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The Daily Star

# IFI'S ENERGY INVESTMENT IN BANGLADESH

## Opportunities and Challenges for Achieving the Sustainable Development Goal 7 and Paris Climate Goal

Brig Gen Shahedul Anam Khan ndc, psc (Retd), Associate Editor, *The Daily Star*



The text of today's roundtable is energy investment but the subtext, I think, is investment in renewable energy and that is the underlying message of SDG 7 which elucidates ensuring access to affordable, reliable, sustainable and modern energy for all. Bangladesh has set a target to generate 10 percent of the total electricity supply from renewable energy resources by 2020 and 100 percent by 2050. Achieving these goals is a really big challenge. I hope today's roundtable will be an effective step to travel the thousand miles that we have to cross to achieve our energy goal.

SM Monjur Rashid, Policy, Advocacy and Campaign Manager, Oxfam Bangladesh



Bangladesh is one of the most climate-vulnerable countries in the world. Yet it has demonstrated climate leadership, particularly in pioneering solar energy for all. The government has committed to ensuring access to affordable and reliable electricity for all citizens by 2021. We hope that today's dialogue will help us learn how appropriate lending for energy projects by international financial institutions can help Bangladesh to implement the Paris Agreement on Climate Change and SDG 7 on universal energy access.

As Bangladesh accelerates towards middle-income country status by 2021 and high-income country status by 2041, the challenge will be to meet the growing demand for power. It is estimated that demand will triple by 2030. It will require significant investments and international financial institutions will play a key role in mobilising the finance needed.

MB Akhter, Programme Director, Oxfam Bangladesh



Bangladesh is going to be a middle-income country by 2021. In 2030, the energy requirement will be almost 34,000 MW. In the next 15-20 years, investment in the energy sector is expected to be around USD 70 billion. It is very important to understand at the beginning where we are in terms of our investment from the perspective of different stakeholders including the government, IFIs and civil society.

Mollah Amzad Hossain, Editor, Energy & Power



Each year the government spends USD 5-6 billion in the energy and power sector including renewable energy sources. Achieving 10 percent from renewable energy is very challenging. But we have a great scope to achieve the target of energy efficiency. The government has already formulated an energy efficiency roadmap. Currently, power generation efficiency in the country is very low, which is around 32 percent only. The government is planning to enhance it to 50 percent by 2021. If the government implements this plan properly, it will significantly reduce the emission of greenhouse gases in the power generation process. We will also be able to generate double the amount of electricity using the same amount of gas. The government needs around USD 7-8 billion in investment for this. International financial institutions can play an effective role in this regard.

Dr Badrul Imam, Professor, Department of Geology, University of Dhaka



The government has planned to generate 10 percent of electricity by 2021 from renewable energy sources. At present renewable contributes only 3 percent, which is only 500 MW. Now we have only three years left. I do not understand how the government will be able to achieve this goal. We can't depend on hydro, wind or bio sources for large-scale power generation. That means we are only left with solar. Bangladesh is at the top when it comes to the Solar Home System (SHS). But SHS produces a very small amount of power. And from on-grid solar solution comes only 17 MW. So how can we generate the remaining 2000 MW from renewable energy sources by 2021?

Sharmin Neelormi, Associate Professor, Department of Economics, Jahangirnagar University



Bangladesh is working with the World Bank on improved cooking stove. USD 84.7 million has been approved for this project of which USD 40 million constitutes loans—USD 20 million from IDA and USD 20 million from Green Climate Fund. The rest USD 44.7 million will be collected from rural customers of this cooking stove. There is also no provision of subsidy. I do not know how



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this business model will serve the interests of the rural poor. How it can be a prioritised project in terms of fighting climate change is a crucial issue which should be pondered over.

The government set up a windmill project in Kutubdia spending a huge amount of money. But it remained dysfunctional and failed to bring any solution to the power crisis in the area. In 2014, I visited Kutubdia and resided in the UNO's house. I couldn't charge my mobile phone for 48 hours. The local people often go to the sea shore and try to break the windmills by throwing stones and bricks. Why does this happen? Local people think that instead of investing in windmills the government should have invested in on-grid solution. So the government should seriously consider the social acceptability aspect of the renewable energy projects.

M Asaduzzaman, Former Research Director, BIDS



I want to highlight the gap in coordination of IFIs' investments in our energy projects. One certain IFI is involved in both off-grid SHS and on-grid rural electrification programme in the country. SHS is supposed to be only in the off-grid areas. But we are also seeing installation of SHS in on-grid areas. Why would people be interested in SHS when they can get on-grid power?

