

Resolution adopted at the special conference on "Energy, Climate Change, and Sustainable Development" organized by BAPA and BEN on February 11 & 12, 2022

Preface

Following the tradition of Bangladesh Poribesh Andolon (BAPA) and Bangladesh Environment Network (BEN), a special conference on "Energy, Climate Change, and Sustainable Development" was held on 11-12 February, 2022 at the Siddheswari Campus of Stamford University in Dhaka. The conference was attended by a large number of delegates from different parts of the country and abroad. In addition, many delegates took part online. Among the participants in the conference, there were experts on various environmental issues, as well as leaders of various branches of BAPA and activists and well-wishers of the environmental movement. The chief guest at the inaugural session of the conference was planning minister M. A. Mannan, and eminent economist Wahiduddin Mahmud was the special guest. The chief guest at the concluding session was a prominent intellectual of the country, Rehman Sobhan. Saber Hossain Chowdhury, the chairperson of the Parliamentary Standing Committee on Environment, Forest and Climate Change, Mohammad Alauddin, the Additional Secretary of the Power Department and the chairperson of the Sustainable and Renewable Energy Development Authority (SREDA), and other government officials were also present at the conference. In a special session at the conference, leaders of different political parties of the country expressed the position of their respective parties on energy issues. Many prominent members of the country's intelligentsia attended the conference.

About 60 articles were presented at the conference in various plenary and parallel expert sessions. These articles presented data and research findings on a wide range of issues related to energy, climate change, and sustainable development. In addition, in several plenary and parallel general sessions, BAPA leaders and activists from different parts of the country articulated their opinions on various issues of sustainable development in their respective areas.

This conference focused on the following issues as per the conference announcement and paper invitation. These were:

- (A) Provision for adjustment of supply with demand.
- (B) Increase the use of renewable energy and ensure suitable, efficient and efficient blending of fuels.
- (C) Proper coordination of the roles of the public and private sectors.
- (D) Proper coordination of domestic and foreign agencies and influences.
- (E) Ensuring optimal size of power generation facilities.
- (F) Ensuring accurate geographical location of power generation, distribution and transmission facilities.
- (G) Ensuring efficient distribution of electricity and fuel, and fair prices.

- (H) Ensuring financial stability of energy strategies.
- (I) Ensuring environmental sustainability of energy strategy and maintaining balance of energy, water, food/crops, and climate change.
- (J) Limiting the risk of energy strategies to acceptable levels.
- (K) Adoption of proper strategy regarding conventional fuels.
- (L) Ensuring use of environmentally-friendly renewable energy, waste management and recycling.
- (M) To take steps to formulate policies and plans based on national capacity to reduce foreign dependence on energy and other important issues of the country.

Apart from energy issues, the conference also discussed issues related to climate change and sustainable development. In particular, attendee experiences in the issues of rivers, environment, and sustainable development in different parts of the country was discussed and recommendations based on such experiences were presented. This is why this resolution is divided into two parts. In the first part, observations and recommendations regarding fuel are presented in accordance with the above list. The second part of the proposal covers observations, recommendations, and demands relating to other issues of sustainable development.

Part I **Various recommendations on fuel**

The Conference notes that in the recent past, especially since 2008, power generation capacity in Bangladesh has increased rapidly. As a result, the country's power shortage crisis has been resolved. The Conference, for this achievement, commends the strong leadership of the present government, especially that of Prime Minister Sheikh Hasina.

The Conference believes that the energy sector of Bangladesh has entered a new phase by alleviating the shortage of electricity. In this new episode, new generation problems, issues, and challenges have re-emerged. In many cases, the policies that have been followed to increase power generation have given rise to these problems, issues, and challenges.

In addition, the Government of Bangladesh made an ambitious and updated "Nationally Determined Contribution" (NDC) to the COP-26 conference held under the United Nations Framework Convention on Climate Change (UNFCCC). The Government of Bangladesh has announced to ensure this contribution through the "Mujib Climate Prosperity Plan" (MCP). According to this plan, 30% of the energy will be extracted from the renewable energy sector by 2030 and 40% by 2040. It should be noted that at present this ratio is less than 3%. Achieving this goal of renewable energy now poses a new challenge to Bangladesh.

The Conference believes that to meet the above challenges, it is necessary to adopt a comprehensive integrated strategy and management to build the desired national capacity, rather than the current fragmented policies of the energy and power sector.

