

CPD Power and Energy Study on

Energy and Power Sector in the National Budget for FY2022-23

Presentation by

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Discussion Points

1. Introduction
2. Context of the National Budget FY2023: Power and Energy Sector
3. Power and Energy Sector in the National Budget for FY2023
4. Major Development Projects for FY2023
5. Development of Renewable Energy based Power Sector
6. Conclusion

1. Introduction

1. Introduction

- CPD has been **organizing** national dialogues on the issue of power and energy sector in the national budget for over the last several years
 - Given the **critical importance** of power and energy sector, this event has been organising with specific focus and target
 - This is **part of CPD's series** of events on the National Budget for FY2022-23 concerning different macro and sectoral issues
- The ongoing year (FY2022) is **an eventful year** for the power and energy sector
 - Bangladesh has achieved the milestone of **100% electrification**
 - Prime Minister has announced the target to achieve **40% of renewable energy** by 2040 as part of shifting from fossil fuel towards clean energy
 - **Ukraine war** has posed major challenge for global energy market and has created high uncertainty and risks in energy supply, energy price, energy sustainability and future clean energy targets
- The government has passed the first two years of the **8th Five Year Plan** (FY2021-25)
 - FY2023 will be the third year for the implementation of the 8th FYP
 - It is important to review how the power and energy sector has been progressing in the first two years of the plan period
 - Also, important to review how the national budget for FY2023 has been addressing the concerns of the power and energy sector
- **Recovery from the covid pandemic** has multiple implications for the power and energy sector

2. Context of the National Budget FY2023: Power and Energy Sector

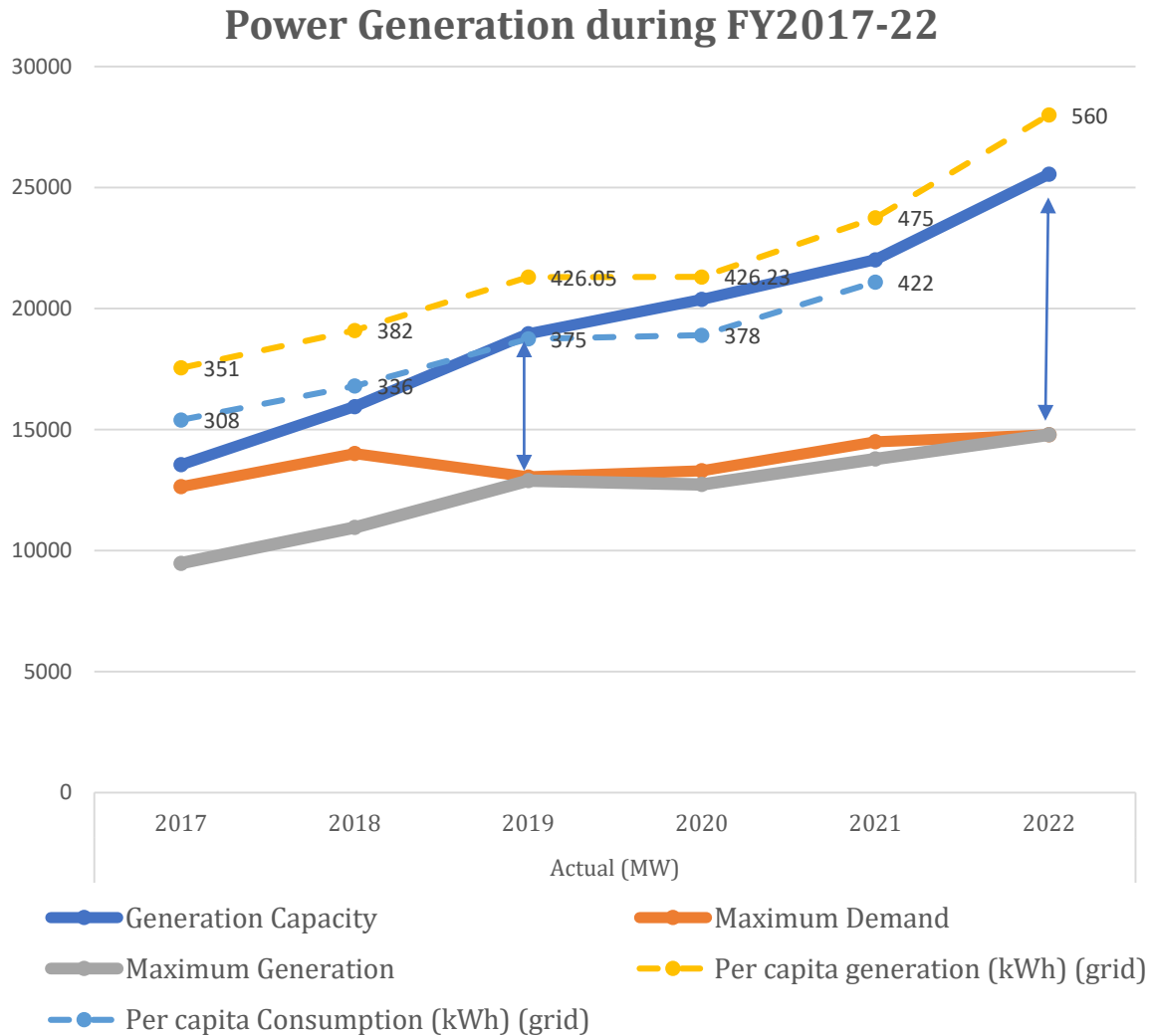
2. Context of the National Budget FY2023: Power and Energy Sector

2.1 Power Generation during 2017-2022

- The power sector has a generation capacity of **25,556 MW** of which 22,348 MW is on-grid and 3,208 MW is off-grid (as of 20 June, 2022)
 - A total of 152 power plants are in operation of which 66 plants are gas based, 64 are HFO based and 10 are HSD based.
 - **Per capita generation** capacity in FY2022 is **560 kwh** while per capita consumption is **422 kwh** (in FY2021).
- A significant **rise** in power generation capacity and power consumption is observed during **FY2017-22**
 - Between FY2017-22, generation capacity has increased by 88.5% while per capita consumption has increased by 37%
 - During FY2022 generation capacity has significantly increased - by **16%** though electricity demand has increased only by **2%**. This has caused further rise in idle generation capacity
 - Per capita generation capacity has increased by **17.9%** in FY2022
- In terms of energy mix, major rise in power generation capacity has occurred due to **rise in fossil fuel** based power plants particularly based on **HFO and HDO**
 - **Coal based** power generation has been at the same level as the previous year
 - **Gas-based** generation capacity has reduced marginally
 - **RE based** power generation has marginally increased

2. Context of the National Budget FY2023: Power and Energy Sector

2.1 Power Generation during 2017-2022



Power Generation by Energy-mix

Fuel	2020		2021		2022	
	No of plants	MW generated	No of plants	MW generated	No of plants	MW generated
Coal	4	1,146	3	1768	3	1768
Gas	71	10,979	67	11402	66	11342
HFO	56	5,540	61	6044	64	6278
HSD	10	1,290	10	1290	10	1341
Hydro	1	230	1	230	1	230
Solar	4	38	7	129	8	229
Power Import	0	1,160	0	1160	0	1160
Total	146	20383	149	22023	152	22348

2. Context of the National Budget FY2023: Power and Energy Sector

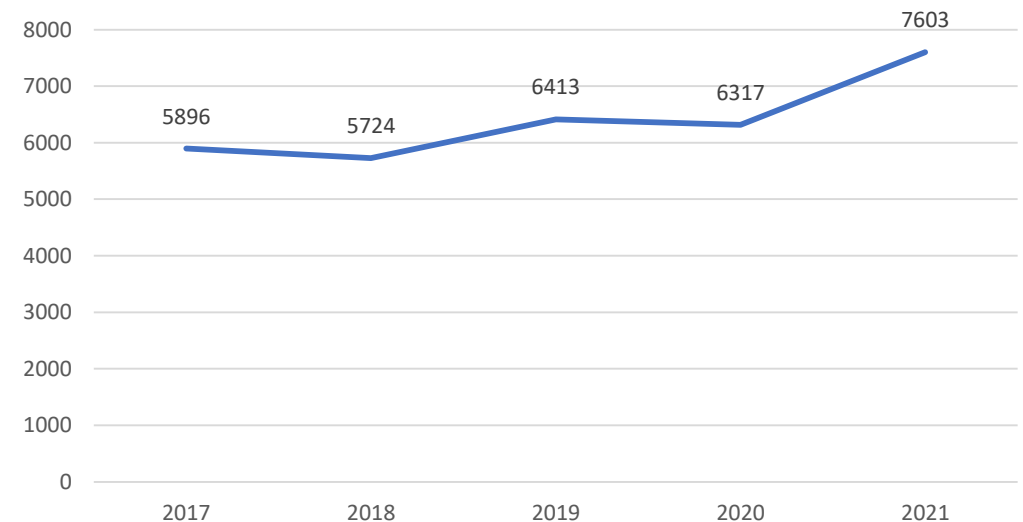
2.2 Import of Energy: 2017-2021

- Energy import by BPDB has been increasing over the last five years
 - In FY20 it was declined marginally and sharply increased in the FY21
- The cost of energy import also portrays the same pattern
 - The cost of energy import in FY21 has increased substantially **by 20.4%**
- The cost of energy import is likely to rise further **in FY22** and will be even higher in upcoming **FY23**