There is also a serious lack of coordination in government planning in the renewable energy sector. IDCOL set a standard below which no SHS would be imported. But the government allowed import of substandard imports of SHS which are being sold by private importers at a much cheaper rate. So now IDCOL products are facing consumer resistance. Furthermore, the government introduced a programme called KABITA (Kajer Binimoye Taka) under which SHS were distributed free of cost. It again disrupted IDCOL's business model. Why would people buy SHS from IDCOL when they can get it for free? Therefore, the government needs to have a consistent energy policy and its effective implementation needs to be ensured.

Professor Mustafizur Rahman, Distinguished Fellow, CPD



We need to seriously think about how we can make the increasingly large investment of the IFIs in the energy sector more efficient and transparent. All the project-related documents such as assessment of the projects, and outcomes and returns from investments need to be made available to the public so that they can understand what they are paying for.

There is also a lack of coordination among government bodies regarding energy investment policies. For example, according to the Power Policy, the debt-equity ratio is 80:20 but according to Bangladesh Investment Development Authority it is 70:30. We should overcome this gap.

Budgetary allocation for maintenance of energy infrastructure is extremely crucial. In our infrastructure projects we often neglect this maintenance aspect.

The government should also allocate budget for research on energy-related issues, particularly efficiency in production and optimal mix of available energy sources.

Dr Ijaz Hossain, Professor, Department of Chemical Engineering, BUET



I would like to focus on biomass which is a kind of "non-trendy" renewable source. In Bangladesh, 90 percent people use biomass for cooking. If we can make biogas efficient we will be able to achieve

SDG 7 successfully. Unfortunately, IFIs are not that interested in investing in biogas projects.

The government is more interested in doing big energy projects that give them political mileage. But there is ample scope of doing many small projects targeting rural areas. IFIs can facilitate investment in these small projects.

There are great prospects of importing hydro-electricity through Bangladesh-Bhutan-India-Nepal (BBIN) framework. The government has already signed a deal regarding this. It will definitely add to our efforts to achieve SDG 7.

Wendy Werner, Country Manager, IFC, Bangladesh, Nepal and Bhutan



With regard to investment in sustainable energy, IFC feels that clean power is the foundation of our power and energy investment in Bangladesh. Our combined cycle projects

will generate around 1500MW of power within the next year or so. Combined cycle power plants have around 40 percent less emission in comparison to the average grid-connected power in Bangladesh. So, we feel that combined cycle power is an important part of the power mix as far as achieving the goals of energy access is concerned.

IFC has invested in a private company in Bangladesh that works with solar home systems (SHSs) for new technology on a micro inverter-based backup system. It makes SHSs more efficient and enables more energy-saving appliances. We are also working on expanding the rooftop solar system on a broader scale. IFC also has extensive energy efficiency programmes with the local RMG and textile sector. And overall, our programmes on investment and advisory have led to reduction of around 2.7 million metric tonnes of CO2 emissions every year.

IFC strongly supports solar power generation in Bangladesh. Bangladesh can learn from the examples of solar programmes in India and Africa. India's Rewa Mega Solar project can be a good example to follow for Bangladesh. It is a concession-based competitive approach, where the government provides the solar parks and develops land to facilitate investment from private sector.

Dr S M Munjurul Hannan Khan, Environment Expert, Additional Secretary, Ministry of Environment



In terms of the Paris Climate Goal, Bangladesh has produced Nationally Determined Contributions (NDC) in which Bangladesh clearly indicated its conditional and unconditional commitment to carry out mitigation activities in the country. After 2020, the scene will completely change because we hope that by that time the Paris agreement will have been implemented by all the parties. I would like to see IFIs' plan, particularly for Bangladesh, to help the country in terms of achieving the unconditional goals that have been elaborated in our NDC. Next month, the ministry of environment and forest will publish the NDC implementation strategy and action plan. We have elaborated on three sectors in particular—energy, industry and transport.

My other question to IFIs is this: what kind of actions are you considering taking to meet the environmental challenges of mega projects in the energy and other sectors?

Another question is: are you considering bringing innovative technologies? How would you do that?

Sanjay Srivastava, Program Leader, World Bank Bangladesh



It is for the government of Bangladesh to think about if they can really make clean energy affordable and affordable energy clean. I think that's where the big debate is. From our point of view, I think this

10 percent goal of renewable energy is possible and not ambitious. In terms of a broader policy framework, it is in place. I guess there are few areas where we are happy to help. Our current portfolio constitutes more than 60 projects, of over USD 10 billion in Bangladesh and it is growing. We have intentions to lend more than USD 4 billion in the next three years. We have invested in power generation, distribution and energy efficiency projects.

One project I would like to elaborate on is the scaling up of renewable energy programme. We are aiming to look at grid-connected renewable energy, particularly the solar invert. And we are providing support with a combination of investment financing, risk mitigation and technical assistance. Our repowering project itself will reduce about half a million tonnes of CO2 over the project cycle. Our engagement in the renewable energy sector in Bangladesh is quite intense and it is likely to grow in the future.

