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# **ADANI GODDA COAL POWER PLANT**

**An Achilles Heel of the  
Power Sector of Bangladesh**

**HASAN MEHEDI  
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**BWGED**

Bangladesh  
Working Group  
on External Debt



**Growthwatch**

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Hasan Mehedi  
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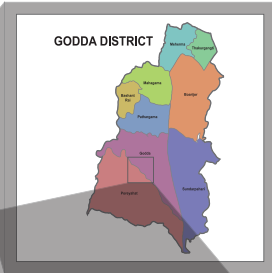
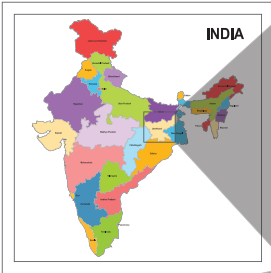
# CONTENTS

Location Map	04
Executive Summary	05
Acronyms	09
1. Introduction	13
2. The Godda Power Plant	15
2.1 Financing	17
2.2 Fuel Supply	18
2.3 Executing Agencies	20
2.4 Electricity Generation	22
3. Human Rights Violation	23
4. Environmental Pollution	27
5. Carbon Emission	31
6. Economic Risks	33
6.1 Cost of Electricity	34
6.2 Overcapacity in the Power Sector	38
6.3 Capacity Charge	38
6.4 Social and Environmental Costs	41
7. Recommendations	45
References	49



# LOCATION

## ADANI GODDA COAL POWER PLANT





Protest against Adani Coal Mine in Australia

Photo: Stop Adani Movement, October 2020

## EXECUTIVE SUMMARY

The Adani Godda Ultra-Supercritical Coal Power Plant is located in Godda district of the state of Jharkhand, India. The 1600 MW power plant has been built under a cross border power purchase agreement signed with the Bangladesh Power Development Board (BPDB) to supply 1496 MW of electricity for 25 years from the commercial date of operation (COD) [page 15].

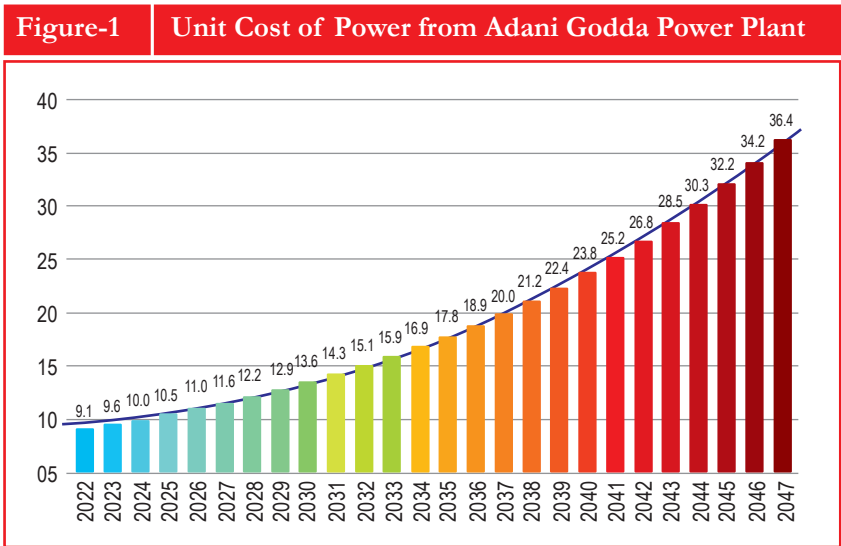
**The power plant is to start commercial operation in August 2022** although the transmission line from Indo-Bangla border to national grid will be ready to evacuate the power only after December 2022 [page 40].

### Findings

1. Adani Power Limited, a subsidiary of the Adani Group, **acquired 1,255 acres of land from the local farmers by force and without payment of proper compensation. The company also tortured the poor land owners by using musclemen and law enforcing agencies** [page 24].
2. The power plant may emit **221.1 million tonnes of carbon dioxide (minimum 193.6 - maximum 277.7 Mmt) in its lifetime** with an average emission of 9.35 Mmt annually. India is the third largest

emitting country in the world which is committed to achieve net zero by 2070, instead of 2050. The position is highly criticised by the global community. **This power plant will only help to establish India as a climate denier** [page 32].

3. **Cost of electricity from Godda coal power plant may reach USD 0.105 (BDT 9.09) in 2022 and USD 0.33 (BDT 36.41) in 2047** which is 56.2% higher than imported power, 56.5% higher than the domestic solar power and 196.1% higher than Indian solar power [page 37].



*Source: Analysis of the Study Team based on the Power Purchase Agreement*

4. BPDB will have to pay a maximum **USD 1.17 billion (BDT 10,124.75 crore)** and minimum **USD 918.18 million (BDT 7,933.04 crore)** per year to buy electricity from Godda Power Plant which will only add to the growing burden caused by excess power capacity in Bangladesh. (page 36).
6. Out of the amount, **USD 423.29 million (BDT 3,657.23 crore)** is the capacity charge per year and **USD 11.01 billion (BDT 1,08,360.60 crore)** over its lifetime which will only benefit the billionaire **Adani Group** to make more money (page 37). The power plant should be ready to supply electricity by August 2022. But the

transmission line to export electricity will be ready only after December 2022. BPDB will have to pay **USD 141.10 million (BDT 1,219.10 crore) in capacity charges for the waiting period of 4 months even though no power will make its way to Bangladesh.** (page 40)

7. The environmental and social cost (e.g. Hospitalisation, Agriculture, Fishing) of the emissions of hazardous air pollutants and carbon dioxide is **USD 729.64 million (INR 5,569.34 crore) per year and USD 24.72 billion (INR 188,708.29 crore) over its lifetime** (page 43).

## Recommendations

In the light of the statements made during COP-27, both the Government of Bangladesh (GOB) and the Government of India (GOI) should **explore ways of annulling the existing bilateral agreement and replacing an agreement in line with the Paris Agreement and Glasgow commitments** (page 45).

Both of the Governments should **cancel the PPA and create a flexible supply regime for Renewable Energy (RE).** Since it involves commercial agreements, a joint committee can be formed to resolve any issues arising out of the change (page 45).

### As the PPA cannot be cancelled unilaterally, the GOB:

1. **Must impose a No Electricity No Payment (NENP) policy on Adani Power** (Jharkhand) Limited consistent with the new PPAs for Rental Power Plants and importing electricity (page 46);
2. Must instruct Adani Power Limited to **supply at least 15% electricity from RE sources by 2025 and 30% by 2030** in line with the SDGs and Mujib Climate Prosperity Plan (page 46);
3. Should **adopt Emission Standards (ES) and Human Rights Standards (HRS) for imported products and services including electricity** to ensure international standards in importing power from neighbouring countries (page 46);
4. Should **propose importing only RE based electricity from India** keeping in mind that imported electricity will not cross 10% of the

total generated power (page 46).

