



The present Awami League government completes the third consecutive term in office by the end of 2023. People through adult franchises will vote to power the next government. The upcoming government – be it formed by the ruling Awami League or any other political parties – will have to brace for some major challenges to achieve sustainable energy security. There is no denying that the present government over its three terms has earned milestone achievements in many areas, including economic growth. Among other major achievements, providing 100% access to electricity for all citizens. But for various reasons, including a lack of appropriate mindset of the policymakers, absence of coordinated implementation strategy, and poor governance, sustainable energy security could not be achieved.

Energy Sector Challenges For Incumbent Government

Saleque Sufi

The COVID-19 pandemic and war in Ukraine also presented challenges. Ensuring a sustainable supply of primary fuel has become a major challenge for benefiting from huge surplus power generation capacity. The generation capacity increased from 3500 MW in 2009 to over 27,000 MW (including off-grid captive generation and RE). But for fuel supply constraints -depletion of discovered own gas resources and limited ability to purchase expensive fuel from the turbulent global market – a diabolic power load-shedding in this hot, humid summer has embarrassed the government. Industries, especially export-oriented industries, are suffering from poor energy and power supplies. Economic development has become uncertain. Hence ensuring a sustainable supply of primary fuel will be a major challenge for the incumbent government. The quicker they can take some major policy decisions and adopt appropriate implementation strategies, the easier will be the transition of Bangladesh from a least developed country status to a developing economy in 2026. The main challenge will be ensuring the optimum utilization of own fuel resources coal, gas, and renewable energy. At the same time, another challenge is upskilling own technical and managerial resources with knowledge and expertise of state-of-the-art modern technologies. Energy efficiency and conservation will be other major challenges. We must bear in mind that Bangladesh will need to maintain enough GDP growth rate by facilitating rapid industrialization for the job creation of competent citizens and expanding export. At the same time for achieving SDGs, Bangladesh needs to supply quality power and energy on an uninterrupted basis at affordable prices by 2030. Energy and power are strategic areas where there must be a meeting of the minds of all stakeholders.

Present Situation

One may ask a question

Power Generation Installed Capacity 1 May 2023

Sector	No of Plants	Installed Capacity
Public Sector	58	10,259 (42%)
Joint Venture	02	1,861 (08%)
Private Sector	93	10,115 (42%)
Power Import		1,908 (08%)
Total	153 plants + 3 import links	24,143 MW

Adding off Grid Captive Generation and Renewable Energy = 24,143 + 2800 + 418 = 27,361 MW
Maximum Demand Served: 15,468 MW on 15,648 MW on 19/04/2023.

Fuel Mix for Power Generation Based on Installed Capacity:

Fuel	Generation Capacity	% of Total
Natural Gas	11,372 MW	47.10
Furnace Oil	6,492 MW	26.89
Diesel	990 MW	04.10
Coal	2,692 MW	11.15
Power Import	1,908 MW	07.90
Renewable	459 MW	01.90
Hydro Power	230 MW	00/95

why BPDB is struggling to meet the national demand of 15000-16000 MW consistently despite having surplus generation capacity and a much-improved power transmission and distribution network. The main reason is the primary fuel supply shortage. Own gas production has depleted. import of LNG from the global market initially suffered for the high price and now of the dollar crisis. Similarly, the procurement of coal and liquid fuel also suffers from a dollar supply crisis. Consequently, about 3500-4000 MW of gas-based generation remains idle. Similarly, 3000 -3500 MW liquid fuel-based power generation is not possible for fuel purchase issues. The operations of Payra, Rampal, and Bashkhali coal-based power plants are

Present Gas Supply Situation: 10-11 June 2023

Company	Gas Fields	Capacity MMCFD	Production MMCFD
BGFCL	5 (44 Wells)	851.00	589.40
SGFL	4 (11Wells)	149.00	93.40
BAPEX	8 (15 Wells)	145.00	128.40
IOCs (Chevron & Tullow)	4 (43 Wells)	1615.00	13790.40
RPGL (LNG)	2 FSRUs	1000.00	878.80
Total		3760.00	3053.20

also frequently interrupted for coal purchase problems. In addition, the maintenance and repair issues of the plants. In actual practice, only 16000 MW capacity is regularly available for generation. From there 13000-14000 MW is regularly generated. Some plants have only a 25-30% plant load factor. Hence whenever demand shoots beyond 15000 MW, about 2000-2500 MW power loadshedding becomes inevitable.