Bangladesh should invest in evacuation structure that includes distribution and transmission of power. The private sector can share the burden of investment with the government in this critical sector.

Golam Shafiuddin, ndc, Additional Secretary, Blue Economy Cell, Energy and Mineral Resources Division



What have we done in the energy sector to graduate from LDC status? We diligently followed the Istanbul Plan of Action. The programmes that we have undertaken include raising funds for gas development, oil and gas exploration and production, gas transmission capacity enhancement activities, import of LNG, etc. We have to find out which of these energy sources are clean and affordable and invest more in those sources.

In Bangladesh we can get clean and renewable energy from four sources: water, waves/tidal energy, sunlight and wind. A study is being conducted in Kutubdia to determine if we can make use of wind energy. We are still not sure if we can use tidal energy but we have produced hydro-powered electricity. Solar panel is not affordable for people who are poor. To ensure energy justice we need to make it affordable. We need to make our national grid smart to connect power generated from solar to the main grid.

Manmohan Parkash, Country Director, Asian Development Bank (ADB), Bangladesh Resident Mission



I would suggest that Bangladesh should use IFIs to bring in new technologies and best practices around the world to the country. For example, ADB is going to work in a gas project focusing on enhanced gas recovery. It primarily means that with the same amount of gas you will be able to get double the amount of heat. As Bangladesh has

### RECOMMENDATIONS

- ❑ IFIs' support is critical for Bangladesh to meet its clean energy goals.
- ❑ IFIs should facilitate investment in energy projects targeting rural areas.
- ❑ To ensure energy justice renewable energy needs to be made affordable for poor people. More investment needed in pro-poor energy solutions such as clean cooking technology.
- ❑ More investment needed in new technological solutions such as negative carbon emission and carbon absorption technology.

problems regarding land, we are going to address the issue by promoting floating solar projects. We need to think out of the box to find innovative solutions to energy problems.

I would like to highlight three things. First is housekeeping which means making improvements on what you already have to get more benefits from it. For example, if you have tube lights, think about moving to LED. If you are using conventional air conditioners then move to ACs that have inverters.

Second is retrofitting which refers to using new technologies to retrofit a plant or machinery. It increases efficiency significantly.

Third is new technology and technological development. We have gone from single stage to combined cycle power plant because with the same input it gives you better output. There are some very exciting technological developments happening in the energy sector such as negative emission technology. Once it becomes available for wide use, our world will be different. We need to invest more in these new technological solutions.

Siddique Zobair, Member, Sustainable & Renewable Energy Development Authority (SREDA)



The government has already undertaken various initiatives to achieve the target of generating 10 percent of its total energy from renewable sources. We have already achieved 500MW. 1170MW more

will come from the private sector and 600MW will be contributed by the public sector. Land scarcity remains a big challenge for implementing renewable energy projects because we can't use any cultivable land for that purpose.

Currently, we are having discussions with IFC and World Bank about setting up big solar projects as they already have experience in developing such projects in various parts of the world. We are also trying to facilitate the private sector to develop renewable energy projects, particularly utility-scale solar projects more swiftly.

As the price of solar technology has come down, rooftop solar projects have good potential of generating 400-600MW. But the challenge is that the rooftop owners are not very sure what they'd do with this access to energy. It is very important to give rooftop owners the freedom to get the optimum benefits from their investment. We have recently formulated net-metering policy in this regard. We have also done some piloting with solar-powered boats. We are developing technical policies to integrate solar-based mini-grids to the main grid. Furthermore, the government is trying to develop solar-based market grids to supply electricity at a lower price.

Finally, we need to generate awareness about reducing waste of electricity. We need to work more on energy efficiency—not just the supply side but also the demand side of energy efficiency. We have prepared a master plan in this regard which has set the goal that by 2020 we will reduce 15 percent of energy intensity per GDP in Bangladesh. If we can achieve this goal, then we will be able to save 3000MW. We are also working on a green-building rating system.

MB Akhter

We have all agreed upon the point that we have to achieve the energy-related SDG. Therefore, we have to work together. We need to provide solutions so that people can consume energy efficiently. For example, earlier I used to pay Tk 800 for two burners. After using the pre-paid metre, I have become aware about consuming gas and our gas bill has come down to Tk 300. Similarly, people need to be made aware about energy investments. The simplified versions of all the existing energy projects need to be disseminated to create mass awareness.

We need to develop our local human resources for handling super critical technologies. It will reduce the cost of energy projects significantly. We also need to learn from the best practices around the world and implement the suitable ones in the country. Finally, to ensure energy justice, we should seriously think about energy solutions for poor consumers who make up a large portion of the population.