The Conference is raising the following observations and recommendations following this realization.

(A) Adjusting supply with demand

The Conference notes that the rapid increase in power generation capacity has now created a surplus power generation capacity in the country. According to researchers, about one-third or more of the country's power generation capacity remains unused. The government now has to spend a huge amount of money (about 10,000 crore taka annually, which is about 1.75% of the proposed budget for 2020-2021) as a capacity charge for this unused production capacity, which could have been used in other developing sectors of the government. As a result, people's money is wasted and there is undue pressure on the government's budget. The Conference also notes that although the "reserve margin" of a country needs to be limited to 10-20% as per the "Power Sector Master Plan" (PSMP) formulated and revised by the Tokyo Electric Company in 2016, the same plan in the projection of power supply and demand suggests a reserve margin of 40-50% or more by 2030. It is not clear why PSMP (2016/2018) formulated a power development plan with such a huge reserve margin. However, such a huge reserve margin is not recommended.

Considering the above situation, the Conference urges the Government to take immediate steps to reduce the reserve margin as soon as possible and to prevent the emergence of such abnormal reserve margins in the future. The Conference considers that the steps that the Government may consider to that end are:

- (A) diversifying industrial development ;
- (B) increasing access to electricity;
- (C) exporting electricity to neighboring countries;
- (D) avoiding taking up or implementing projects to build needless power generation plants;
- (E) refraining from guaranteeing the purchase of power by the government when approving private sector power projects;
- (F) in light of the new situation and ensuring consistent balance between future demand and supply, formulating a new power development plan while keeping the reserve margin at 15-20%.

(B) Increasing the use of renewable energy and ensuring suitable, efficient and fruitful blending of fuels.

The Conference notes that in the past, Bangladesh has been leaning towards coal in its fuel mixture. At one stage, it was even proposed to increase the role of coal in the fuel mixture to 70%. In addition, the use of renewable energy was neglected. As a reflection of this, by 2017, the contribution of all renewable energy in power generation has been limited to 330 MW (which is less than 3% of the total generation).

The conference also notes that BAPA and BEN had opposed the inclination toward coal from the outset and called for more focus on renewable energy. It is a pity that the government agencies did not listen to these recommendations of BAPA and BEN at that time.

However, the Conference notes that on the eve of the 26th UN COP-26 conference in 2021, the government announced a goal to move away from coal. To that end, many coal-based power projects have been declared completely canceled and a decision has been taken to convert many power projects into gas-based instead of coal. Besides that, the government has announced to increase the role of natural gas in power generation to 40% by 2041. In addition, the Government of Bangladesh has announced the goal of using state-of-the-art technology to produce environmentally-friendly hydrogen fuel and to generate energy from waste and biomass.

The Conference welcomes these announcements and decisions but notes that the government has not completely scrapped the Rampal coal-fired power project, nor did it offer to convert it from coal-based to gas-based. The Conference has expressed strong dissatisfaction with the issue and reiterates its demand for the cancellation of the Rampal project.

At the same time, the Conference calls for the proper implementation of the already announced target to increase the contribution of renewable energy to 40% by 2041. The Conference is of the opinion that in the absence of special efforts, this goal may remain unattainable. If renewable energy is to play an active role in climate change and sustainable development, then the Government of Bangladesh must ensure its use in agriculture, housing and other sectors. In that case, the use of renewable energy in the housing sector can be ensured through the Bangladesh National Building Code. When evaluating the feasibility of large projects related to wind power and other renewable fuels like MCPPP's "4GW Mujib Bangoposagar Independence Giga Array", it is important to have a good environmental impact and sustainable life cycle assessments. The Conference notes that the issue of financial, social and environmental sustainability is closely linked to the blending of fuels. That is why this issue demands more in-depth attention.

Every effort should be made to include the maximum amount of renewable energy derived from diverse sources (such as rooftop solar panels, solar power, wind power, wave power, tidal power, small to medium-sized hydropower, ocean-thermal power, hydrogen, etc.) in the Integrated Energy and Power Master Plan.

In addition, plans have to be made to store energy produced by renewable energy sources and use it during peak demand or export it. The Conference also notes that despite the goal of generating 40% of electricity from renewable energy by 2040, Bangladesh has not signed the COP-26's "Global Coal to Clean Power Transition Statement." The Conference believes that this document should be signed by Bangladesh.

