

Past Brothers' Power Sector Has Similar Symptoms-C

6 of 11

Transmission

- According to Pakistan Economic Survey 2021–22, the transmission and distribution capacity is stalled at approximately **22,000 MW**
 - HVDC transmission line established to efficiently transport electric power mainly from the southern region to the central and northern load center is not being fully utilized.
 - In FY 2022-23, the average utilization of this crucial infrastructure remained at approximately 1,584 MW, 39.6% of its designed capacity of 4,000 MW.
 - There are several contributing factors, including but not limited to inadequate AC systems at receiving end, negative sales growth etc.
 - Due to 'Take or Pay' contract, the company is entitled to receive payment for the full capacity.
- The existing interconnection capacity between NTDC and KE, which relies heavily on supplies from the National Grid, is limited to about 1,100 MW.
 - With the operationalization of new generation facilities (K2 and K3 operating on nuclear fuel and plants utilizing imported coal (Port Qasim Electric, China Power Hub Generation, and Lucky Electric Power), there is a need to enhance interconnection
 - KE has submitted an investment plan proposing the establishment of two 500 kV grid stations at KKI and Dhabeji.
 - Additionally, the augmentation of the 500 kV NKI grid station is recommended through the installation of an additional power transformer.
- NTDC has submitted Phase-I of TSEP, covering four-year period until FY 2025-26 to cater for generation projects in IGCEP 2022-31.
 - The Authority noted that the submitted TSEP lacked evacuation plans, transmission cost details for candidate projects in line with IGCEP 2022-31, revealing incomplete cost estimates and alignment issues with existing frameworks.
- Technical constraints hinder System Operator's ability to evacuate electricity from efficient power plants.
 - During FY 2022-23, the system constraints resulted in a loss of Rs. 20.203 billion, which was disallowed and contributes to the accumulation of circular debt.

- NTDC and the System Operator couldn't sufficiently justify these technical constraints despite substantial investment allocated to the company and fact that cost of transmission line expansion is significantly less as compared to the losses incurred due to non-evacuation,
 - Under PPA(s)/EPA(s), power dispersal arrangements must be completed within agreed timelines (ranging from sixty to one hundred twenty days before the Scheduled Commercial Operation). In majority cases, NTDC failed to complete these dispersal arrangements within time and budget.
- NTDC couldn't complete the transmission line for power evacuation from the newly commissioned 1,320 MW Thar Coal Block-I Power Generation Company project.
 - NTDC interim arrangement compelled curtailment of power from other, cheaper Thar Coal Block-II projects, which was eventually energized on May 09, 2023.
- It is imperative for NTDC to adopt and act upon a comprehensive, forward-thinking strategy prioritizing long-term resilience and financial stability for thriving power sector.
 - It is therefore imperative for NTDC to prioritize the resolution of such constraints promptly. Implementing a rigorous accountability system is crucial in effectively managing and rectifying these issues.
- Similar to TSEP, the TIP is also a long-awaited strategic blueprint essential for orchestrating the systematic investment needed in the transmission sector.

- *Transmission Investment Plan*

	Project Category	Count of Projects	Total Investment Outlay FY 2023-25 (Million Rs.)
1	Constraints Removal Projects	8	24,276
2	System Expansion Projects	29	133,520
3	Power Evacuation Projects	25	167,135
4	Projects for Special Economic Zones	5	23,590
5	Other Development Projects	11	20,700
	Total	78	369,221

Source: NTDC

- Power plants had to be operated on RFO/HSD due to system constraints or shortage of RLNG/Gas.
 - This led to a cost of Rs. 164 billion for the power sector.