**As GOB is not in position to cancel the PPA unilaterally, the GOI:**

1. Must **cancel the Adani Godda Coal Power Plant to protect the indigenous and affected communities** from consequences of emission and pollution (page 46);
2. Must **try APL for human rights violation** and forceful acquisition of land and other natural resources (page 46);
3. Must **compensate the affected indigenous people with the same size and quality of land and other resources** they lost to the Godda Coal Power Plant (page 47);
4. Should **withdraw all false court cases filed against the affected communities and Human Rights defenders** (page 47);
5. Must **impose carbon tax on Adani Godda Coal Power Plant** at a rate defined by IPCC and other UN agencies (page 47);
6. Should **force APL to provide financial resources as environmental and social damage compensation** which is not less than the estimation of the independent scientific and economic research findings (page 47).

# ACRONYMS

ADB	Asian Development Bank
AIB	Asian Infrastructure Investment Bank
ALA	American Lung Association
APJL	Adani Power (Jharkhand) Limited
APL	Adani Power Limited
APSEZ	Adani Ports and Special Economic Zone Limited
BDT	Bangladesh Taka
BIFPCL	Bangladesh-India Friendship Power Company Limited
BOO	Build Own Operate
BPDB	Bangladesh Power Development Board
CAT	Conservation Action Trust
CBET	Cross Border Electricity Trade
CEA	Central Electricity Authority [India]
CO <sub>2</sub>	Carbon Dioxide
COD	Commercial Operation Date
COP	Conference of Parties
COPD	Chronic Obstructive Pulmonary Disease
CSE	Centre for Science and Environment
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EPC	Engineering Procurement and Construction
ETS	Emission Trading Scheme
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GOB	Government of Bangladesh
GOI	Government of India
gWh	Gigawatt-hour (million unit)



HAP	Hazardous Air Pollutants
HRS	Human Rights Standard
HSD	High Speed Diesel
HVDC	High Voltage Direct Current
IA	Implementation Agreement
IEEFA	Institute for Energy Economics and Financial Analysis
IFC	International Finance Corporation
IFI	International Financial Institution
INR	Indian Rupee
IPCC	Intergovernmental Panel on Climate Change
ISD	Ischaemic Heart Disease
kWh	Kilowatt-hour (unit)
LDO	Light Distillate Oil
LNG	Liquefied Natural Gas
LOAC	Line of Actual Control
LRI	Lower Respiratory Infections
MCPP	Mujib Climate Prosperity Plan
MEA	Ministry of External Affairs [India]
MOD	Merit Order Dispatch
MOEFCC	Ministry of Environment, Forest and Climate Change
MOP	Ministry of Power [India]
MOPEMR	Ministry of Power, Energy and Mineral Resources
MOU	Memorandum of Understanding
Mmt	Million metric tonne
mtpa	Million tonnes per annum
MW	Megawatt
NBFI	Non-bank Financial Institution
NCD	Non-communicable Diseases
NDC	Nationally Determined Contribution
NENP	No Electricity No Payment
NIC	National Informatics Centre [India]
NOX	Nitrogen Oxides

NSDL	National Share Depository Limited [India]
NTPC	National Thermal Power Corporation Limited
NVVN	NTPC Vidyut Vyapar Nigam Limited
PFC	Power Finance Corporation Limited
PGCB	Power Grid Company of Bangladesh Limited
PLF	Plant Load Factor
PNAS	Proceedings of the National Academy of Sciences
PPA	Power Purchase Agreements
RE	Renewable Energy
RECL	Rural Electrification Corporation Limited
SDG	Sustainable Development Goals
SEPCO3	SEPCO-III Electric Power Construction Company Limited
SEZ	Special Economic Zone
SIA	Social Impact Assessment
SOX	Sulphur Oxides
SOE	State Owned Enterprise
SPV	Special Purpose Vehicle
TGI HK	Tie Jun International (Hong Kong) Limited
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USC	Ultra-supercritical
USD	United States Dollar
VOM	Variable Operation & Maintenance cost
WBG	World Bank Group







**Indo-Bangla Deal in 2015**

*Photo: Munir Uz Zaman, Agence France-Press*

## INTRODUCTION

To meet the increasing demand of electricity for economic development, the Government of Bangladesh (GOB) took a number of initiatives under the Policy Guidelines for Enhancement of Private Participation in the Power Sector 2008 and consistent with the 3-Year Roadmap for Power Sector Reform 2008-2011 (Mehedi 2022). The GOB also deregulated administrative control and safeguards standards by enacting the Quick Enhancement of Electricity and Energy Supply (Special Provision) Act 2010 to ensure rapid and largely unregulated construction of energy-related projects (Mehedi *et al.* 2018).

Several domestic and foreign companies invested in the power sector under the new policies anticipating very little risk and lucrative profits even if they did not produce power due to the guarantee clause of Power Purchase Agreements (PPA). The GOB also enacted regional cooperation in power and energy sectors under the Cross Border Electricity Trade (CBET) policy.

During the visit of the Prime Minister of Bangladesh to India in January 2010, the Government of India (GOI) and the GOB issued a Joint Communique for greater cooperation in the sectors of Water, Power, Finance, Connectivity, Trade and Defence (Bhattacharjee 2011).

As a result of the Communiqué and subsequent MOU signed in September 2011 (MEA 2011), the GOB started importing 500 Megawatt (MW) of electricity from India in October 2013 (which increased to 1160 MW since 2018) under CBET. Indian companies began construction of the Maitee Super 1320 MW Coal Power Plant (BIFPCL), Meghnaghat 750 MW LNG Power Plant (Reliance Group) in Bangladesh and the Adani Godda 1600 MW Coal Power Plant in India under the MOU of bilateral cooperation (MOEFCC 2016).

