?

You are right that Honorable Prime Minister would lead Bangladesh delegation to COP25. She has already attracted world attention for her works on environment. She has already been decorated as Climate Change Hero. She will participate in the inaugural program of COP25. She will talk in a special session of adaptation program along side of Prime Minister of Netherlands and UN Secretary General. She will inform world community about the experience of Bangladesh in adaptation. I believe active participation of the Bangladesh Prime Minister in COP25 shall contribute a lot in fashioning global opinion about environment protection.



Barisal Electric Power Company Ltd.

Seeking for Deputy Director (Engineering Department)
Deadline: 26 December 2019

Job Location	Vacancy
Anywhere in Bangladesh	01 (Full-time)

Educational Requirements

- ☎ Bachelor of Science (BSc) in Electrical & Electronic Engineering, Master of Science (MSc) in Electrical & Electronic Engineering...

Experience Requirements

- ✓ 4 to 5 year(s)...

Additional Requirements

- ✓ Age 28 to 45 years
- ✓ Both males and females are allowed to apply

Job Responsibilities

- 👉 Assists in the management of the organization.
- 👉 Serves as a technical authority for opportunities and issues related to the organization...

Salary

- Negotiable

More: <https://ep-bd.com/jobs/view/152>



Navana CNG Limited

Seeking for Asst. Service Engineer/ Service Engineer
Deadline: 12 December, 2019

Job Location	Vacancy
Anywhere in Bangladesh	03 (Full time)

Educational Requirements

- ☎ Diploma/ B.Sc in Automobile, Power, Mechanical.

Experience Requirements

- ✓ 2 to 5 year(s)...

Job Responsibilities

- 👉 You Will be responsible to Taking customers vehicle and preparing job cards and inventory.
- 👉 Will be responsible to Car's diagnosis with Scanner...

Additional Requirements

- ✓ Age 24 to 30 years
- ✓ Only males are allowed to apply

Salary

- Negotiable

More: <https://ep-bd.com/jobs/view/154>



EDISON Power Bangladesh Ltd. (A Concern of Edison

Seeking for Sr. Executive/Asst. Manager, Generator Sales
Deadline: 20 December, 2019

Job Location	Vacancy
Dhaka	Not specific (Full time)

Educational Requirements

- ☎ Bachelor of Science (BSc)

Experience Requirements

- ✓ 3 to 5 year(s)

Job Responsibilities

- 👉 Visit prospective sources, target organizations and expand network to generate query & tender preparation
- 👉 Prepare offer letter, technical documents as per customer requirements and applications as well...

Additional Requirements

- Age at most 35 years
- Excellent communication in both English & Bengali
- Experience & proven track record in similar field will be given major preference

Salary

- Negotiable

More: <https://ep-bd.com/jobs/view/156>



Doreen Power Generations & Systems Ltd.

Seeking for Manager (Construction)
Deadline: 28 December 2019

Job Location	Vacancy
Chandpur	01 (Full-time)

Educational Requirements

- ☎ Bachelor of Science (B.Sc) in Civil Engineering
- ☎ Preferred Professional Certification: IEB Membership...

Additional Requirements

- ✓ Age 40 to 45 years
- ✓ Only males are allowed to apply...

Job Responsibilities

- 👉 Define clear roles & responsibilities and deliverable requirements in terms of both scope and schedule to all the team members...

Experience Requirements

- ✓ 10 to 12 year(s)
- ✓ The applicants should have experience in the following area(s): civil construction, Power project construction, Project Management/ Co-ordinator...

Salary

- Negotiable

Compensation & Other Benefits

- Mobile bill, Provident fund, Gratuity...

More: <https://ep-bd.com/jobs/view/153>



Energypac Electronics Ltd.

Seeking for Manager - Corporate Sales
Deadline: 15 December, 2019

Job Location	Vacancy
Dhaka	Not specific (Full time)

Experience Requirements

- ✓ At least 5 year(s)

Job Responsibilities

- 👉 Develop and execute annual sales plan for Corporate Sales in the Industry segment...

Educational Requirements

- ☎ MBA from a well reputed public university or top ranked private university. B.Sc in EEE prior to MBA will be preferable...

Additional Requirements

- ✓ Minimum 5 years of work experience in sales or marketing. Work experience in the energy and power sector will be preferable...

Salary

- BDT 70,000-85,000 (Based on experience and industry expertise)

More: <https://ep-bd.com/jobs/view/155>



Mazada Consortium Ltd.

Seeking for Manager (Engineering & Construction)
Deadline: 26 December, 2019

Job Location	Vacancy
Dhaka	Not specific (Full time)

Educational Requirements

- ☎ B.Sc in Mechanical / Civil Engineering from any reputed University.

Experience Requirements

- ✓ 5 to 7 year(s)

Additional Requirements

- ✓ At least minimum 5-7 year(s) experience in Business Development on Engineering & Construction, Heavy Lifting & Haulage, Crane/ Equipment's Rental, Infrastructure Construction Projects etc.

Job Responsibilities

- 👉 The candidate having exposure in Business development in Power Plant, Oil & Gas, Industries, Bridge and Infrastructure Development & Construction Project...

Salary

- Negotiable

More: <https://ep-bd.com/jobs/view/157>



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Fish & Co.



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Corporate Office : Orion House, 153-154 Tejgaon Industrial Area, Dhaka-1208, Bangladesh.

Tel : +88-02-8870133, Fax : +88-02-8870130

E-mail : orion@orion-group.net, Web : www.orion-group.net



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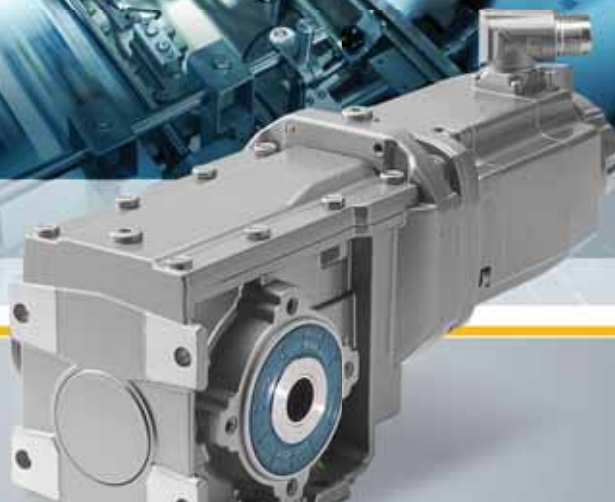
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