Summary of Energy Import during 2017-21

Year	Energy Import	Cost of Energy Import (Crore Tk)	% Change of cost with respect to previous year
2017	11024 MkWh	5896.02	
2018	10537 MkWh	5724.4	-2.91
2019	11400 MkWh	6413.3	12.03
2020	11120 MkWh	6317.39	-1.50
2021	12309 MkWh	7603.4	20.36

BPDB's Cost of energy import over the yeras



2. Context of the National Budget FY2023: Power and Energy Sector

2.3 Over generation capacity during 2018-2022

- Because of further addition of capacity in FY2022, overgeneration capacity of electricity has increased to **10,764MW from 8,231MW**
 - A rise of over capacity by **30.8%** during FY2022
- Share of over generation capacity in terms of total capacity has increased to **42.1% in FY 2022** (from 37.4% in FY2021)
- Overgeneration capacity has further increased the pressure of capacity payment
 - Capacity payment has further increased due to two consecutive effects – ‘**volume effect**’ and ‘**price effect**’
 - Volume effect is occurred due to rise in excess capacity
 - Price effect is occurred due to rise in price of energy
- Government faced the **fiscal pressure** in FY2022 due to the rise in capacity payment as well as rise in petroleum prices
 - This will further increase in FY2023
- A **major policy shift** is required in three accounts
 - Reducing overgeneration capacity
 - Shifting from fossil-fuel based energy
 - Rising use of renewable energy

Overgeneration Capacity of Electricity

Year	Total installed capacity (MW)	Over capacity (as per max. generation) (MW)	% of share of over capacity of installed capacity
2017-18	15,953	4,995	31.31%
2018-19	18610	6068	32.60%
2019-20	20383	7645	37.51%
2020-21	22023	8231	37.37%
2021-22	25556	10764	42.12%

2. Context for the National Budget FY2023: Power and Energy Sector

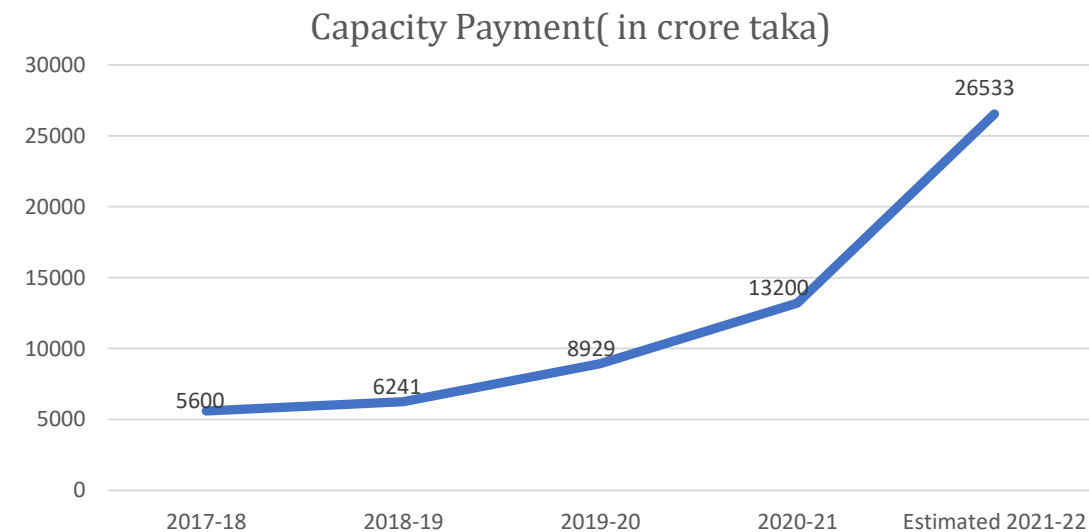
2.4 Total capacity payment: 2017-2022

- The amount of capacity payment to the IPPs, rental and quick rental power plants has significantly increased
 - From **Tk.5,600 crore in FY2018** to as high as **Tk.26,505 crore** (estimated) in FY2022
- The payment could reach **Tk.31,600 crore** in FY2023.

Capacity Payment for Power Plants

Year	Capacity Payment(Crore taka)	% Change in capacity payment from previous year
2017-18	5600	
2018-19	6241	11.45
2019-20	8929	43.07
2020-21	13200	47.83
Estimated 2021-22	26533	101.01

Source: IEEFA (2021), CPD (2021) and NewAge (2022)

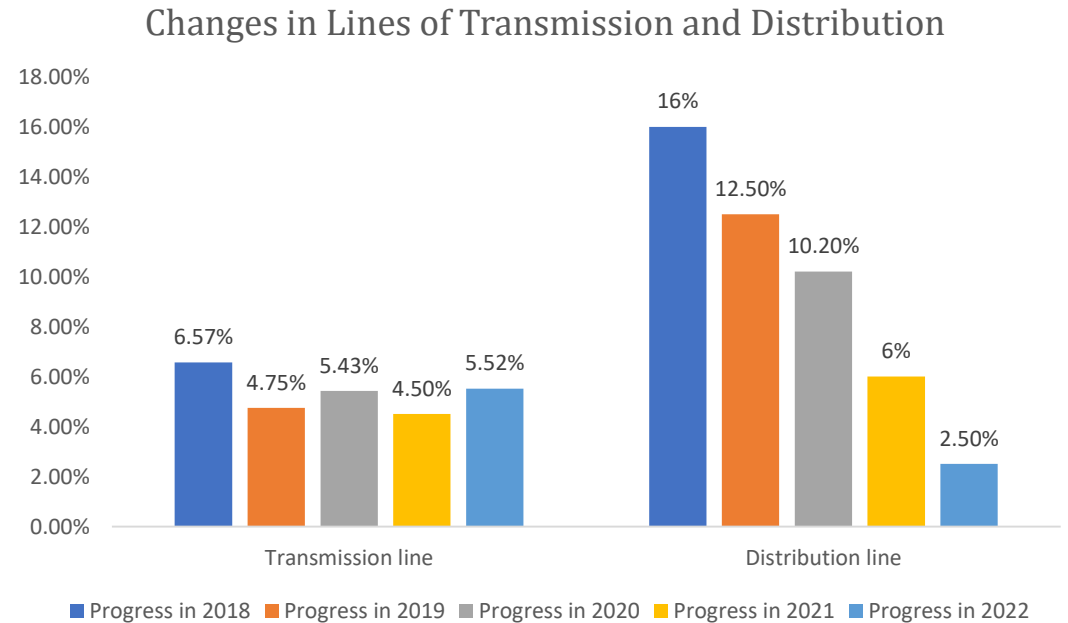
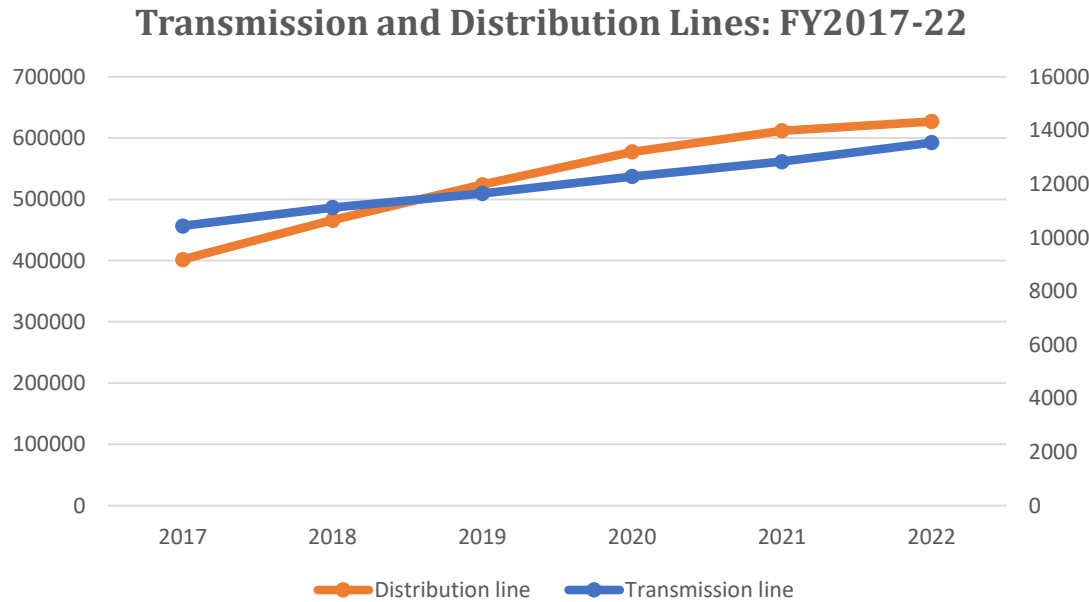