One of the other problems is about a 35% reserve margin. Many of the private sector IPPs and JV power plants need to be paid capacity charges for not evacuating minimum contractual power. These add to the generation cost. We are aware that some contracts have been amended to “no power, no payment”. Still, there exist a few contracts for which BPDB must account for capacity charges. For fuel supply issues especially gas and coal it is not possible phasing out all liquid fuel based plants in near future as well. Hope Rooppur Nuclear power plant will come as a big relief.

Petrobangla company BAPEX is implementing a project aiming to add 618 MMCFD new gas to the national grid by 2024. Experts observed that it may be possible to add up to 200 MMCFD as the success ratio of the exploration well may not be what has been expected. At the same time, Bhola gas fields remain isolated from the national grid. The new government has to further expedite the exploration of gas onshore and offshore.

It must also develop Land Based Terminal at Matarbari as soon as possible. Engaging IOCs through PSC onshore and offshore must be a top national priority for increasing gas contribution.

Domestic Coal Exploration

The PSMP 2010 failed due to the government's

dilemma over coal mining. The PSMP 2016 also did not materialize due to the challenges of setting up enabling coal import infrastructure and quickly scrapping many planned coal power plants. In the meantime, mining own coal remains in suspended animation. The upcoming government must take political decisions on mining domestic coal by auditing all available reports and records of coal mining.

Coal Resources

All five discovered coal fields are in the greater Dinajpur and Rangpur areas. A Chinese company under contract with Petrobangla is now mining at Barapukuria using a long-wall top-caving mining method. This mine supplies coal to mine mouth coal power plants. But the coal supplied is even enough for three power plants operating simultane-

Coal Resource						
Item	Unit	Barapukuria	Phulbari	Khalshpir	Jamalganj	Dighipara
Depth	M	118-509	141-340	239-485	640-1158	320-506
Estimated Reserve	MMT	390	572	685	5450	706
Area	Skm	6.68	24	12.26	11.70	11
No Of Seam	no	06.00	05	08	7	7

ously. SOD submitted by AEC for Phulbari mine is gathering dust. No positive decision is taken about the mining of Dighipara, Khalashpir yet.

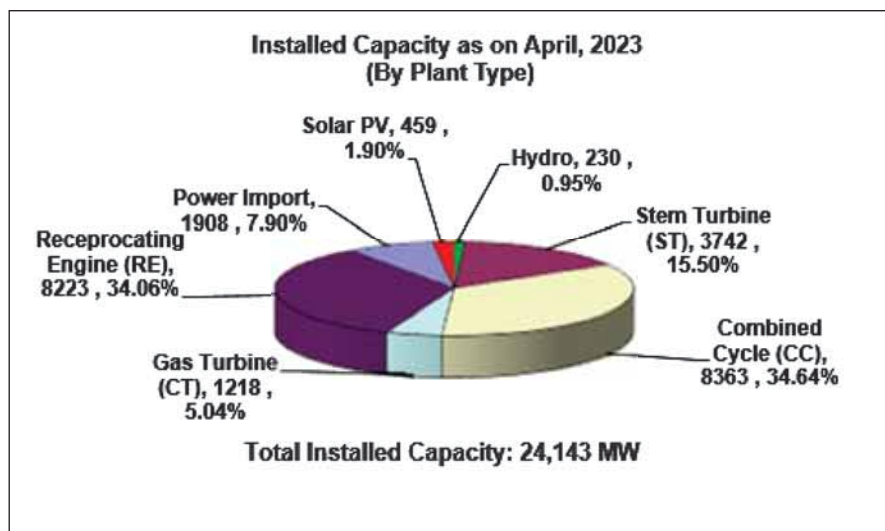
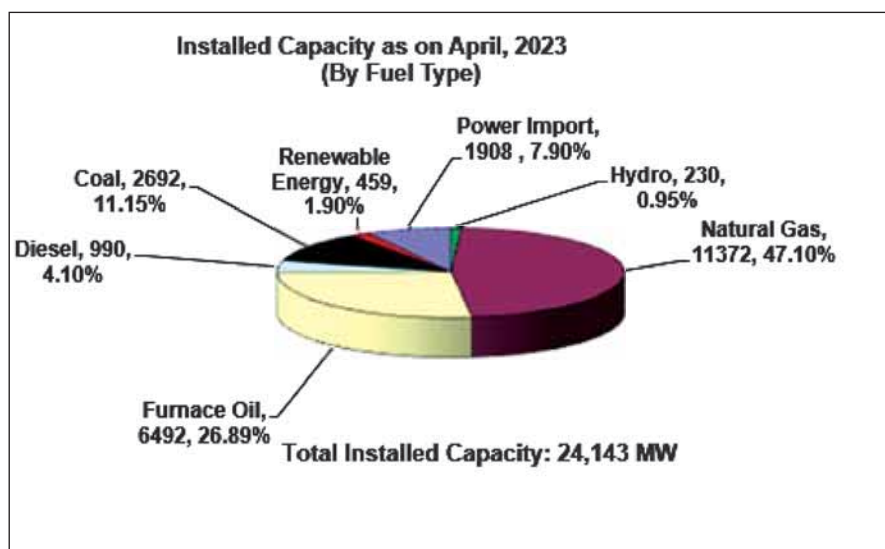
The government under the advice of its policymakers remains indecisive about mining coal. The real concern is managing the acquirer and temporary loss of farmlands. Experts and economists repeatedly suggested reviewing mining and taking decisions. Next government must take a decision of mining coal which can bring great relief to fuel supply management.