Despite the various limitations and challenges mentioned above, the Conference welcomes the policy of moving away from coal and increasing the use of renewable energy, and believes that proper implementation of these policies can set a positive example in the international arena and brighten Bangladesh's image in the world. In particular, by setting up a test model for the production of state-of-the-art technology and environmentally-friendly hydrogen, Bangladesh can gain worldwide reputation.

(C) Proper coordination of public and private sector roles

The Conference notes that the role of the private sector in power generation has gradually increased in Bangladesh, bringing it closer to the role of the public sector by now. The relative shares of the public and the private sector in power generation vary by country. However, the issue that is more important than this ratio is the regulatory framework under which the private sector is developing. If this development is achieved under a competitive, transparent, and proper risk and return relationship, it would be beneficial to the economy. However, if the development is driven by state-favoritism rather than the risk-reward relationship, it could be detrimental to the economy. The development of the private sector in power generation in Bangladesh so far seems to lean toward mainly the latter category. That is why the government is currently having to pay huge subsidies for the unused production capacity of private power plants. In light of this experience, before approving the installation of power plants by the private sector in future, it is necessary to formulate the necessary policy framework so that these institutions do not rely on government subsidies and various other concessions. Licensing to set up power plants would be fatal to the economy if used as a means to benefit favored businesses or business groups. In short, politicization of the power sector must be resisted.

In this regard, the Conference notes that the role of the public sector in power generation is usually larger in the first stage of development. Power generation is a capital-intensive process, and at the beginning of development, individual entrepreneurs do not have the capacity to invest such a large amount of capital. Additionally, in the first stage of development, the government does not have the policy framework needed for power generation by the private sector or the institutional capacity required to implement it. Over time, the investment capacity of the private sector increases, as well as the institutional capacity of the state to formulate policies and implement them. As a result, the proportion of power generation by the private sector may increase. The proposals put forward in PSMP (2016/2018) contradict this observation. According to that proposal, the role of the private sector in power generation in Bangladesh will first increase, and then it will decrease to a very low level. No suitable explanation is available in the PSMP (2016/2018) as to why such a reverse section would be applicable to Bangladesh. The Conference considers it necessary to review the role of the private sector in power generation in Bangladesh and to formulate appropriate policy frameworks.

(D) Proper coordination of domestic and foreign agencies and influences

The Conference further notes that the importance of foreign agencies and influencers has gradually increased in the energy sector of Bangladesh. The influence has spread in two areas-- one in the area of energy sources, and the second in the case of power generation. Earlier, Bangladesh's power generation was almost 100% dependent on domestic gas. But due to insufficiency of domestic gas compared to demand, Bangladesh is currently importing liquefied natural gas (LNG) from abroad. Furthermore, the construction of large-scale coal-based power plants like Rampal, Payra etc. has resulted in an increase in coal import from abroad. As a result, fair price and right strategy for importing foreign energy resources has become an important issue. For instance, Rampal is importing relatively low-quality coal from India despite earlier commitments to import high-quality coal from Australia and Indonesia. On the other hand, there are allegations of importing LNG from the spot market at high prices instead of importing at relatively low prices under long-term contracts. The Conference believes that the government needs to be more consistent and transparent in these matters.

Experts have also expressed doubts on the need for importing gas from abroad. They believe that due to the influence of some quarters, the government is focusing more on importing gas from abroad instead of exploring and extracting gas from the country. One proof of this is the digging of only twenty wells in the last twenty years. Moreover, the extraction of gas from the discovered gas fields is not showing much activity. For example, although two gas fields have been discovered in Bhola, gas is not being extracted from them because the pipelines required for gas transmission have not been laid. Similarly, the exploration and extraction of gas and oil in the Bay of Bengal was expected to increase further after the settlement of maritime disputes with India and Myanmar, but no such activity is being observed. The Conference believes that more emphasis needs to be placed on domestic gas exploration and extraction so that Bangladesh does not have to depend on foreign gas. The Conference calls on the government to take steps in that direction.

Secondly, power sector joint venture between government and non-government organizations of domestic and foreign origin have increased. The Conference thinks a proper regulatory structure needs to be developed and enforced in this area as well. The participation of foreign companies should not be based on government favors and subsidies and should not involve risk-free profits. Instead, this participation must be market-based, non-subsidized, and adhere to the principle of "profit at risk." The Conference urges the government to take necessary steps in this regard.