Source: IEEFA (2021), CPD (2021) and NewAge (2022) 11

2. Context for the National Budget FY2023: Power and Energy Sector

2.5 Progress of Transmission and Distribution: 2017-2022

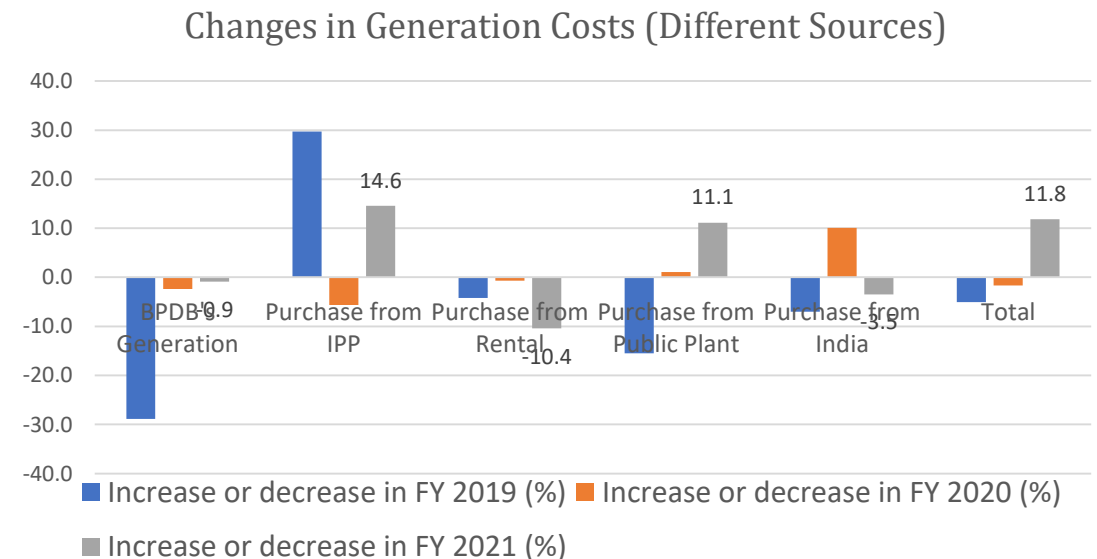
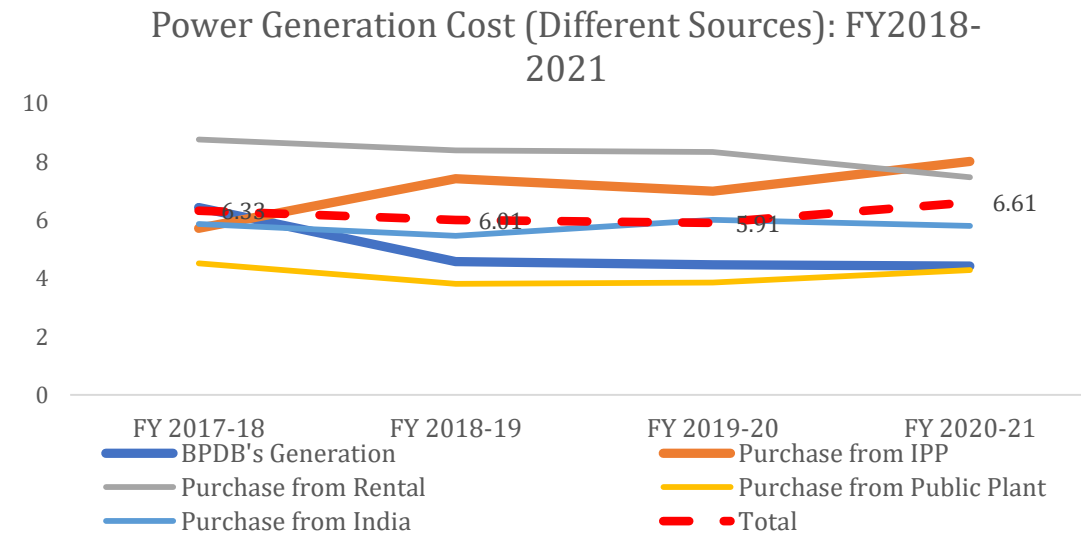
- Length of transmission and distribution lines **have increased** during FY2022
 - Transmission lines have increased at 5.5% in FY2022 maintained a change in **4-6% level** over the years
 - Distribution lines have increased by merely 2.5% - a gradual deceleration over the years (from 16% in FY18 to **2.5% in FY22**)
- Slow progress in transmission and distribution lines is a major reasons behind **poor load management**
 - This is happened at a time when a huge excess capacity remains- a paradoxical situation



2. Context for the National Budget FY2023: Power and Energy Sector

2.6 Generation Cost of Electricity during 2017-2022

- **Per unit cost** has been increasing over the years (FY2017-2022)
 - It has increased by 11.8% in FY2022 (from Tk.5.91/kwh to Tk.6.61/kwh)
 - Rise of generation cost in **IPP plants** (14.6%) and in **public plants** (11.1%) is one of the main reasons for rise in average generation cost
- BPDB's per unit cost of electricity remains almost at the same level from FY19 to FY21
- **Inability to reduce generation** costs despite having excess capacity is a major weakness in generation related policy of the BPDB
 - **Capacity payment**, use of expensive fuel based plants, quick rental power plants, poor efficiency, outdated plants etc. are some of the reasons behind high unit cost
 - Rise in **imported energy** is another reason behind it
 - **Failure to develop alternate** energy mix including that of renewable energy is another weakness



2. Context for the National Budget FY2023: Power and Energy Sector

2.7 Financial State of the BPDB: 2017-2022

- BPDB's financial position is **still in red** as operating loss for FY2020 **has doubled** in FY2021
 - BPDB's operating loss is about Tk.4350 crore in FY2020 which increased and became Tk. 8664 crore in FY2021
 - The loss would further increase in FY2022
- Higher rise of operating expenses in FY2021 (**26.2%**) compared to that of higher operating revenue (**17.6%**) reflects the situation
- In case of operating revenue, major rise observed in sale of electricity (18.02%) in FY2021
 - In case of operating expenses, major rise observed in case of purchasing electricity from IPP (**58.33%**) and importing from India (**17.3%**)
- There is **marginal rise** in cost in case of **purchasing** electricity from **public plants**
 - Despite the low **cost why did less electricity** purchase from the public plants

BPDB's operating income and expenses during FY2021

Head of Accounts	Operating incomes/expenses				Change % per year		
	2018	2019	2020	2021	Between 2018 and 2019	Between 2019 and 2020	Between 2020 and 2021
Operating Revenue (1)	30604	34507	35535	41,770	12.8	2.9	17.55
Sale of electricity	29741	33064	34012	40,141	11.2	2.9	18.02
Other operating revenues	863	1443	1524	1629	67.1	5.6	6.89
Operating Expenses (2)	36812	39553	39887	50,434	7.5	0.8	26.44
Fuel Cost	6122	4249	3415	2,994	-30.6	-19.6	-12.33
Generation Expenses (Ex. Fuel cost)	2406	2442	3008	2,860	1.5	23.2	-4.92
Electricity purchase from IPPs	10411	15749	17519	27,737	51.3	11.2	58.33
Electricity purchase from RENTAL	6282	5014	3216	3,328	-20.2	-35.9	3.48
Electricity purchase from Public Plants	7290	6839	6672	6,917	-6.2	-2.5	3.67
Electricity purchase from India	2813	3703	4017	4,713	31.7	8.5	17.33
Wheeling charge to PGCB	183	215	232	244	17.6	7.9	5.17
Distribution Expenses	924	948	1354	1,182	2.6	42.9	-12.70
General and Administrative expenses	383	395	453	459	3.2	14.8	1.32
Operating Profit/Loss (1-2)	-6207	-5046	-4352	-8664	-18.7	-13.8	99.08

2. Context for the National Budget FY2023: Power and Energy Sector

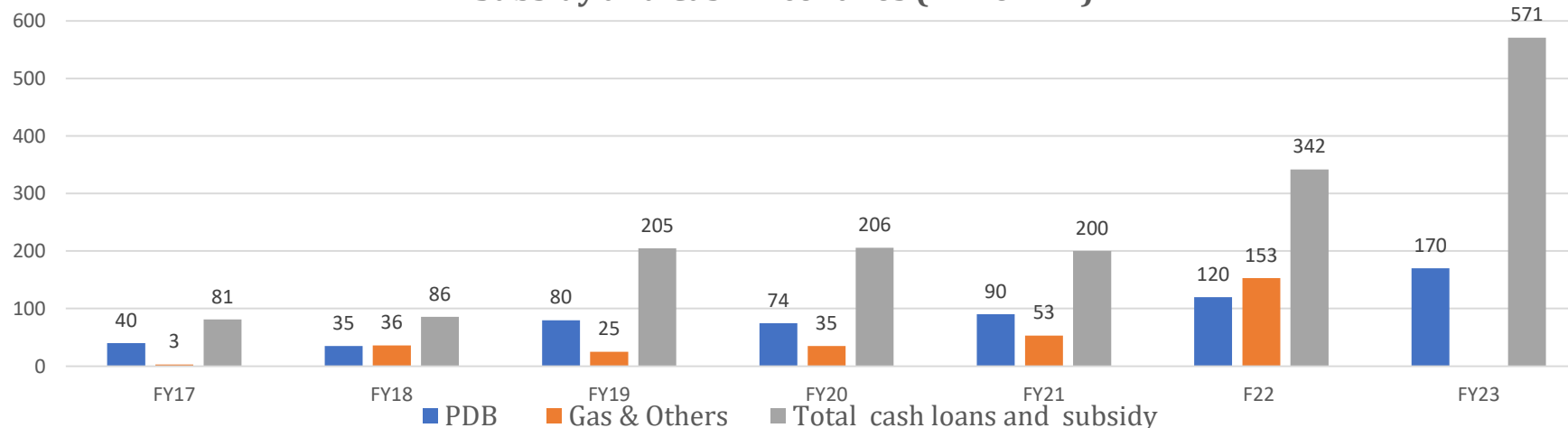
2.8 Subsidy for the Power Sector 2017-2022