Table-1		Power Deals with India under CBET		
Power Provider	COD	Fuel	Capacity	
Import from NVVN/DVC (Phase-I: West Bengal)	05 Oct 2013	Coal	250 MW	
Import from PTC/Meenakshi Energy (West Bengal)	05 Oct 2013	Coal	200 MW	
Import from NVVN/ONGC (Phase-II: Tripura)	17 Mar 2016	Gas	160 MW	
Import from NVVN/DVC (Phase-III: West Bengal)	10 Sep 2018	Coal	300 MW	
Import from Sembcorp Gayatri (Andhra Pradesh)	01 Jan 2020	Coal	250 MW	
Installation of Reliance Meghnaghat Power Plant	31 Mar 2023	Gas	718 MW	
Import from Adani Godda Power Plant (Jharkhand)	31 Aug 2022	Coal	1496 MW	
<b>Total</b>			<b>3374 MW</b>	

On 6 June 2015, during the visit of Indian Prime Minister Narendra Modi, the Bangladesh Power Development Board (BPDB) and Adani Power Limited (APL) jointly announced a cross-border trade of 1600 MW power from India to Bangladesh. Afterwards, BPDB and APL signed an MOU on 11 August 2015 to build a 1600 MW coal power plant on a build-own-operate (BOO) basis within 13 months of signing the final agreement (Quadir 2015).

In February 2016, APL signed an agreement with the Jharkhand State Government to construct the power plant under a policy of supplying at least 25% of generated electricity to the state. The Jharkhand Government eased the obligation because APL agreed to supply the same amount of electricity from other sources (Das 2016).





## ADANI GODDA POWER PLANT

The sprawling Godda Coal Power Plant is spread across 10 villages including Ganga, Gayghat, Mali, Motia and Nayabad (24°48'48.41"N, 87°8'17.24"E) of the Godda and Poraiyahat blocks under Pathargama Tehsil of Godda district in Jharkhand state of India (Pal 2019). The project was initially planned to be established in Paraspani village in the same district but later shifted to the current site (APJL 2016). The project site is 78 km west from Ganges River, 6.8 km east from Chir River, 10.1 km from Godda town and 349 km from Ranchi city of Jharkhand.

APL acquired 1,255 acres of land, mostly from local farmers and indigenous *Santal* communities, to build the power plant (NIC 2017a). Out of the total land area, 1,013.03 acres (80.7%) is agricultural land, 198.65 acres is fallow land (15.8%) and 43.34 acres (3.5%) are roads and water bodies (NIC 2017b). Later, GOI declared the area as a Special Economic Zone (SEZ) on 25 February 2019 without any consultation with the local and impacted communities (Economic Times 2019a).

APL signed a PPA and Implementation Agreement (IA) with BPDB on 8 November 2017 to supply 1,496 MW of electricity for 25 years from the Commercial Operation Date (COD) of December 2021 (TNIE 2017, NS Energy 2022). After the outbreak of the COVID-19 pandemic, APL

declared a force majeure in the first week of February 2020 and rescheduled COD from January to June 2022 (Aman 2020). As indicated in the latest Progress Report of BPDB, the power plant will start commercial operation in August 2022 (BPDB 2022).

Image-1

Satellite Image of Godda Coal Power Plant



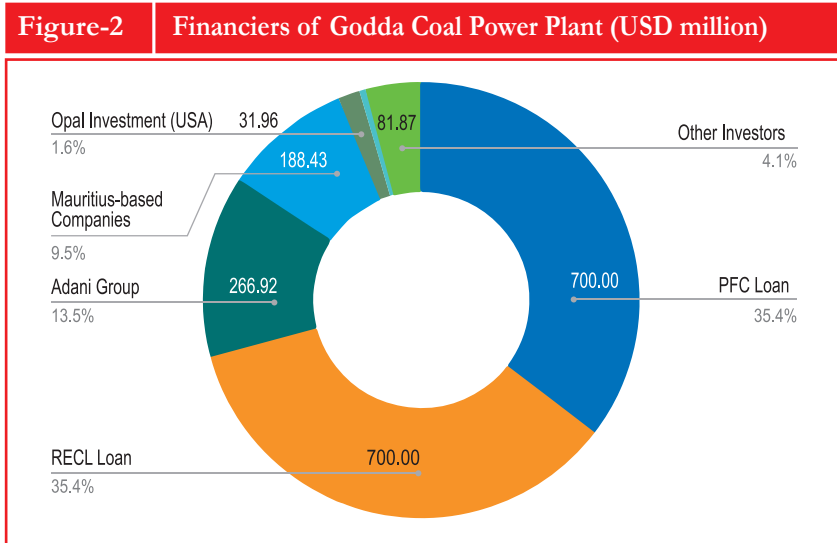
*Source: Google Earth Pro. Ver. 7.3.4.8248 (15 March 2022)*

According to the IA signed with the Power Grid Company of Bangladesh Limited (PGCB), APL is to install a dedicated 106 km long 400 kV transmission line from Godda to the interconnection point (Kondratieva 2019). Similarly, PGCB took a project of USD 26.3 million (BDT 225.50 crore) to construct 28 km transmission line from Indo-Bangla border to Rohanpur High Voltage Direct Current (HVDC) substation in Bangladesh to offtake electricity from the power plant (PGCB 2022).

As a result of the serious human rights violations in the land acquisition process, excessive emissions resulting in harmful air pollution, national and international civil society representatives urged both of the Governments to cancel the PPA and approval of the power plant (Daily Star 2020). But in March 2022, the Director General of Power Cell of Bangladesh (planning section of the Power Division) told the media that, as an international agreement, Bangladesh has no right to amend or cancel the PPA unilaterally (Ali 2022).

## 2.1 | FINANCING

The estimated total cost of Godda Coal Power Plant is USD 1.98 billion with USD 578 million (30%) equity and USD 1.4 billion (70%) loan (APL 2019). Adani Power (Jharkhand) Limited (APJL) is the proponent of the power plant which is a Special Purpose Vehicle (SPV) of APL under Adani Group, an Indian multinational conglomerate.