(E) Ensuring proper size of power generating establishments

The Conference notes that the size of power generation entities can vary. Larger organizations have some advantages. Among them, for example, in the language of economics, is the "economy of scale," which results in lower production costs per unit of electricity. Second, it is easy to meet the huge electricity demand of large-scale industrial enterprises. But large-scale power generation facilities also have some disadvantages. One such disadvantage is a long construction period. A second set of

disadvantages is higher operating costs and system losses. Third, due to their high cost, large-scale power plants are built by the public sector where corruption and abuse are rampant. As a result, production cost per unit is not low. Rather, it exceeds the market price and these production centers turn into loss-making establishments (i.e. white elephants). But they are difficult to get rid of as they are stuck with a huge amount of invested capital (sunk cost) and this constantly puts pressure on the government budget.

The Conference notes that in the recent past, Bangladesh has been leaning toward the construction of large-scale power plants. In most cases, these are being built under the government's "purchase guarantee." Already, the government is paying a large amount of subsidy for the idle capacity of these plants. The amount of subsidy may increase further if the planned and under-construction large-scale power plants are implemented.

That is why the Conference calls on the government to encourage the construction of medium and small-scale power plants. In fact, the Conference believes that the role of the private sector in power generation could be considered limited to the establishment of small and medium-sized power plants. These companies will be set up by individual entrepreneurs on the basis of local power demand, their own capital investment and "profit in return for risk" policy, so as not to put pressure on the government's budget. Being close to the consumers will reduce the operating cost and system loss of these organizations.

Since it is much more risky to set up large scale nuclear power plants in a densely populated country like Bangladesh, there is new opportunity in the area of nuclear power generation to install the latest fourth generation safer small and medium-sized modular reactors instead of large ones. The government may also consider these options in the expansion of nuclear power generation.

On the basis of the above observations, the Conference urges the government not only to build large-scale power plants but also to form an "optimal size distribution" in combination of large, medium and small-scale power plants.

(F) Ensuring proper location of power generation, distribution, and transmission installations:

Determining the geographical location of the power plant is an important factor in the development of power generation. In this regard, the Conference notes that in the past, the government has been planning and building a number of large-scale power plants in coastal areas. Since these plants rely on imported coal for the most part, there is reason to place them in coastal areas. Similarly, in many cases, nuclear power plants are set up along the coast for risk reduction, but the Rooppur nuclear power plant is being built deep inside the country. There are also many downsides to setting up power plants on the coast or in remote areas. For example, their operating costs and system losses are high. As they are built in remote locations, separate accommodation and other facilities have to be arranged for their workers, which increases the cost of production. Coastal power plants in many cases cause irreparable damage to the sensitive environment, such

as the Rampal power plant, which poses a threat to the Sundarbans. The coast of Bangladesh is also often hit by cyclones and tidal surges, posing an additional threat to large-scale power plants along the coast.

Based on the above observations, the Conference calls upon the Government to move toward a more optimal special distribution by reducing coastal dependence on the geographical location of power plants. The Conference notes that now that the decision has been taken to reduce coal dependence, the rationale for setting up power plants on the coast has diminished. Gas-based medium and small-scale power plants may be preferable to consumers within the country. Similarly, renewable energy-based power generation needs to be spread across the country. This will also save space required for power generation. The Conference calls for decentralization of power generation and transmission as much as possible.

(G) Efficient distribution and ensuring fair price of electricity and fuel

The Conference notes that in addition to power generation, policies regarding its operation and distribution of fuel in general carry special importance. For example, it is generally assumed that the power transmission capacity should be more than 50% and the power distribution capacity should be 100% higher than the power generation capacity. Thus, in addition to increasing power generation capacity, it is important to ensure that the required capacity of transmission and distribution capacity is being achieved.

In this regard, the Conference further notes that private sector initiatives are generally focused on power generation; as a result, the responsibility of ensuring the necessary transmission and distribution system rests largely with the public sector. It is necessary to pay attention to whether this responsibility is being fulfilled properly. However, the government does not need to subsidize the private sector by fulfilling this responsibility. The government can avoid subsidizing this by charging for the transmission and distribution at reasonable rates from public and private power producers.