- To meet the expenses, the power and energy sector largely depends on government subsidy
- Power and energy sector is the main beneficiary of government subsidy - over the years, their share in total **subsidy** has substantially increased (from 52.9% in FY17 to **79.8% in FY22**)
 - Out of Tk.34,200 crore subsidy, the power and energy sector used **Tk.27,300 crore** in FY2022
- The subsidy for the power sector in FY22 (Tk.12000 crore) could meet **only 45% of** the required capacity payment
 - The capacity payment has reached at a unbearable level
 - Revised allocation** for the BPDB (Tk 12,000 crore from Tk.9,000 crore) could **not reduce its financial state** in red

Subsidy for Power and Energy Sector

Year	% of PDB's subsidy of total subsidy	% of Gas & others subsidy of total subsidy	Subsidy for power and energy as % of total energy
FY17	49.16	3.70	52.86
FY18	40.84	42.06	82.9
FY19	38.89	12.27	51.16
FY20	36.16	17.09	53.25
FY21	45.00	26.49	71.49
FY22	35.12	44.77	79.89

Subsidy and Cash Incentives (Billion Tk)

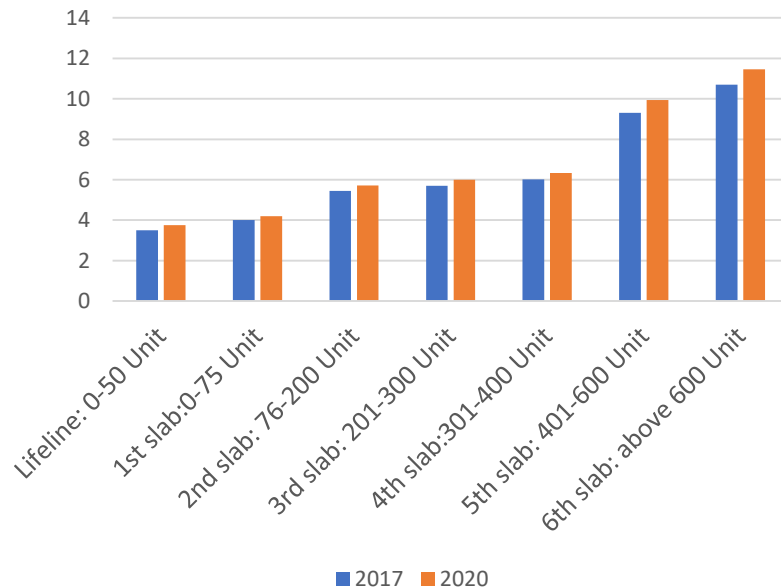


2. Context for the National Budget FY2023: Power and Energy Sector

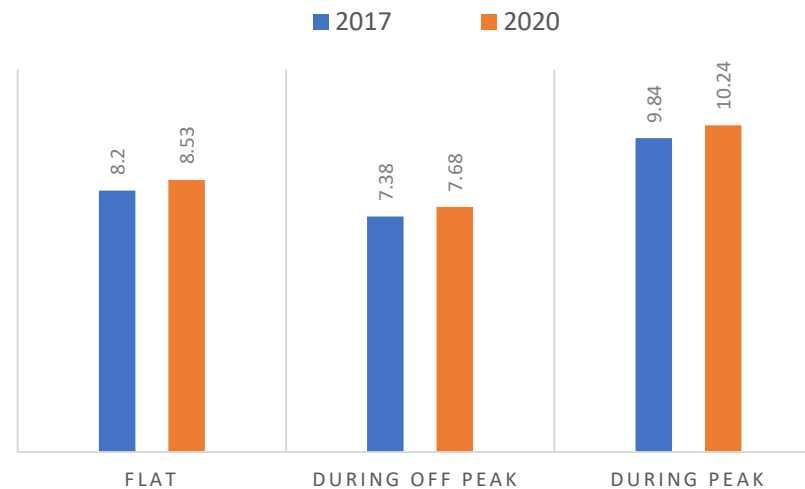
2.9 Electricity Tariff

- Adjustment of electricity tariff is supposed to be carried out considering different costs
- BERC has revised the power tariff in 2020 after a break of three years (2017)
 - BERC has carried out this through a consultative process
 - Justification for revision of **tariff is not fully transparent**
- Given high fiscal pressure and growing demand for subsidy, **further revision of tariff** is being under consideration of the government

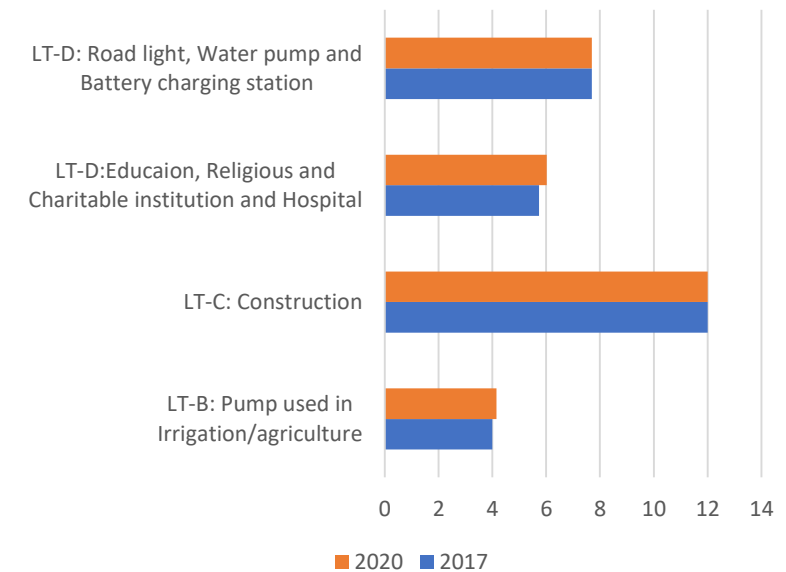
Tariff in Residential



Tariff for Small Enterprises



Change in Tariff in Other Sectors



2. Context for the National Budget FY2023: Power and Energy Sector

2.10 Gas Use: FY2017-2021

- With depleting domestic reserve of natural gas, there is a considerable rise of unmet demand for natural gas
 - Over the years the unmet demand has been increasing – 1.35% in FY2018 to as high as 13.3% in FY2021
- This unmet demand has been met by **increasing import of LNG**
 - Its import has been increasing – from 0.12tcf in FY2019 to **0.22tcf** in FY2022
 - Import from **spot market at high cost** has been introduced in FY21 which continued in FY22
- Given the fiscal pressure, government needs to explore **alternate sources of energy**
 - **Exploring domestic gas** could be a good option – In May 2022, a new gas field has been explored with a capacity to produce 20 million cubic feet of gas per day (MMCFD) at the Koilastila Gas field
 - It is the 28th gas field in Zakiganj of Sylhet
- Fiscal burden for **imported LNG has been increasing**
 - Both through import under long term contract and spot market contract

Domestic Production, Demand for Gas and Imported LNG

FY	Domestic Production (TCF)	Total Consumption (TCF)	% of Demand unmet with only natural gas reserve	R-LNG Supply (TCF)
2017-18	0.97	0.98	-1.35	
2018-19	0.96	1.04	-7.69	0.12
2019-20	0.89	0.99	-10.60	0.20
2020-21	0.88	1.02	-13.26	0.22