Exploration of Onshore Offshore

Another failure of the present government over the past three terms was grappling with the strategy to explore petroleum resources onshore and offshore. Since 2000 Bangladesh did very little in exploring petroleum resources in onshore areas. The vast areas offshore remain virtually unexplored. Oil and gas exploration requires substantial risk investment and skills. For a very conservative outlook, Bangladesh adopted a BAPEX-only policy for onshore exploration. BAPEX with very limited financial and technical ability did its best and discovered few marginal gas fields. But these proved to be way too below the expanding demand. The strategy for offshore exploration was also flawed. Appropriate incentives were not given to Model PSC for attracting and retaining IOCs in offshore exploration. That is why not many IOCs showed interest. And a few that came and did some work relinquished after finding Bangladesh, not a win-win proposition. Consequently, Bangladesh failed to derive any benefit from the vast offshore areas of the Bay of Bengal successfully achieved through the resolution of maritime boundary disputes with India and Myanmar. Several years were wasted in the dilemma over the selection of a contractor for carrying out multi-client surveys in the deep offshore. When Bangladesh is ready now with an Updated Model PSC, the US oil giant is pressing for letting them all deep-water blocks on the basis of their unsolicited offer through negotiation. For the incumbent government, it will be a challenge taking the decision.

Renewable Energy Harnessing

Some experts believe that Bangladesh has a reasonable potential for renewable energy, especially solar and wind. The government remained in a dilemma for a while until the commitment to transition from fossil fuel to renewable necessitated obligations. In PSMP 2008 there was a commitment to 10% contribution of RE to



total power generation by 2020. There are several policies – RE Policy, NDC, Mujeeb Prosperity Plan, and draft IEPMP. Net metering has been introduced for encouraging solar power evacuation to the national grid. But the present tax and import duties on the import of solar equipment and tariff structure are not facilitating the growth of solar at an expected rate. The government also could not provide enough land for utility-scale solar plants. There has been very little work with wind power though people believe coastal areas, isolated char areas and offshore wind has high potential. Technological innovations with battery technology have brought down the cost of solar within reachable limits. Solar and Wind can make major contributions if the incumbent government can adopt RE-friendly policy and strategy. The import duties and taxes must be reviewed and adjusted, a RE-friendly tariff structure must be introduced and other financial and fiscal incentives must be given. A specific one-stop service and champion organization must be set up for the smooth growth and development of RE which should also work on energy efficiency and conservation.

Energy and Power Import

One of the other major achievements of the present government is the import of electricity from India through cross-border trading. About 1908 MW of electricity is now imported from across the border from India. About 500 MW import from Nepal may also start in the near future. We must bear in mind that Bangladesh already has a surplus generation capacity. Many power generation plants are in the pipeline as well. Power demand fluctuates over a long range in summer and winter. While developing cross-border power trading, Bangladesh must also work on surplus power export when that situation appears.

Conclusion

Whether the present government is in another term or a new government that assumes state power in 2024 will be in a far more comfortable situation than the present government when it came to power in 2009. There is enough surplus generation capacity and there exists a huge opportunity for expanding own resources. The demand growth must be assessed, a proper fuel mix must be adopted, and structural

and regulatory reforms must be done. Right professionals irrespective of political bias must be placed in the right position. Lessons learned from recent sufferings despite huge surplus capacity must make all smart in doing what is required. Without sustainable energy security, Bangladesh cannot achieve its national vision and goal. The bottom line is considering energy as a strategic area of national consensus and getting rid of an ultra-conservative mindset while dealing with the exploration and development of own resources. Bangladesh must optimally utilize its own natural resources.

There are many policies, and too many organizations and institutions. The policies are not aligned toward achieving a common goal. This must be done. Integrated Energy and Power System Master Plan (IEPMP) must reflect NDC and Mujeeb Prosperity Plan. Appropriate implementation strategy with strong monitoring and regulation must be there for ensuring sustainable and reliable energy security. **EP**

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