7 of 11

Annual Report of Bangladesh Power Development Board (BPDB)

- *Installed capacity reached 24,911 MW on June 2023 including 797MW of no Electricity No Payment and 2656 MW import from India*
- *The highest electricity generation peak reached 15,648 MW on 19 April 2023. Still 9,263 MW of capacity remains unused.*
- *Power generation is predominantly fueled by gas, 11,372 MW (45.65%), Furnace oil, 6,492 MW (26.06%), Coal, 2,692 MW (10.81%), Imports, 2,656 MW (10.66%), Diesel, 1,010 MW (4.05%), Hydro, 230 MW (0.92%), and solar PV systems, 459 MW (1.84%).*
- *Distribution Zone Wise Billing & Collection is 93.96 % and distribution system loss is 7.92 %*

- Total capacity 366.60 kWp net metering rooftop solar system.
- Similarly, the plant load factor (PLF) of the power sector reached 41.88% in FY 2020-21 from 40.91% in FY 2019-20
- Bangladesh power plants ran for only 153 days while they sat idle and unutilized for 212 days in FY 2020-21.
- BPDB paid BDT 51,878.96 crore (USD 6.10 billion) to buy electricity in FY 2020-21 which was 25.92% higher than BDT 41,198.80 crore (USD 4.84 billion) spent in the earlier year. As a result, the generation cost increased 11.8% higher to BDT 6.61 per kWh from BDT 5.91 in FY 2019-20.
- BPDB paid BDT 13,155.21 crore (USD 1.55 billion) to 37 private companies as Capacity Charges in FY 2020-21. The amount was 21.2% higher than last year. As a result, BPDB's annual loss reached BDT 11,509.12 crore (USD 1.35 billion) in FY 2020-21 — a single year rate increase of 54.5% from BDT 7,450.24 crore in FY 2019-20.
- Subsequently, the GOB had to provide BDT 11,777.91 crore (USD 1.39 billion) repayable subsidy to BPDB which was whopping 58.3% higher than the earlier year. Two consecutive years with annual losses of around BDT 10 thousand crore (USD 1.2 billion) is an alarming trend that caused BPDB to become a heavy burden on the Bangladesh economy at a time when resources were needed to address the unexpected health care emergency caused by Covid 19 pandemic.
- The top 12 companies, with installed capacity of 6,551.66 MW, received BDT 8,730.14 crore (USD 1,027.08 million) as capacity charge which is 66.4% of total capacity charge paid in FY 2020-21.
- The top 12 power plants, with installed capacity of 4,763 MW, received BDT 65.02 billion (USD 764.95 million) as capacity charge in FY 2020-21 which is 49.4% of total capacity charge. Payra Coal Power Plant topped the list followed by Sirajganj 410 MW Dual Fuel Power Plant, Keraniganj 300 MW HSD Power Plant and Meghnaghat 337 MW Dual Fuel Power Plant.
- Five power plants didn't generate any electricity. The 10 most expensive power plants generated 184.52 gWh (1.76% of their capacity) of electricity at an average cost of BDT 106.94 per unit.
- The GOB approved 46 power plants with an installed capacity of 49,392 MW to be constructed by 2030. Many of these are gas plants even though Petrobangla can only supply only 55.3% of current demand of fossil gas for power generation.
- LNG costs reached record high levels in 2021 forcing BPDB to pay much higher fuel costs.

- *The total installed capacity will reach 37,731 MW in 2025 and 49,392 MW in 2030 against demand of 19,900 MW and 27,400 MW respectively.*
- *As a result, 17,831 MW and 21,992 MW of power will become stranded assets by 2025 and 2030 creating more weight dragging down the Bangladesh economy.*
- *To compensate the improvident installation plan in the power sector, BPDB could face loss of BDT 26,533 crore (USD 3.12 billion) in FY 2021-22, BDT 50,000 crore (USD 5.81 billion) in FY 2024-25 and BDT 63,000 crore (USD 7.33 billion) in FY 2029-30 which will further increase the price of power at consumers' end.*
- *June 27, 2024: power production was only 13,026MW, load-shedding of about 2,000-3,000MW at power distribution companies, all state-owned.*
- *Resulting in rural areas experiencing power outages for 18-20 hours a day.*
- *Bangladesh capacity is to generate 26,844 MW from its 150 power stations*