Source: Petrobangla

LNG Import

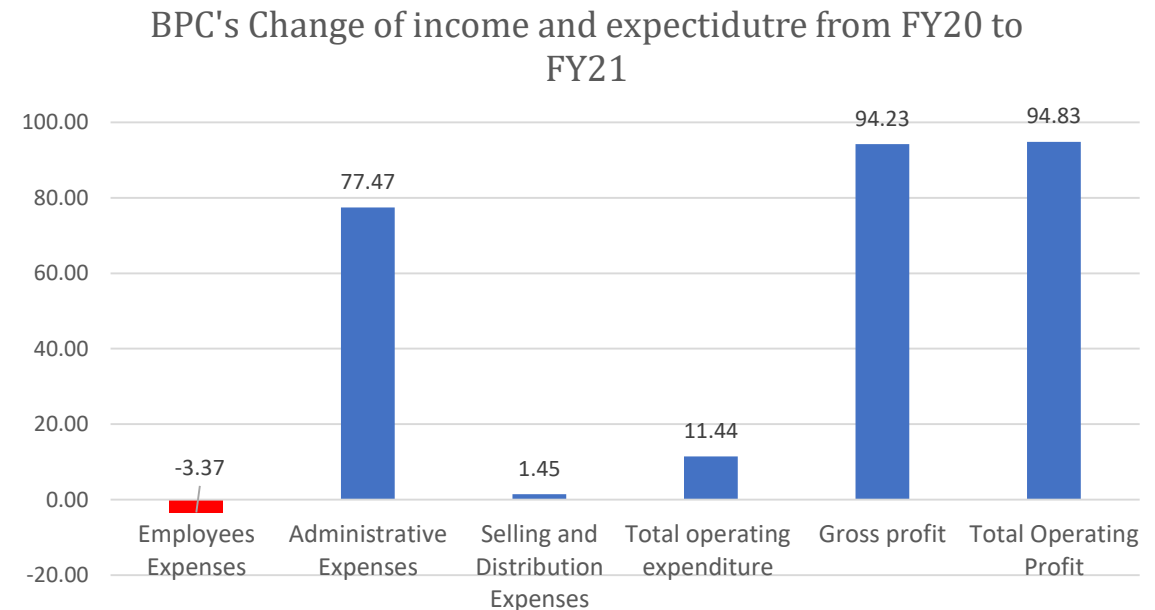
Fiscal Year	Long-term Contract		Spot Market		Both Type		Ratio (long-term: Spot Market)
	Volume (CM)	Growth Rate	Volume (CM)	Growth Rate	Volume (CM)	Growth Rate	
2018-19	5,727,618	-	-	-	5,727,618	-	-
2019-20	9,456,779	65%	-	-	9,456,779	65%	-
2020-21	8,564,692	-09%	1,585,934	-	10,150,626	7%	84:16
Total	23,749,089		1,585,934		25,335,023		94:06

Source: Rupantarita Prakritik Gas Company Limited

2. Context for the National Budget FY2023: Power and Energy Sector

2.11 Financial State of BPC: 2019-2021

- BPC made significant operating profit in FY2021 (94.8%)
 - Although its expenditure has increased by 11.4% during the same
 - Increase in expenses is mainly attributed with **significant rise in administrative expenses (77.5%)**
- BPC's **profit** is mainly generated **due to windfall** gain through low petroleum price in the world market (US\$73.3 per barrel in June, 2021)
 - The price has significantly increased in FY22(US\$125.2 per barrel on 22 June, 2022) which caused deceleration of profit margin of BPC



Source: Authors' Illustration from BPC audit reports

2. Context for the National Budget FY2023: Power and Energy Sector

2.12 Transfer of Extra Fund to Government (Petrobangla, BPDB and BPC)

- As per **law on transferring fund** from SOEs, power and energy sector related agencies have already transferred a significant amount of resources to the public exchequer.
 - Transfer of fund in 2022: **BPDB: Tk.1,915 crore; BPC: Tk.8,384 crore and Petrobangla: Tk.750 crore**
- Given the fiscal pressure, these agencies could accommodate their additional expenditure by using the transferrable funds forwarded to the national exchequer
 - There would not be any reason for adjusting the tariff for accommodating higher expenditure
- On the other hand, huge amount of losses incurred by these agencies could be managed through using the transferred fund if those are in hand to the agencies
 - As of 8 June 2022, BPC incurs a loss around **Tk 895 million on diesel trade and Tk 39 million on octane** as per international oil price as on June 3, 2022.
 - The officials are afraid that it will go bankrupted if it keeps suffering from losses
- To cope with the uptrend in oil market, the BPC increased prices of selected fuels on March 25, 2022
 - Among them, furnace-oil price **was raised by 19.35 per cent** to Tk 74 per liter

Total cash transfer to government (in Crore Tk.)			
	2019-20	2020-21	2021-22
BPDB	3861	1439	1915
Petro Bangla	854.86	700	750
BPC	14123	7265	8384

2. Context for the National Budget FY2023: Power and Energy Sector

- Overall the power and energy sector is in fiscal pressure at the end of FY2022 despite having a number of major achievements
- It is expected that the national budget for FY2023 will take into cognizance of the following issues
 - **Adjustment** of the capacity payment
 - Necessary **fiscal allocation** to accommodate required subsidy
 - Continuation of **tariff at consumers' end** given the inflationary pressure
 - Higher allocation for quick implementation of transmission and distribution related projects
 - Reduce excess capacity by less allocation for generation related projects particularly those related with fossil-fuel based generation projects (LNG and petroleum and dual-fuel based projects)
 - Putting emphasis on projects related to energy-efficient technologies

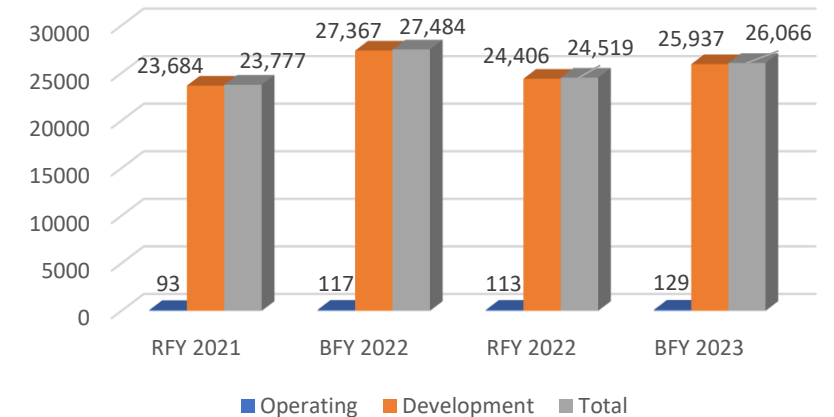
3. Power and Energy Sector in the National Budget for FY2023

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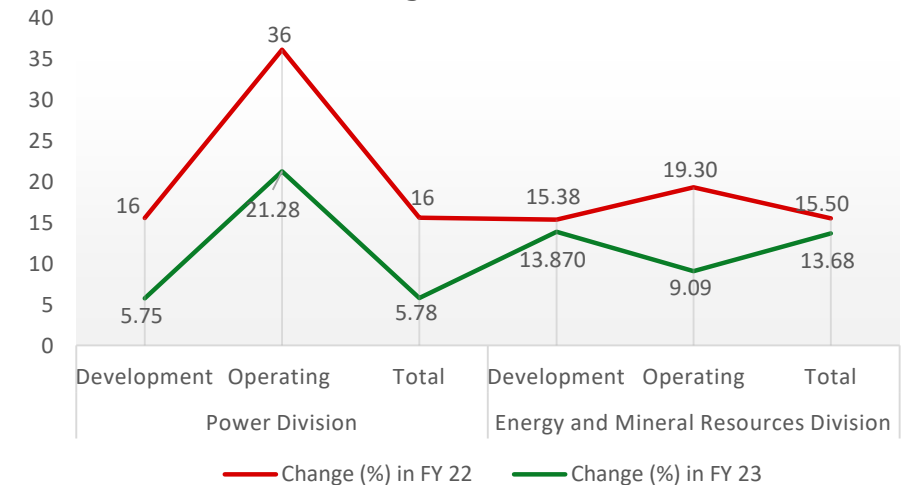
3.1 National Budget for the Power and Energy Sector

- In the FY 2023 Budget, Energy and Power has an allocation of Tk. **26,066 crore** (increased by 6%)
- This accounts for **3.9% of total FY23 budget**, lower than that of revised FY22 budget (**4.13%**)
- Power Division allocation has increased by 5.78%
 - A rise (**21.28%**) is observed in operating budget whereas the growth in development budget is as same as the total growth (5.78%)
 - The increased subsidy is likely to the rise operating budget
- Allocation for Energy and Mineral Resources has increased by **13.68%**
 - Operating budget increased by 9.09% and development budget increased by 13.87%
 - Allocation for Energy and Mineral Resources needs to be increased for exploration of domestic natural gases

Allocation for Power and Energy



Change in Allocation

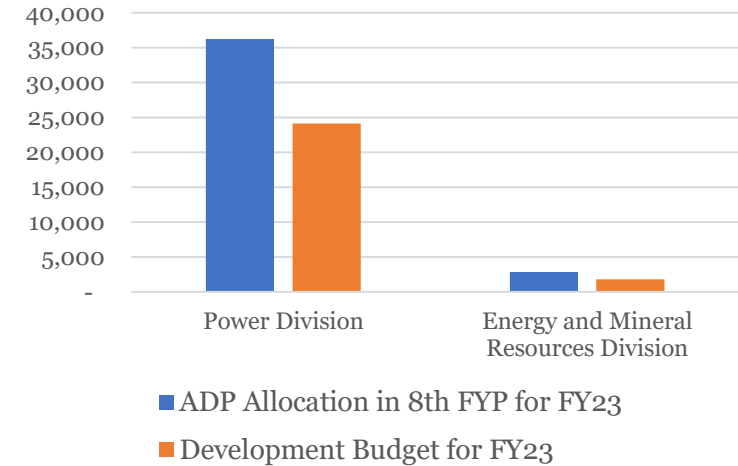


3. Power and Energy Sector in the National Budget for FY2023

3.1 National Budget for Power and Energy Sector

- The ADP allocation in budget FY23 has been **reduced** than it was estimated in **8th FYP** (FY23 Budget: Tk. 25,937 crore, 8th FYP: Tk. 39,080 crore)
 - However, this reduction in ADP allocation is desirable amid the prevailing fiscal situation
- Transmission and distribution is **still getting less priority in the Power Sector**
 - 58% ADP** allocation for generation, while only 21% allocation for transmission and distribution each
 - We have overcapacity in power sector (according to BPDB report, **34.69% of generation** capacity remained unutilized on 07 June 2022)
 - Power sector disparity continues – generation still being prioritised even though we have overcapacity

8th FYP vs Budget FY23 in Crore Tk.