Source: Analysis of the Study Team

Adani Group is the largest shareholder of APL with 46.18% shares (Adani Family: 36.4% and Adani Tradeline: 9.78%). Six Mauritius based offshore investors own 32.6% of the company [11.5% by Flourishing Trade & Investment Limited, 6.88% by Afro Asia Trade & Investments Limited, 5% by Worldwide Emerging Market Holding Limited, 4.99% by Emerging India Fund Management Limited, 1.88% by Acropolis Trade & Investments Limited, and 2.35% by Elara Capital] while US investor, Opal Investments Incorporated, owns 5.53% and Indian State Owned Enterprise (SOE), Life Insurance Corporation of India, owns 1.56% of the company (Market Screener 2022). Figure-2 indicates the financiers in the plant:

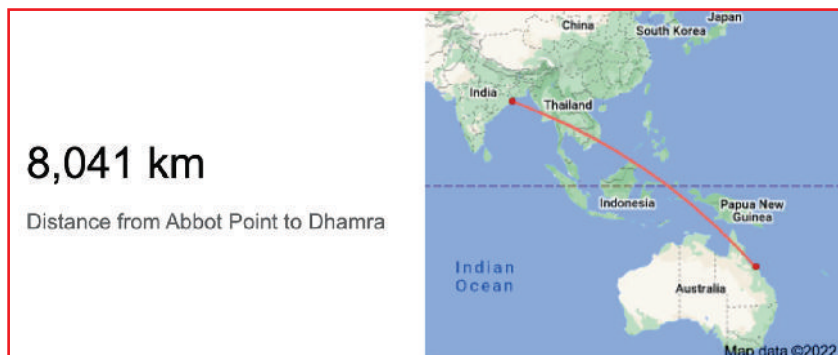
Investigating the investment pattern of Mauritius based companies, it seems that they are either owned by Adani family members or closely

linked with Adani Group. At least two of them had allegations of money laundering ([Economic Times 2021a](#)). National Share Depository Limited (NSDL), the authority of the Indian share market, froze the funds of Mauritius-based companies in June 2021 ([Business Standard 2021](#)). NSDL also started an investigation process on the erroneous involvement of Mauritius-based companies in the subsidiaries of Adani Group in October 2021 but reports have not been published yet ([CNBC 2021](#)).

Two Indian state-owned non-bank financial institutions (NBFI) under the Ministry of Power (MOP) namely Finance Corporation Limited (FCL) and Rural Electrification Corporation Limited (RECL) provided loans of USD 700 million each ([Sen 2019](#)).

The financing institutes disregarded the appeals from national, regional and international groups such as 350.org, Adaniwatch, Asian Peoples Movement on Debt and Development ([APMDD 2020](#)), Bangladesh Working Group on External Debt (BWGED), Bob Brown Foundation ([Caravan 2020](#)), Coastal Livelihood and Environmental Action Network ([Law 2020](#)), Envirionics Trust, Godda Basti and Bhoomi Bachao Sangharsh Samiti, Growthwatch, Indian Social Action Forum (INSAF), Institute for Energy Economics and Financial Analysis ([IEEFA 2020](#)), Japan Center for a Sustainable Environment and Society (JACES), Market Forces, and the Sunrise Project ([PTP 2021](#)).

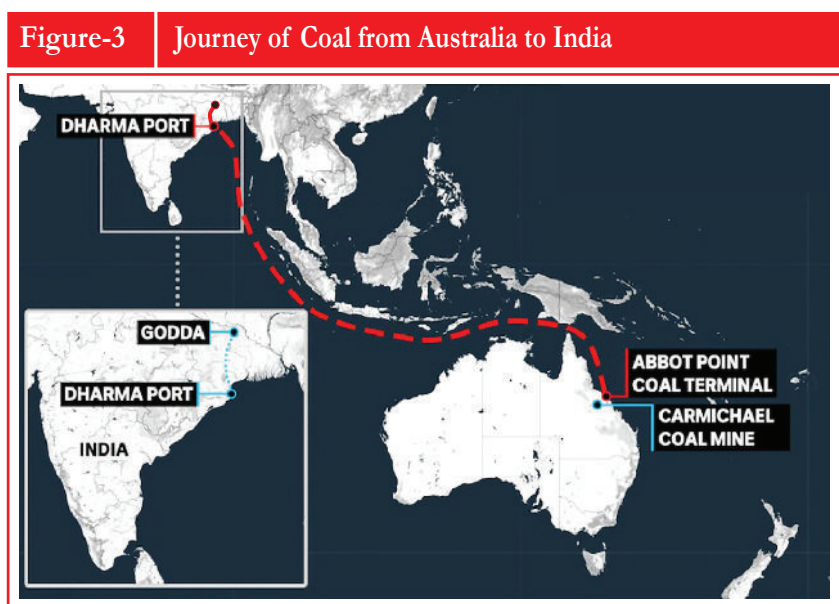
## 2.2 | FUEL SUPPLY



According to the EIA Report, APJL used Ultra-supercritical (USC) technology to build the power plant ([NIC 2017a](#)). The estimated amount

of coal for the power plant was 7-9 million tonnes per annum (mtpa). Later, it was re-estimated as 7.07 mtpa of Grade-12 sub-bituminous coal (3,660 kcal/kg) as primary fuel and 15,000 tonnes of Light Distillate Oil (LDO) or High Speed Diesel (HSD) as support fuel per annum to operate the power plant at 85% Plant Load Factor (PLF) (NIC 2017a).

However, the Central Electricity Authority (CEA) estimated that large scale USC power plants require 4,634 tonnes of Grade-12 coal (3,700 kcal/kg) per MW annually to operate at 85% PLF (CEA 2019). So, the Godda 1600 MW Coal Power Plant required 7.41 mtpa as per the calculation of CEA. Analysing both of the assumptions, 7.24 mtpa could be required initially which will be increased over time due to lower rate of efficiency.



*Source: Alistair Kroie, ABC News*

APL planned to bring coal from Indonesia, South Africa or Australia and receive it at the Dhamra Port, Odisha, which is owned by Adani Ports and Special Economic Zone Limited (APSEZ). After travelling more than 8,000 km from Abbot Point to India bypassing Indonesia at the halfway point, the coal will be transported an additional 695 km to Godda by rail (NIC 2017a).



Later it was found that the sponsor intends to bring coal from the Adani owned Indonesian or controversial Carmichael coal mine situated in Queensland, Australia which is continuously resisted by the indigenous Wangan and Jagalingou (W&J) communities (Sengupta *et al.* 2019). The ridiculously long and expensive fuel supply plan for the Godda coal power plant was eventually revealed to be a cleverly designed scheme to enrich Adani business units in Australia rather than securing lower cost coal from sources much closer to the power plant.

Image-2

Inauguration of Installing Boiler at Godda Power Plant



*Photo: SEPCO-III Electric Power Construction Company Limited*

## 2.3 | EXECUTING AGENCIES

On 24 April 2018, APL signed an agreement with the Chinese company SEPCO-III Electric Power Construction Company Limited (SEPCO3) as Engineering Procurement and Construction (EPC) Contractor for installing the power plant (SEPCO3 2018). SEPCO3 is a subsidiary of PowerChina which is a SOE of the Chinese Government (PowerChina 2019). The sponsor appointed Tie Jun International (Hong Kong) Limited (TJI HK) as the civil engineering consultant of the power plant. TJI HK is also a subsidiary of SEPCO3. The boiler was supplied by another

Chinese company named Babcock & Wilcox Beijing Company Limited (B&W). General Electric (GE), a US-based global conglomerate, supplied the generator and steam turbine for the power plant (GE 2018).