The Conference notes the need to focus on both efficiency and non-discrimination in energy distribution. For example, the earlier policy of distributing pipe-based gas instead of cylinders for household use in Bangladesh led to inequalities in gas availability between regional, rural-urban, and rich-poor. Even today, Bangladesh has not been able to overcome that inequality completely. At the present new stage, attention must be paid to the distribution of fuel and electricity so that such inequalities do not arise.

The Conference notes that the purchase and sale price of fuel has now become more important as the country moves towards imported fuels. The source, method, and price of coal and gas purchases are of special interest to the country. It has recently been alleged that gas has been procured from the spot market at exorbitant prices instead of being purchased at relatively low prices under long-term contracts, and this has resulted in the government incurring extra costs and increasing the price of blended gas in

Bangladesh with domestic and imported gas. The Conference calls on the government to ensure that such anti-national activities do not take place. The Conference also calls on the government to ensure that no decision is taken against the national interest in the import of coal.

The Conference further calls on the government to follow the path of economic rationality in setting the prices of fuel and electricity within the country. According to this route, the price of domestic materials also needs to be determined on the basis of "border price." It would not be advisable to try to jump this passage. However, in the interest of economic rationality, this needs to be taken as the ultimate goal, and the people need to be informed about the rationale of this policy so that they agree to adopt it.

It is necessary to adopt a policy of long-term avoidance of subsidy in case of supply of materials to power producers and purchase of power from them. The Conference notes that the failure to adopt this policy has resulted in huge subsidies to power producers, especially to private power producers. In all cases, the Conference calls for the pursuit of a long-term policy of economic rationality in pricing materials and products.

(H) Financial sustainability of energy strategy

The Conference believes that the energy sector needs to be financially sustainable. In light of this, the Conference expresses concern over the policy currently being pursued to expand power generation capacity through subsidies. Instead of giving private sector power producers the opportunity to earn government favors, continued subsidies, and "risk-free profits", the principle of market-based, non-subsidized, and "profits in return for risk-taking and demonstration skills" must be pursued.

The Conference believes that the public sector should also refrain from adopting questionable projects from the point of view of financial sustainability. From that point of view, the conference expresses concern over the construction of Rooppur nuclear power plant with a capacity of only 2,400 MW at a cost of \$18 billion. The Conference notes that, according to many, similar power plants have been built in other countries on much lower budgets. The Conference calls on the government to explain why its budget is so high in the case of Bangladesh. The Conference also notes that a project with such a large budget was accepted by the government without much public discussion before they proceeded with implementation. The Conference notes that the government had announced a goal of setting up a second nuclear power plant. The Conference hopes that the Government will take a decision on this subject on the basis of adequate public discussion, transparency, and accountability. Reducing corruption, waste, and mismanagement in the public sector will help achieve financial stability in the energy sector.

The Conference notes that increasing the emphasis on domestic gas exploration and extraction would help ensure the sustainability of Bangladesh's energy sector.

The Conference believes that those responsible for the growing losses incurred by government agencies in the energy and power sectors need to be held accountable and brought back to the realm of the environmentally-friendly, economically responsible and sustainably developed by freeing the energy and power sector from corruption.

(I) Environmental sustainability of energy strategy and maintaining balance between energy, water, food / crop and climate change.

The Conference notes that while Bangladesh's role in global "warming gas" (UBG) emissions is not significant, Bangladesh can set an example to the world by playing an enterprising role in eliminating UBG. In this regard, the Conference notes that Bangladesh has recently made a huge difference in the steps it has taken and its potential to achieve the "Nationally Determined Contribution" to the United Nations under the Paris Agreement on Climate Change. The Conference hopes that the Government will take immediate and appropriate steps to bridge this gap.

The Conference believes that measures to reduce UBG are not only necessary for global UBG reduction. It can also be helpful for the local environment. Rampal Power Station is an important example of this. The abolition of this plant--at least by converting it to gas instead of coal--could not only play a role in reducing global warming, but also to ensuring the protection of Bangladesh's Sundarbans. The same is true of other coal-fired power plants. In addition to the use of energy, water, food/crops, and climate change have to be balanced and it would not be right to inflict irrational damage on one sector while developing another.