Share of ADP Allocation in FY23 Budget

Sub-sector	Power Sector
Generation	57.90%
Transmission	21.05%
Distribution	21.05%
Total	100%

3. Power and Energy Sector in the National Budget for FY2023

3.1 National Budget for Power and Energy Sector

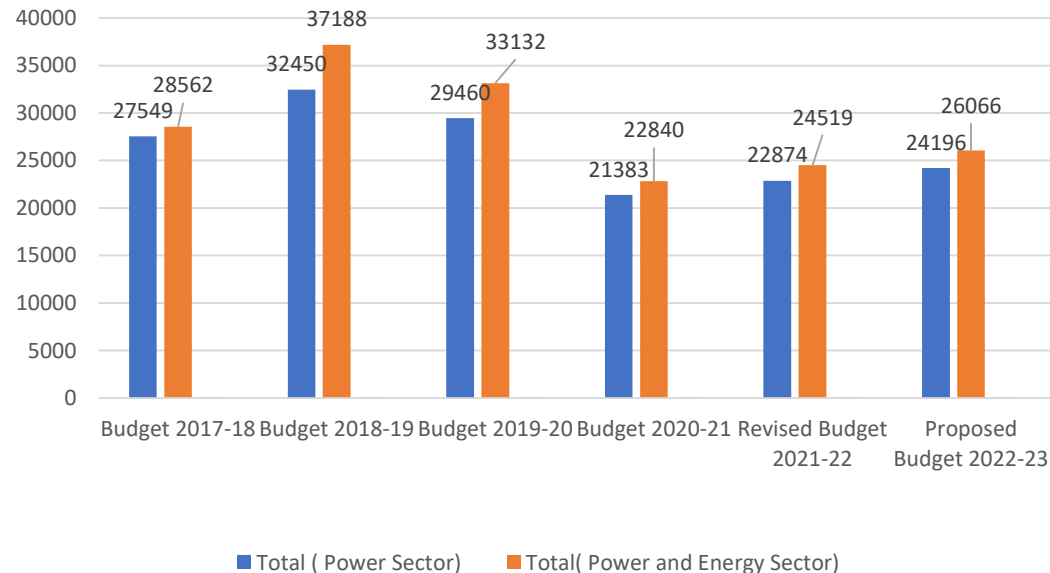
- In the FY23 the allocated subsidy has **further increased (Tk 17,0000 crore)**
 - In the revised FY22 the subsidy has been raised to Tk 12,000 crore from Tk. 9,000 crore for power sector
 - This is because of higher expenditure for imported fuels and capacity payments for rental power plants in Bangladesh
 - **Government probably accommodate these** expenditures through a rise in electricity tariff
 - Tariff rationalization should be delayed
- Such high **fiscal pressure may continue unless** we move away from expensive oil and LNG-based power plants
- Proposed FY 23 budget has not given due importance towards **renewable energy**
 - 8th FYP set a target of achieving 10% renewable share by 2025 where the current renewable share is only 3%
 - Among **20 projects in ADP, only 4** are renewable energy projects
 - 1% import duty has been imposed on Solar Panel & Module that might raise the cost of solar plants

3. Power and Energy Sector in the National Budget for FY2023

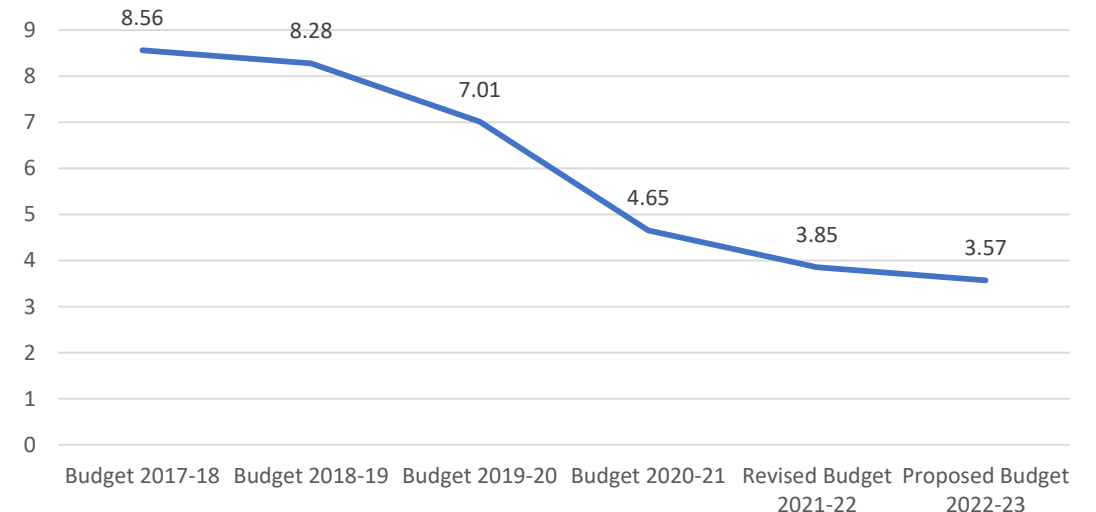
3.2 Total budget and share for power sector in 2017-2023

- Total budget for the power sector in national budget is showing a fluctuating trend over the years
- In FY22, revised budget for power sector was Tk 24,196 crore and in FY23 it was Tk 22,874 crore taka
 - The budget is Tk 1,322 crore more in FY23
- The overall budget in the **power sector has been decreasing**
- Share of power sector as percent of total budget has been fluctuating- from FY18 to FY23
 - The allocation for power sector as a percentage of national budget in FY22 is **3.85%** and in FY23, it is **3.57%**

Total Budget for Power Sector and Power and Energy Sector



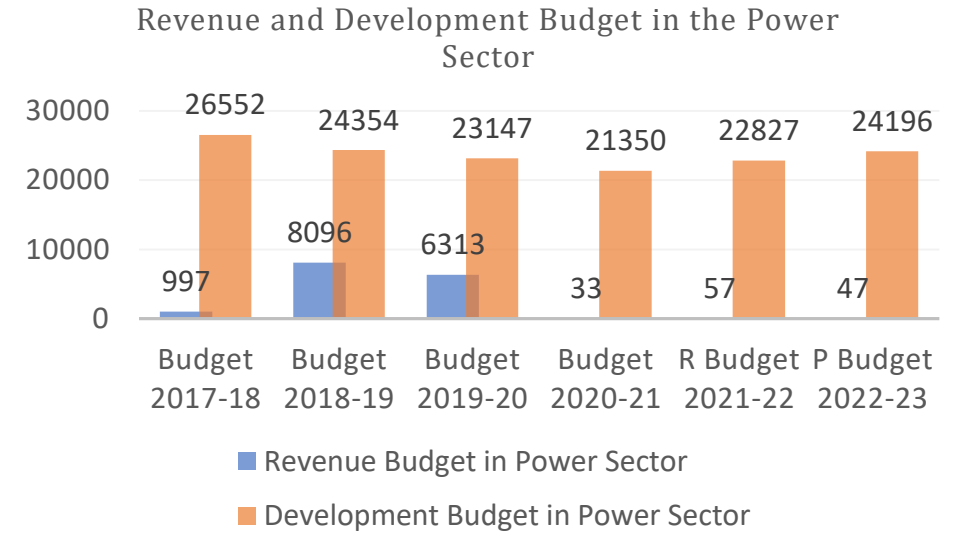
Power Sector as a % of Total Budget



3. Power and Energy Sector in the National Budget for FY2023

3.3 Revenue and Development Budget: FY2017-2023

- There is a substantial reduction of revenue budget for the power division over the years
 - In FY22 the revenue budget in power sector was Tk 57 crore and in FY23, it was Tk.10 crore less (Tk 47 crore)
- Development budget for the power division has increased in FY23 (Tk 24196 crore) compared to the previous year (Tk 22827 crore).