Mutual relations between India and China have been going through a tough situation after the border dispute in 2013. The conflict took on a serious character in 2017 when armies from both of the countries engaged in a standoff at the Doklam Plateau (Joshi 2017). In 2020, India and China engaged in a serious clash in Nathu La (Sikkim) and Line of Actual Control (LOAC) on the Galwan border resulting in the injury and death of 20 Indian and some Chinese army personnel (Pubby 2020).

Image-3

Site of Godda Coal Power Plant



Photo: ABC News

In response to the clashes, GOI imposed several bars on Chinese Fintech companies including Chinese apps for mobile and desktop computers (Cao & Qu 2022). Interestingly, even after submission of a memo by lawmakers of Jharkhand, GOI has not put any bar on Babcock & Wilcox, PowerChina, Tie Jun International or SEPCO3 who are the EPC Contractors and equipment suppliers of Godda Coal Power Plant (Mukesh 2020).

## 2.4 | ELECTRICITY GENERATION

According to the Brief Summary and Basic Information of the Project, the installed and derated capacity of Godda Coal Power Plant is 1,600 MW and 1,496 MW (93.5%) respectively and it will run at a 85% PLF (APJL 2016). Considering the declared capacity and PLF as the Highest Scenario, the power plant may generate a maximum of 11,139.22 gigawatt-hour (gWh) electricity annually and 278,480.40 gWh (million units) in its lifetime.

**Table-2** | **Generation Capacity of Godda Power Plant**

Scenario	Annual Generation (gWh)	Lifetime Generation (gWh)
Highest Scenario	11,139.22	278,480.40
Lowest Scenario	8,727.90	218,197.58
Base Scenario	9,396.26	234,906.41

*Source: Analysis by the Study Team based on ELA Report*

Due to fuel supply shortages, changes in demand and supply, as well as technological failures in the generation and transmission system, the average PLF for thermal power plants in India dropped to 53.4% in FY 2020-21. This is considerably lower than the PLF of exported electricity (Economic Times 2020a, MOP 2022). Meanwhile, the PLF of APL coal power plants dropped down to 58.9% in FY 2021 from 66.6% of FY 2020 (APL 2021). Calculating the highest rate of APL (66.6%) as the Lowest Scenario, the power plant may generate 8,727.90 million units (gWh) of electricity annually and 218,197.58 million units in its lifetime.

Analysing the Annual Reports of BPDB since 2013, it is revealed that Bangladesh imported 40,762.51 million units of electricity from India at a rate of 71.7% PLF on an average, ranging from 51.7% to 80.2%. Considering the average rate (71.7%) as a Base Scenario, the power plant may generate 9,396.26 million units of electricity annually and 234,906.41 million units in its lifetime.



## HUMAN RIGHTS VIOLATIONS

APL took 1,013.03 acres of agricultural lands from Indigenous Santal communities of Godda without their proper consent, and in some cases, even without paying any compensation for physical and economic displacement (Long 2020). According to the Social Impact Assessment (SIA) report, 5,339 households were affected by the project (Choudhury 2018) of which 1,328 Santal families lost their fertile, multi-crop lands - their only source of livelihood.

The communities started their struggle against the acquisition in 2016 when the personnel from Adani Group proposed to build the power plant in the area (Choudhury 2018). They organised a series of massive protests in 2017 (Anwar 2019). As the local people stood against the land acquisition, only selected persons were allowed to participate in the police-controlled public hearings of the SIA process. When the people protested the faulty SIA process, about 500 policemen, along with company officials, entered the village and thrashed the villagers irrespective of gender and age (Pal 2019).

A special probing committee was formed by the State Secretary of Jharkhand in February 2017, under instructions from the Jharkhand governor, to investigate allegations of fake consent obtained at the social



impact assessment hearings. But no findings of the probing committee have been made public to date (Chandrasekhar 2018).

A number of criminal cases were also filed against the protesters which included rioting, criminal trespassing, and breaking public peace. For protesting illegal land acquisition of APL in Godda and organising a week-long peaceful dharna (sit-in program), the police filed several cases and arrested a lawmaker, Mr. Pradeep Yadav in April 2017 (Tribune 2017), and sent him to jail for five months before he got bail from a higher court (Choudhury 2018).

Image-4

Police Check Post at the entrance of the villages



Photo: Tarique Anwar, the Newsclick

Land prices of the project were manipulated overnight and they were reduced by the Jharkhand Government so that the Adani Group could take over the lands with minimum payment (TBS 2020). The APL also took, dug up and fenced the graveyard and crematorium of the community (Anwar 2019). As an example of non-agreement, a number of villagers including Chintamani Sahu, Ramesh Besra and Suryanarayan Hembrom refused to take compensation for their lands.

In August 2018, Adani Group officials, backed by the Jharkhand police, destroyed the standing paddy crop and uprooted the trees of Santal

farmers (Choudhury 2018). The women community members even fell at the feet of Adani personnel begging the company not to take their land.

Image-5

Village Road cut off by a fence for the power plant



*Photo: Aruna Chandrasekhar, Scroll.in*

Local indigenous people in Odisha were also displaced by the power plant. To transport the coal from Queensland, Australia, the Adani Group intends to use the Railway to carry coal from Dhamra Port to the Godda power plant. In line with the plan, the Government started land acquisition in September 2020 to lay a second railway track alongside an existing line (Dasgupta 2020). More than 700 families faced forced displacement for acquisition of their lands.



*Photo: Reuters*

Transportation system contributes a lot to coal pollution  
*Photo: The Print (9 September 2021)*





## ENVIRONMENTAL POLLUTION

India is one of the worst polluted countries in the world and ranked 168th among 180 countries (Wendling *et al.* 2020). According to the World Air Quality Report 2020, India was the third most polluted country in the world after Bangladesh and Pakistan (IQAir 2021).

A year later, the country ranked fifth after Bangladesh (1st), Chad (2nd), Pakistan (3rd) and Tajikistan (4th) in 2021 (IQAir 2022). The report reveals that Delhi is the most polluted capital city and out of the 20 most polluted cities in the world, 15 are in North India.

One of the major causes for high pollution rate in India is excessive reliance on coal power which accounts for 44% of primary energy mix and 71% off fuel mix in the power sector of the country (Chakravarty & Somanathan 2021, IEA 2021).