(J) Keeping the risk of fuel strategies limited to tolerable levels

The Conference notes that there are three types of energy-related risks: environmental, financial, and life and health related. The Conference expresses concern that the current energy policy of Bangladesh is not paying due attention to these multifaceted risks. Rampal and other coal-based power generation projects are increasing environmental risks. The National River Protection Commission (NPRC) has issued a written order to evict the Barisal Power Plant under construction at Taltoli in Barguna by occupying land at the mouths of the three rivers Payra, Bishkhali and Baleshwar. Although the power plant is located within 20 km of the Sundarbans, the World Heritage Site, the draft Environmental Survey of Southwest Bangladesh prepared by the Ministry of Environment, Forests and Climate Change did not make any recommendations to the government regarding the location and potential contamination of the power plant. The coal-fired power plants under construction in the Payra region will have a huge negative impact on the production of hilsa and watermelon in the country and the power plants in the Matarbari-Maheshkhali region will have a huge negative impact on the country's salt production and tourism industries. The Conference seeks to warn the government of all of these possible consequences with grave concern.

Expansion of subsidy-dependent power generation and construction of expensive nuclear power plants are increasing the financial risk. The construction of nuclear power plants

in densely populated areas within the country is further increasing the risks to life and health. The Conference calls on the government to focus its energy policy on mitigating these diversified risks.

The Conference calls for taking steps to mitigate future risks to public health by taking necessary measures to prevent the deterioration of the air quality index due to the adoption of various projects for power generation using fossil fuels.

All the sources of fuels that cause air pollution and pose a risk to public health (e.g. unscientifically built brick kilns, unfit cars, buses, motorcycles, trawlers, launches, steamers, aircraft, various equipment used for industrial and agricultural purposes, etc.) must be identified and periodically canceled and removed.

In the medium and long-term planning of energy and power generation, policies need to be adopted to meet the seventh goal of sustainable development (Clean and Affordable Energy for All) in such a way that these ensure social inclusion and reflect social aspirations.

Life Cycle Sustainability Assessment of all projects is required to minimize the risk of public health, socio-economic damage and impact on the environment in generating, distributing and supplying power and locating power generation plants.

(K) Ensuring the use and reuse of wastes for fuel development

The Conference also notes that no fuel is safe from all aspects. For example, when using solar energy, it is necessary to ensure proper and safe disposal of solar panels after their expiration. In developing countries around the world, about 75% of electricity is expected to come from renewable energy by 2050, and this could result in 78 million metric tons of solar panel waste alone by 2020-2050 (wastes from wind power, battery storage units, and short-lived off-grid electricity production are not counted.). These facts predict a huge challenge for Bangladesh to manage renewable energy wastes. Therefore, from the very beginning, Bangladesh has to focus on proper management of various wastes generated from renewable energy.

The Conference also notes that the use of renewable energy, similar to the electronics industry, could expose people to many toxic wastes. These include cadmium and copper-derived substances, lead, hexafluoroethane, polyvinyl fluoride, tin, lithium and silicon tetrachloride, etc., whose high levels can be harmful to humans and the environment. Similarly, the proper removal, transfer, and disposal of radioactive waste from nuclear power plants would be an important challenge. It is important to keep in mind that conventional hydropower (i.e., power generation through river dams) is not renewable in the long run because these dams are limited in duration and cannot be rebuilt due to changes in river course and other changes. As Bangladesh aims to generate 30% of its energy from renewable sources by 2030 and 40% by 2040, it, like developed countries, needs to ensure proper management, recycling, and disposal of waste and hazardous materials used in various renewable energy sources.

Every effort has to be made to generate fuel and electricity from waste by radically changing the solid waste management systems in cities and villages. In this regard, sanitary landfills should be set up in each district at the initial stage and in each upazila in the subsequent phases. These enclosures should be surrounded with protective covers so that the surrounding land and air are not polluted and the contaminated waste water does not reach the surrounding surface and ground water.

(L) Adoption of proper strategy regarding conventional fuels

Traditional fuels still play an important role in the economy of Bangladesh, especially in rural areas. The Conference notes that there are two possible goals in this regard. One is to try to replace traditional fuels with modern fuels as soon as possible. The second is to mitigate the negative aspects of conventional fuels instead of rapidly replacing them, such as expanding the use of smoke-proof stoves instead of open furnaces. The Conference hopes that the right goals and strategies will be adopted based on the necessary research on these alternatives.