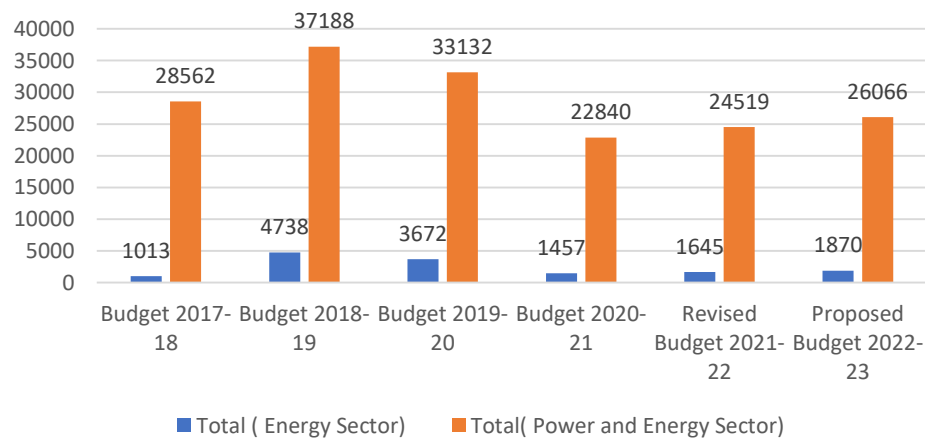
Source: Budget in Brief, Ministry of Finance

3. Power and Energy Sector in the National Budget for FY2023

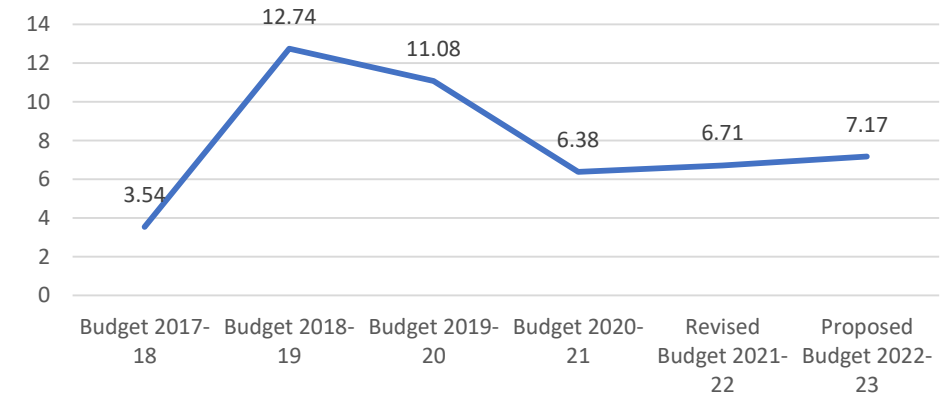
2.3 Total budget and share for energy sector in 2017-2023

- Proposed budget for the energy sub-sector has **increased by Tk.225 crore**
 - Share of energy sector has also been increased by 0.47%
- Overall share of the energy sector budget has increased mainly due to rise in operating and development expenditure – though its share in total budget remain at the same level (0.28% of total budget)
 - Given the demand for energy, higher allocation for exploration of domestic natural gas is a positive measure

Total Expenditure for Energy Sector and Energy and Power Sector



Share of energy sector as a % of energy and power sector



Source: Budget in Brief, Ministry of Finance

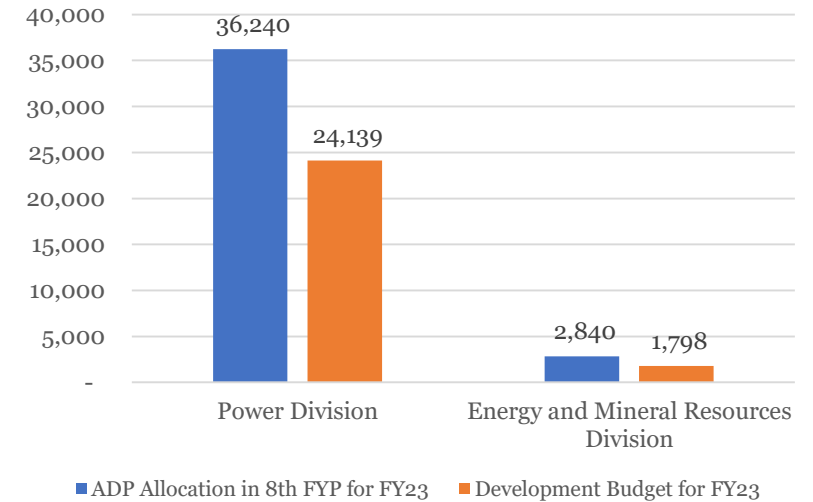
4. Major Development Projects for 2022

4. Major Development Projects for FY2023

4.1 Share of generation, transmission and distribution

- The ADP allocation in budget FY23 has been **reduced** than it was estimated **in 8th FYP** (FY23 Budget: Tk. 25,937 crore, 8th FYP: Tk. 39,080 crore)
- However, this reduction in ADP allocation is desirable amid the prevailing fiscal situation
- Transmission and distribution is still getting less priority in the Power Sector
 - 58% ADP allocation for generation, while only 21% allocation for transmission and distribution each
 - We have overcapacity in power sector (according to BPDB report, **34.69%** of generation capacity remained unutilized on 07 June 2022)
 - Power sector disparity continues – generation still being prioritised even though we have overcapacity

8th FYP vs Budget FY23 in Crore Tk.



Share of ADP Allocation in FY23 Budget

Sub-sector	FY23 (in crore tk.)	Share of Power Sector	Share of Power Division
Generation	9557.54	57.90%	36.33%
Transmission	8373.07	21.05%	31.83%
Distribution	8374.6	21.05%	31.84%
Total	26305.21	100%	100%

4. Major Development Projects for FY2023

4.2 Major projects in generation

- Despite being burdened with over capacity, even in this fiscal year, power sector is continuing to give priority to generation related projects under ADP
- In FY23, allocation towards generation has been decreased, transmission and distribution have been increased
- In FY23, there are 22 projects under generation, 17 projects under transmission and 22 projects under distribution
- Majority of the ADP projects are carry- over (36), followed by continuing (21)
 - No new projects has been approved in this FY 23
- FY 2023 budget didn't give due importance towards generation of renewable energy-based power generation
 - In FY 2023 it has given allocation for 7 renewable energy-based projects

Project completion status by Types of project (in number)

Project	Carry-over	Concluding	Continuing	Total
Generation	15	3	4	22
Transmission	8	1	8	17
Distribution	10	6	6	22
Fuel and Energy	3	1	3	7
Total	36	11	21	68

4. Major Development Projects for FY2023

4.2 Major projects in generation

- In FY 23, **there are a total of 22 generation** related projects
 - Of these 13 are 'carry-over', 3 are 'concluding' and 4 are 'continuing' projects
- Under **MoA there are 2 generation-related** projects
 - Both of them are 'carry-over' projects
- Majority of generation related projects are carry over projects
 - No new generation based projects have been approved in the upcoming fiscal year
- Japan's decision to withdraw its finance from Matarbari Coal-fired power plant project (2nd phase) is a positive development

Major Projects in Generation

Name of The Project	Maximum Completion Rate	Organisation	Project Status	Ministry
Ghorashal 3rd unit repairing programme	85%	BPDB	Carry-over	MoPEMR
Ghorashal 4th unit repowering programme (1st revised)	82%	BPDB	Carry-over	MoPEMR
Matarbari 2*600 MW ultra super critical coal fired power project (1st revised)	59%	CPGCB	Continuing	MoPEMR
Long term service agreement for Bheramara combined cycle power plant	75%	NWPGCL	Continuing	MoPEMR
Ruppur nuclear power plant	63%	Bangladesh Nuclear Energy Commission	Continuing	MoPEMR
TA for Strengthening and Development of Sustainable Power Sector in Bangladesh	16%	BPC	Carry-over	MoPEMR

4. Major Development Projects for FY2023

4.2 Major projects in generation

- Three other IPPs are in pipeline for getting the approval to start construction
 - The probable signing dates are mostly after 4 years
 - These power plants will add further **1770 MW of power with** the existing capacity

Name of the Power Plant	Date of contract signing	Capacity	Probable date of opening	Rate of progress
Meghnaghat, Narayonganj 584 MW CCPP	24-Jul-19	584	Dec-22	57%
Meghnaghat 583 MW CCPP	14-Mar-19	583	31-Mar-23	62%
Meghnaghat 718 MW CCPP	1-Sep-19	718	31-Mar-23	54%
Anwara Chittoan 590 MW CCPP	28-Oct-21	590	Jan-26	4%
Total		2475		

Name of the Power Plant	Capacity (MW)	Probable date of contract signing
Meghnaghat 450 MW CCPP	450	Jan-26
Gojariya 660 MW CCPP	660	Jan-26
Mirshorai 660 MW CCPP	660	Jun-27
Total	1770	

Source: BPDB’s progress report as of June 2022

4. Major Development Projects for FY2023

4.3 Major projects related to LNG based power and energy

- There is only one LNG based project in the ADP for FY 2022-23 under MoPEMR
- Even though this is a concluding project, the maximum completion rate by FY 2023 of this project is 15%
 - Given the excess capacity in hand, these types of projects need to be abandoned.