Coal fired power plants emit 84 separate Hazardous Air Pollutants (HAP) such as arsenic (As), benzene (C<sub>6</sub>H<sub>6</sub>), beryllium (Be), cadmium (Cd), chromium (Cr), dioxins (C<sub>4</sub>H<sub>4</sub>O<sub>2</sub>), furans (C<sub>4</sub>H<sub>4</sub>O), formaldehyde (CH<sub>2</sub>O), hydrogen chloride (HCl), hydrogen fluoride (HF), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), nitrogen oxides (NO<sub>x</sub>), polycyclic aromatic hydrocarbons (PAH), selenium (Se), sulphur oxides



(SO<sub>x</sub>), toluene (C<sub>7</sub>H<sub>8</sub>), and radioactive materials like radium (Ra) and uranium (U) (ALA 2011).

Some of the pollutants like acid gases, organics, dioxins, aldehydes, metals, mercury and fine particles create high risk to nearby villages and towns while some of the pollutants also travel much further and create significant impact regionally. Some of the pollutants like dioxins, mercury and fine particles spread out globally (ATSDR 2022).

Image-6

Jharia in Jharkhand ranked as the most polluted city in India



*Photo: Supratim Bhattacharjee, Nextblue*

According to the study report of IZA Institute, every gigawatt (GW) from a coal power plant increases infant mortality rates by roughly 15% relative to other districts in the same state (Barrows *et al.* 2019). A recent study found 40-60  $\mu\text{g}/\text{m}^3$  fine particles in the Gangetic plains of Bihar, Jharkhand and West Bengal, which is much higher than the other regions of India due to excessive concentration of coal power plants in these states (Cropper *et al.* 2021).

The study shows that 75% households in Jharkhand exposed to average 112  $\mu\text{g}/\text{m}^3$  HAPs which created additional risk of death as the coal power plants are clustered at pit heads of coal mines in central India (Goenka & Guttikunda 2015). Godda coal power plant will only increase the rate of

health impacts and death of innocent people in Godda districts and adjacent areas.

According to the EIA report, the Godda power plant will emit 1.42-1.64 Mmt of fly ash and 0.35-0.41 Mmt of bottom ash per year at 85% load factor (NIC 2017a). In addition to that, the power plant will also emit 3.41 million tonnes of toxic gases including SO<sub>x</sub> and NO<sub>x</sub> per year (Anwar 2019). According to the report of the Ministry of Environment, Forest and Climate Change (MOEFCC) of GOI, a coal power plant is allowed to emit maximum 7.3g/kWh of SO<sub>x</sub>, 4.8g/kWh of NO<sub>x</sub>, and 0.98g/kWh for PM<sub>10</sub> targeted to reduce those to 0.36g/kWh, 0.43g/kWh and 0.08g/kWh respectively (PIB 2015, Srinivasan *et al.* 2018).

But the emissions from the Adani Godda Coal Power Plant will not only impact the environment, agriculture and health of the Godda area but also contribute to the failure of the Indian Government.



India is the third largest emitting country in the world  
*Photo: Indranil Aditya, CNN (12 May 2020)*



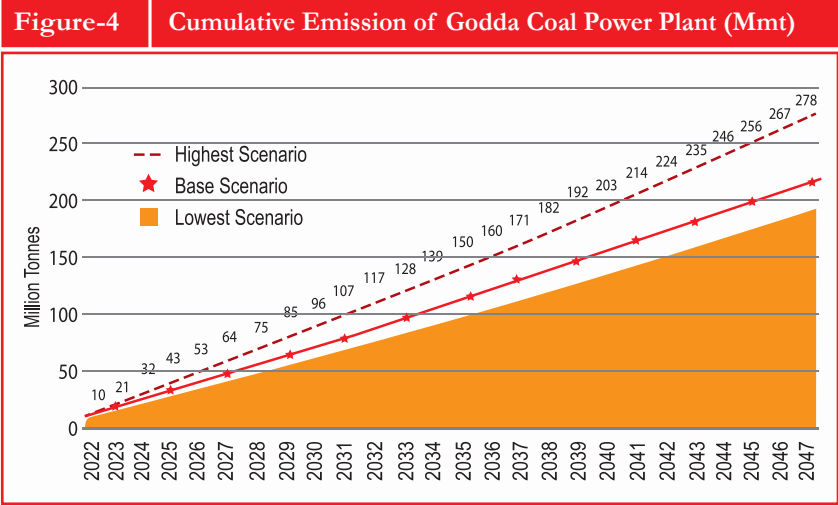
## CARBON EMISSIONS

The emission of Greenhouse Gases (GHG) depends on the quality of fuel (i.e. coal), moisture content, technology used, the efficiency and size of the power plant (Mittal 2012). Considering the carbon content and excess air used at the power plants, Mittal (2012) estimated that coal power plants in India emit 910-950g of CO<sub>2</sub>, 6.94-7.20g of SO<sub>x</sub> and 4.22-4.38g of NO<sub>x</sub> for each unit (kWh) of electricity generated. The CEA of GOI estimated that, on an average, large coal power plants emit 850g of CO<sub>2</sub> per unit (CEA 2018a).

Another estimation of CEA shows that a coal power plant with USC technology emits 853g of CO<sub>2</sub> per unit (CEA 2018b). According to the estimation of Shearer et al. (2017), the average CO<sub>2</sub> emission of Indian thermal power plants was 901.7g in 2005 which increased to 926g per unit in 2012. CSE (2020) estimated that Indian coal power plants emit 983g of CO<sub>2</sub> for every unit of electricity.

The Godda coal power plant is a large (>800 MW) power plant using low calorific values of coal (3,660 kcal/kg) and USC technology (NIC 2017a). Considering its fuel quality, technology and fuel efficiency, based on the earlier study reports, it is estimated that the power plant will emit 853g of CO<sub>2</sub> at the initial stage which will gradually increase to 958.7g as the emission is inversely proportional to fuel efficiency.

As per the analysis, the Godda power plant will emit a minimum of 8.0 million tonnes of CO<sub>2</sub> per annum to the atmosphere and a maximum of 10.7 million tonnes. Therefore, the power plant will likely emit 229.8 - 288.3 million tonnes of CO<sub>2</sub> in its lifetime of 25 years.



Source: Analysis of the Study Team

It should be noted that India is the third largest emitting country of the world and it pledged to reduce the GHGs emissions intensity of its economy by 45% by 2030 from its 2005 level of GHGs (Menon 2021). The country also promised to cut its emissions to net zero by 2070 (BBC 2021). The country is highly criticised for this position.