(M) Reduction of foreign dependence on policy-making and formulation of planning in energy and other important sectors of the country

The Conference notes that although Bangladesh is economically more self-sufficient than before, it is still largely plagued by foreign dependence on policy-making and formulation of planning. For example, the government has had the country's energy plan formulated by the Tokyo Electric Company of Japan. Similarly, the country's "Delta Plan 2100" has been drafted mainly by Dutch experts. However, a closer look shows that the plans made by foreign experts and agencies cannot serve the best interests of the country. On the contrary, in many cases its results are unfavorable. A review of PSMS 2016/2018 made by Tokyo Electric Company shows that it contains many erroneous and harmful proposals for the country. For example, it did not provide proper balance between demand and supply, which has resulted in Bangladesh having a problem of excessive reserve margin at present. Secondly, this plan has pushed Bangladesh towards coal. Thirdly, the plan serves as a bizarre projection of the role of the private sector in power generation which is illogical. Fourthly, this plan has pushed Bangladesh towards continuous import of electricity. All in all, this plan has not proved to be beneficent in the national interest or effective to protect the environment.

In light of the above observations, the Conference urges the Government to move beyond its dependence on foreign agencies for policy-making and formulation of planning and to move forward on the basis of national capability. All efforts need to be made to increase the participation of domestic experts in the discovery of new fields of fossil fuels within the country and to continue all the efforts to increase their capacity. An effective commission can be formed to look into how to increase efficiency and security in the energy sector by increasing the efficiency of all machinery used in

energy and power generation, industry, vehicles, agricultural machinery, and household use.

The Conference calls upon the government to build the necessary institutional framework to enhance the national capacity for research and policy formulation in the power and energy sector in general. A state-of-the-art Center for Energy Excellence could be set up for this purpose. The Conference proposes that BAPA-BEN could provide required assistances to the government in setting up the aforementioned center. The Conference hopes that the government will take this proposal seriously.

Finally, the conference hopes that the government will seriously consider the resolutions adopted at this conference and move towards making the country's energy policy more people-oriented, economically responsible and environmentally-friendly.

PART II

Other recommendations for Sustainable Development

During the conference, other issues of climate change and sustainable development, in addition to power and energy issues of Bangladesh, were discussed. Specially, BAPA leaders from different local branches shared their experiences on such issues in different parts of the country. Based on the recommendations of the grassroots environmental activists of BAPA and subsequent detailed discussion and analysis at the conference, the resolution finalized the following recommendations and demands moving forward:

Coastal environment of Bangladesh

Establishment of fossil fuel-based power plants along the coastal belts of Bangladesh led to environmental degradation. This environmental disaster along the coastal belts was not considered seriously and was not reflected in the government-led "Strategic Environmental Assessment" of the southern and western parts of Bangladesh. BAPA already submitted its clear recommendations on this issue to CEGIS, a government organization. BAPA strongly demands a new "strategic environmental assessment" based on the already proposed recommendations to CEGIS that can reflect the opinion and participation of general public and the people who suffered in the coastal regions due to this fossil fuel-based power plant-led environmental degradation.

Climate change-induced impacts on different sectors of Bangladesh are very prominent and visible. The agriculture, irrigation and industrial development sectors are severely affected together with the natural process of delta formation, as well as the existence of coastal forests including the mangrove forest, Sundarbans. Additionally, scarcity of fresh drinking water, unpredictable flooding, frequent drought, constant waterlogging, extended propensity of river, and coastal erosion are impacting the livelihoods of general public.

BAPA strongly demands the protection of Sundarbans and other coastal forests of Bangladesh. Located in the coastal region, Sundarbans has outstanding universal ecological value and must be protected from further environmental degradation. Thus,

BAPA demands adoption of major policies and government actions to protect the coastal belt of Bangladesh known for its fisheries sanctuary.

Sundarbans is a world heritage site and serves as a safety belt to protect coastal life and resources. Any project that affects the natural habitat and existence of Sundarbans must not be adopted and implemented. Bangladesh must protect Sundarbans at any cost for its own existence.