LNG based generation Projects by the MoPEMR, FY2023

Name of The Project	Maximum Completion Rate	Organization	Project Status	Ministry
Completion of feasibility study and gas transmission line set up for combined cycle power plant	15%	CPGCBL	Concluding	MoPEMR

4. Major Development Projects for FY2023

Major projects in Transmission

4.3 Major projects in transmission

- There are total **17 projects under transmission**
 - The project number in transmission has increased in FY23 compared to that in FY 22 (15)
 - There are 8 carry-over projects, 2 concluding projects and 8 continuing projects
- All the projects under transmission category is under the MoPEMR
- The commitment of focusing more on T&D is not well reflected as the number of carry over projects are much higher than concluding projects
 - No new development project in transmission has been approved for the upcoming fiscal year

Name of The Project	Maximum Completion Rate	Organisation	Project Status	Ministry
Replacing old AIS Ashuganj 132KV substation by new GIS 132KV substation	70%	PGCB	Carry-over	MoPEMR
Dhaka-chattogrm main power grid strengthening programme	92%	PGCB	Continuing	MoPEMR
Amin bazar to mawa to mongla 400KV transmission line (revised)	90%	PGCB	Continuing	MoPEMR
Patuakhali-Payra-Gopalganj 400 KV transmission line and Gopalganj 400KV grid sub station building	69%	PGCB	Carry-over	MoPEMR
Development of transmission infrastructure for generated power evacuation of Ruppur Nuclear Power Plant	41%	PGCB	Continuing	MoPEMR
Expansion and strengthening of power transmission system in Chattogram region	11%	PGCB	Continuing	MoPEMR
Baropukuria-Bogura-Kaliakoir 400KV line	27%	PGCB	Continuing	MoPEMR
Technical Assistance alongside possibility examination of Madunaghat-Bhulta 765kv Transmission Line Project	13%	BPC	Carry-over	MoPEMR
Geo information for Urban Planning and Adaptation to Climate Change	32%	BPC	Carry-over	MoPEMR

4. Major Development Projects for FY2023

4.4 Major projects on distribution

- There are total 22 projects under distribution
 - These are 10 carry over projects, 6 concluding and 6 continuing projects
- Even though the number of distribution related projects are same as the generation related project, there is no approved projects for the next fiscal year

Major projects in Distribution

Name of The Project	Maximum Completion Rate	Organization	Project Status	Ministry
Power distribution system development projects, Chattogram zone (2nd phase)	33%	BPDB	Carry-over	MoPEMR
100% sustainable and reliable electrification in Hatia, Nijhum and Kutubdia Island	98%	BPDB	Concluding	MoPEMR
Mordenization and capacity enhancement of distribution system of Rural Electrification Board	33%	BREB	Continuing	MoPEMR
Expansion and upgradation of power distribution in the West Zone area	75%	WZPDC	Concluding	MoPEMR
Construction of sub-stations & rehabilitation, establishment of bank for power system and smart grid under DPDC	14%	DPDC	Concluding	MoPEMR
Rangpur power distribution lines & construction of sub-stations & rehabilitation	69%	NESCO	Carry-over	MoPEMR
Constraction of Bogura-Rangpur-Saidpur gas transmission pipeline project	29%	Petro Bangla	Concluding	MoPEMR
Constraction of Bakhraghat-Meghnaghat-Haripur gas transmission pipeline project	25%	Petro Bangla	Continuing	MoPEMR

4. Major Development Projects for FY2023

4.3 Major projects in Fuel & Energy

4.5 Major projects on fuel and energy

- The total number of project in Fuel and energy has **decreased significantly**
 - In FY22 there were 27 projects, while in FY23 there are only 7 projects
- The implementation rate of the projects under Fuel and Energy shows mixed pattern
 - 3 continuing, 3 carry-over, 1 concluding
- Government should allocate fund for exploration of gas
 - Seismic survey at the offshore level
 - Explore gas in old gas plants

Name of The Project	Maximum Completion Rate	Organisation	Project Status
Construction of Rangpur, Nilphamari, Pirganj and surrounding area's gas distribution pipeline project	181%	Petro Bangla	Continuing
Wellhead compressor establishment in the location of Titas gas field	26%	Petro Bangla	Continuing
Installation of Pre-paid gas meter for TGTDCI (BD-P78: natural efficiency project)	12%	Petro Bangla	Carry-over
Installation of single point mooring (SPM) with double pipeline (2nd revised)	81%	BPC	Carry-over
Construction of Bogura-Rangpur-Saidpur gas transmission pipeline project	29%	Petro Bangla	Concluding
Construction of Bakhraghat-Meghnaghat-Haripur gas transmission pipeline project	25%	Petro Bangla	Continuing
Geo information for Urban Planning and Adaptation to Climate Change	32%	BPC	Carry-over

Source: Authors' Calculation

5. Development of Renewable Energy based Power Sector

5. Development of Renewable Energy based Power Sector

5.1 Total RE- based Generation

- Proposed FY 23 budget has not given due importance towards renewable energy
 - 8th FYP set a target of achieving 10% renewable share by 2025 where the current renewable share is only 3%
- In the budget speech FY 2023 it was announced that 6 coal based power plants will be renewable or gas-based, on the basis of a feasibility study
 - CPD highly appreciates this announcement and suggests to transform these power plants to renewable energy
- A number of RE- based projects are been implemented by MoPEMR
 - Among 66 projects in ADP under the Power and Energy Sector, only 5 projects are RE based (4 generation and 1 distribution based)
 - Two renewable generation- based projects under MoA have been approved by in ADP 23
 - None of the project under SREDA is included in the ADP for FY2023

5. Development of Renewable Energy based Power Sector

5.2 Projects under Implementation

- Among the 7 projects in renewable sector 6 are generation based
- Majority of the projects are carry-over projects quite high maximum completion rate
 - 2 projects don't show promising rate of implementation despite of being carry-over projects
- There is one concluding project with the 71% of maximum implementation rate
 - One continuing project has been observed with 11% of maximum implementation rate

Name of The Project	Maximum Completion Rate	Organisation	Type of Project	Project Status	Ministry
Electricity distribution through solar panel establishment in the remote areas of Chattogram hill tracts	71%	Chattogram hill tracts development board	Generation	Concluding	MoPEMR
Construction of 100 MW solar power plant in Madargang	11%	RPC	Generation	Continuing	MoPEMR
Sonagaji 50MW solar power plant building	44%	EGCB	Generation	Carry-over	MoPEMR
Agriculture irrigation through solar driven pump	98%	BREB	Distribution	Carry-over	MoPEMR
Resource Assessment and Piloting Related Technical help for Renewable Energy Project	86%	BPDB	Generation	Carry-over	MoPEMR
Through Expanding Solar Energy and Water Affordable Modern Technology Crops Production Enhancement Project	97%	DAE	Generation	Carry-over	MoA
Development of Micropanel irrigation through the use of Solar panel	55%	BADC	Generation	Carry-over	MoA

5. Development of Renewable Energy based Power Sector

5.3 Major Fiscal Measures for RE based power

- The government has already set a goal to achieve 500 gigawatts (GW) and 50% non-fossil fuel energy share by 2030
- The minister in his budget speech of FY23, said that they planned to source 40% of electricity from renewable energy by 2041 after putting straight the fact that only 780MW is currently being generated as renewable energy out of an overall installed capacity of 25,566MW
- Bangladesh's National Solar Energy Action Plan introduced plans to shift its renewable energy policy. This aims for up to 40 giga-watts (GW) to be installed by 2041
 - This was accompanied by medium roll-out of 25 GW and a business as usual outcome of 8 GW
- The renewable energy transition in Bangladesh will be fuelled by government policy and institutional capacity
 - The Solar Home System Programme by IDCOL provides funding and technical know-how to private companies and consumers within the renewable energy niche. Initiatives, as such, resulted in Bangladesh now hosting the largest domestic solar power programme globally. It covers 11% of the population
- In budget 2023, 1% import duty has been imposed on solar panel & module.
 - This would rise the solar panel cost as there is lack of domestic production of solar panel and module.

SL No	Paroduct Name	H.S Code	CD	RD	SD	VAT	AIT	AT	ATV	Total
01	Solar Modules	85414300	1%	0%	0%	15%	5%	5%	0%	26.50%
02	Solar Inverter	85044090	10%	0%	0%	15%	5%	5%	0%	37%

6. Conclusion

6. Conclusion

- The power and energy sector is under pressure due to rise in import cost of petroleum and LNG and partly that of coal
 - Difficult **to accommodate** even after significant rise in subsidy
 - Lack **of initiative to reduce excess** capacity further worsen the situation
 - An **energy-mix with renewable energy** could be a possible option which has been ignored systematically
- National budget FY2023 is expected to address some of the concerns
 - There **is limited effort to ease the pressure** by undertaking renewable energy-based energy mix
 - Lack of effort is provided to **exploring domestic gas** to meet the gas shortage
 - Imported **LNG is still a major energy-mix** which would rise the cost pressure further
 - The budget did not assure that **consumer would get some relief for** not adjusting energy prices
 - Still generation based projects are the priority in the power sector budget
 - Distribution related projects continues to get neglected- growth in allocation is getting slower
- RE based projects are not in the priority of the government
 - Changes in imported tariff would significantly rise imported solar panel and other associated equipment- it would further slowed down the solar panel use

Thank you.