According to the Article 78 of Glasgow Climate Pact adopted in the 26<sup>th</sup> Conference of the Parties (COP26) on 12 November 2021, all member countries of the United Nations Framework Convention on Climate Change (UNFCCC) are responsible for developing and submitting a registry on GHG emission from 2024 according to the Paris Rulebook taken under Paris Agreement Work Programme (UNFCCC 2021).

The emission of the Godda coal power plant will significantly contribute to the total emission in the Indian public registry. It will negatively impact the emission reduction targets of India by adding a major new carbon emission source, illustrating that India is not taking its carbon reduction targets seriously.

## ECONOMIC RISKS

To offtake electricity from domestic power plants, BPDB follows the ‘Merit Order Dispatch’ method which means the power plants supplying cheaper electricity are given the first opportunity to generate electricity. But to import power from the Godda coal power plant, BPDB is obliged to follow ‘Priority-based Despatch’ which means the imported power will be transmitted first keeping domestic power plants idle even if they generate cheaper electricity than the imported power.

BPDB is also obliged to pay the price of fuel and Variable Operation & Maintenance cost (VOM) for generated electricity and Capacity Charge based on the availability of the power plant to offtake electricity.

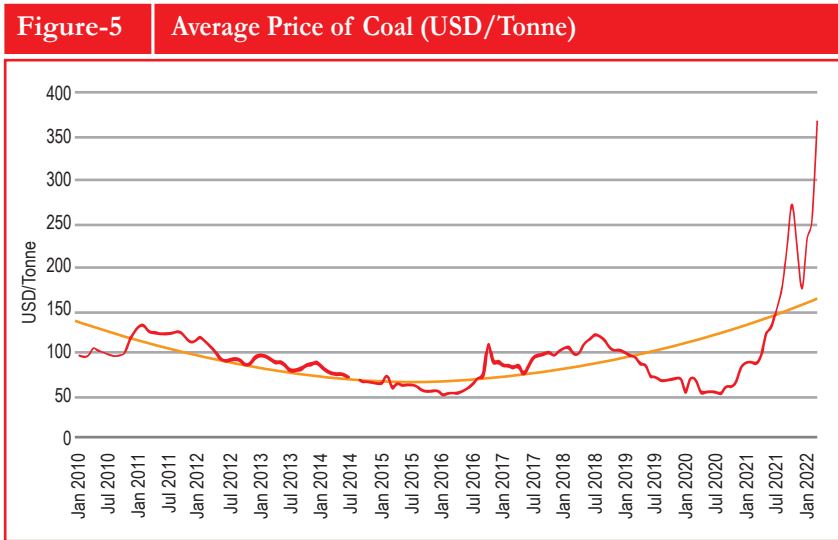
These special rules that unfairly benefit the Godda power plant and its exorbitantly expensive scheme to ship coal from its business units in Australia give it an intentionally biased and rigged advantage over power produced from lower cost power plants in Bangladesh.

Ultimately the people who will bear the cost of this corrupt enterprise are those that can least afford it - the people living near the plant who will suffer the health consequences and the power consumers in Bangladesh who will have to pay the high cost of electricity.



## 6.1 | COST OF ELECTRICITY

In 2017, when the PPA was signed, the Levelized Cost of Electricity (LCOE) from Godda coal power plant was USD 0.08612 per kWh which was equivalent to BDT 6.89 (current price BDT 7.40). The price of coal was calculated at USD 120.00 per tonne to determine the price (Daily Sun 2017). But the price of coal has changed over the period. The rate has been increasing dramatically since the Ukraine war. Price of sub-bituminous coal was recorded at USD 186 per tonne on 23 February 2022 which reached USD 467 on 10 March 2022 and can reach USD 500 by December of this year (Taher 2022).



Source: Analysis of the Study Team based on TrendEconomics.com

Analysing the required fuel, it is found that Godda power plant will require 0.65kg of sub-bituminous coal for generating every kilowatt-hour (kWh) of electricity. As per the current rate of sub-bituminous coal, the net fuel price could be at least USD 0.0459 (BDT 3.97) in 2022. Including coal transport cost, BPDB will have to pay BDT 5.15 per kWh (unit) fuel cost (including coal transport) in 2022 which will potentially increase to BDT 31.26 by 2047.

According to the PPA, BPDB will also pay USD 0.0042 (BDT 0.36) as VOM and USD 0.038 (BDT 3.26) as capacity charge per unit for the

period of plant availability irrespective of whether it uses the generated electricity. Bangladesh will also have to pay a wheeling charge to APL at a rate of USD 0.0034 (BDT 0.29) per unit for transmission of the electricity from Godda to the Indo-Bangla border. The wheeling charge will be increased at 1% per year. So, in the period of 25 years, the wheeling charge will be increased to USD 0.0044 (BDT 0.482) per unit in 2047.

<b>Table-3</b>		<b>Estimated Unit Cost of Power from Godda Power Plant (2022)</b>		
<b>Particulars</b>	<b>Source</b>	<b>USD</b>	<b>BDT</b>	
Coal Price	BPDB (2021)	0.0459	3.966	
Coal Transport	IEEFA (2018)	0.0137	1.184	
Variable Operation & Maintenance (VOM)	BPDB (2018)	0.0042	0.363	
Capacity Charge	Ali (2022)	0.0380	3.283	
Wheeling Charge	PGCB (2021)	0.0034	0.294	
<b>Total</b>		<b>0.1052</b>	<b>9.09</b>	

*Source: Analysis of the Study Team*

According to the estimation of IEEFA on the basis of 58% PLF, the cost of power from Adani Godda Power Plant might be BDT 8.71 per unit (Buckley & Nicholas 2018). Revised estimation, considering the wheeling charge, higher fuel cost and currency exchange rate, finds that the per unit cost may reach USD 0.1052 (BDT 9.09) in 2022 and USD 0.3296 (BDT 36.41) in 2047 which is even higher than the projected tariff of the Power System Master Plan 2016 (USD 0.012/kWh) and ‘Revisiting’ PSMP 2016 (USD 0.103/kWh) (Power Division 2016 & 2018). Unit cost of electricity is inversely proportional to power usage. Therefore, unit cost will increase if BPDB fails to take 100% of the generated electricity.