Environment of greater Sylhet and Haor regions:

Effective policy and steps must be adopted immediately to stop environmental pollution by the uncontrolled and unregulated waste disposal of tourists in Sylhet and other regions of Bangladesh. Random practice of cutting down of trees and hills must be stopped in Sylhet and other regions. Effective actions must be taken to stop illegal grabbing of marshland/wetland in the haor region. Furthermore, meaningful and visible action must be taken to stop open and unregulated dumping of industrial waste to different rivers and wetlands in the haor region. Rampant corruption during execution of different development projects in the haor and other regions of Bangladesh must be stopped immediately. Adequate steps must be taken to ensure proper implementation of those development projects. Furthermore, meaningful action must be taken to stop projects impacting the heritage of Hobigang and prevent further degradation of environment and soil pollution. It is important to note that, recently, Hobigang has been ranked fourth in the air pollution category.

Environment of Teesta basin:

It is demanded that an environmentally-friendly flyover must be constructed by demolishing the road from Teesta to Kurigram. Furthermore, BAPA is demanding a re-evaluation of the effectiveness of Teesta Barrage project. The local public confirmed that the natural water flow in the river was normal until 1985, before the implementation of the Teesta Barrage project. The ecology and biodiversity of the river basin was rich and thriving at that period. The local population of Teesta basin is convinced that the Teesta Barrage project negatively impacted the legitimate demands of water flow in several international rivers of the Teesta basin such as Saniyajan, Lautara, Kunsai, BuriTeesta etc. Realizing the importance of this situation, BAPA is demanding more and results-driven, effective actions to bring back normal water flow in Teesta.

Teesta road bridge, Sheikh Hasina bridge, and Teesta railway bridge impeded the natural flow of the river and narrowed the effective width of the river which led to subsequent and frequent riverbank erosion. Immediate scientific investigation and evaluation is demanded to adopt effective action to eliminate the challenges. The legality of different projects along the bank of Teesta, including the project of Sena Kalyan Sangstha, must be resolved and river encroachment of Teesta river must be stopped.

On the environmental issues of the Chalan Beel area:

Due to environment-destroying activities and projects, only 180 species of fish are available in Chalan Beel area, compared to the 260 species that were present in the past. Many of the bird, turtle, dolphin, and crocodile species are on the verge of extinction. The cropland in Chalan Beel area is declining at alarming rates. Water

availability has declined in the Chalan Beel area due to the Farakka Barrage as well. This is the high time to take steps and to adopt the right set of policies. Unplanned roads, culverts, and other infrastructures need to be removed, and waste disposal needs to be controlled. It is demanded that the boundaries of the rivers in Chalan Beel area be determined and demarcated immediately. The Chalan Beel needs to be free from illegal land grabbers. Illegal pond-grabbing activities by individuals needs to be stopped, and steps need to be taken to preserve the ponds. The Chalan Beels needs to be declared an Ecologically Critical Area, which should be followed by curtailment of industrial activities and an increase of preservation of ponds and other water bodies. The development of the Chalan Beel area needs to be carried out in an integrated manner so that the ecological integrity and environmental sustainability are ensured.

Groundwater exploitation in Chalan Beel area needs to be controlled.

On other environmental issues:

Unplanned and illegal sand mining activities are responsible for riverbank erosion. Sand mining occurs with the help of corrupt politicians and the members of administration. This conference denounces such illegal and immoral activities. Public transportation in megacities, including the Dhaka City, needs to be improved. The use of private vehicles needs to be discouraged in order to reduce traffic congestion and air pollution.

In general, the Conference calls to eliminate developmental activities that are creating an imbalance in environmental equilibrium in the country.

Conclusions:

The 2022 BAPA-BEN conference on "Energy, Climate Change, and Sustainable Development" explored all aspects of the theme of the conference in-depth and made specific recommendations that are described in the above sections. Now, it is important to place the recommendations before the nation, to draw attention of the policymakers, and if necessary, to raise awareness among the citizens and organize mass movement to ensure implementation of these resolutions.

The Conference seeks cooperation from the electronic and print media, TV channels, newspapers, and other media. The media is playing a crucial role in support of environmental movement. This conference hopes that the media will continue to play their roles in publicizing the people-oriented, patriotic, economically sensible, and environmentally sustainable energy policies and recommendations that are adopted by this conference. The media can play a huge part in ensuring proper implementation of the recommendations by the government.

This conference calls on all BAPA-BEN members and other environmental organizations to partake in spreading the message expressed in the resolutions and recommendations to the general public and the concerned authority.

Moreover, this conference calls on the general public to step forward to ensure implementation of the people-oriented, patriotic, economically sensible, and environmentally sustainable energy development in light of the resolutions that are adopted by the conference.