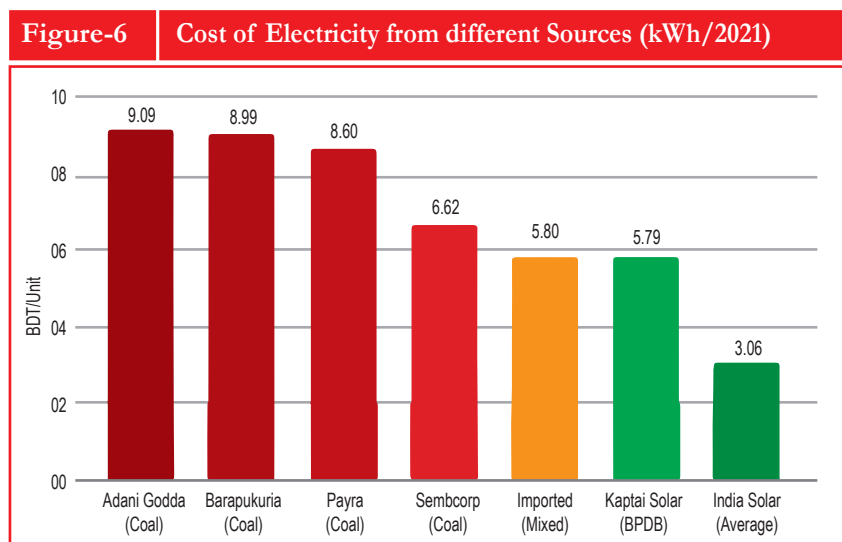
In FY 2020-21 Bangladesh imported 8,128.89 million units of electricity from India at an average rate of USD 0.0681 (BDT 5.80) per unit. BPDB also used 4,996.74 million units of electricity from domestic coal power plants at a rate of USD 0.1044 (BDT 8.89) per unit (BPDB 2021).

Since January 2020, under an agreement that is binding for 15 years, Bangladesh has been importing coal power from Sembcorp Gayatri Coal Power Plant situated in Andhra Pradesh. In FY 2020-21, BPDB paid USD 139.43 million (BDT 1,195.03 crore) against 1,784.17 million units of



electricity imported from the power plant (81.47% PLF) at a rate of USD 0.0778 (BDT 6.62) per unit. Out of the total amount, USD 70.58 million (BDT 604.92 crore) was paid as capacity payments (BPDB 2021).

In October 2021, BPDB renewed a PPA with NTPC Vidyut Vyapar Nigam Limited (NVTN) to import 160 MW of electricity for the next five years under a No Electricity No Payment (NENP) arrangement which made the electricity cheaper (Bonik Barta 2021). It illustrates that the BPDB is capable of negotiating PPA's that are economically sound. In contrast, the PPA with Adani Godda Coal Power Plant is fiscally unsound and structured to provide profit to Adani rather than sustainable produced and priced power to Bangladesh.



*Source: Analysis of the Study Team*

The GOB has already expressed its interest in importing cheaper Indian electricity from Renewable Energy (RE) sources (Kondratieva 2018). The Prime Minister of Bangladesh also requested Indian counterparts to support Bangladesh in promoting green energy (Economic Times 2021b).

Figure-6 shows that the unit cost of electricity generated by APJL will be higher than generated electricity from any source of domestic or imported power (except liquid fuel based power). It also shows that power from

Godda power plant is 56.2% more expensive than other imported power, 36.9% more than imported coal power, 4.3% more than domestic coal power, 56.5% more than the domestic solar power and 196.1% more than Indian solar power.

The cost of electricity from Godda will increase 5.49% while the cost of solar power in India is decreasing around 10% annually ([Economic Times 2020b](#)). In 2021, tariff per unit of solar power came down to INR 2.70 (BDT 3.06) in India ([Mint 2021](#)). Similarly, the cost of power generated by domestic solar power plants in Bangladesh has decreased at a rate of 12.3% annually. For instance, the generation cost of the Kaptai 7.4 MW Solar power plant came down to BDT 5.79/unit in FY 2020-21 from BDT 11.24/unit in FY 2019-20 ([BPDB 2020 & BPDB 2021](#)).

To import the electricity from the Godda power plant, BPDB will have to pay a maximum USD 1.17 billion (BDT 10.124.75 crore) and minimum USD 918.18 million (BDT 7,933.04 crore) per year. Since Bangladesh doesn't need any more power, the amount spent will only benefit the Adani Group, not the people of Bangladesh. So, the people, and the Bangladesh economy particularly, will have to suffer for the luxury of a billionaire company who is getting richer every year ([TOI 2022](#)).

**Image-7** | **Police Deployment during Consultation Meeting of Adani**



*Photo: The Times of India (6 March 2017)*

## 6.2 | OVERCAPACITY IN THE POWER SECTOR

Currently, Bangladesh is facing 37.4% of overcapacity in the power sector. The total installed capacity was 22,031 MW in FY 2020-21, while maximum demand was 13,792 MW (BPDB 2021). The total generated electricity was 80,422.54 million units in FY 2020-21 against the capacity of generating 192,991.63 million units. Only 41.9% of generation capacity was utilised in FY 2020-21 and 58.1% was kept idle, becoming stranded assets. As a result, power plants were operated for only 153 days and kept idle for 212 days in the year (Mehedi & Ali 2022).

As a consequence of overcapacity, BPDB had to pay USD 1.55 billion (BDT 13,155.21 crore) as the capacity charge for the idle power plants in FY 2020-21. The capacity charge may reach USD 3.12 billion (BDT 26,533 crore) in FY 2021-22 and USD 7.33 billion (BDT 63,000 crore) by 2030. Adani Godda Coal Power Plant will significantly increase these already outrageously high capacity charges, even further.

## 6.3 | CAPACITY CHARGE

During the negotiation for finalising the PPA, APL demanded USD 0.039 (BDT 3.35) per unit as capacity charge while the general capacity charge of domestic large coal power plants of Bangladesh is USD 0.033 (BDT 2.83). Rather than insisting on equivalence and parity with Bangladesh based power producers, the Power Division of Bangladesh agreed to pay USD 0.038 (BDT 3.26) to APL for each unit of electricity (Ali 2022).

**Table-4** Capacity Charge of Adani Godda Coal Power Plant

Scenario	Annual (BDT Crore)	Annual (USD Million)	Lifetime (BDT Crore)	Lifetime (USD Million)
Highest Scenario	3,657.23	423.29	108,360.6	11,005.55
Lowest Scenario	2,865.55	331.66	84,903.72	8,623.17
<b>Base Scenario</b>	<b>3,084.98</b>	<b>357.06</b>	<b>91,405.35</b>	<b>9,283.50</b>

*Source: Analysis of the Study Team based on PPA (2018)*

If the power plant operates in the Highest Scenario, BPDB will have to pay USD 423.29 million (BDT 3,657,23 crore) in capacity charges annually

**COMPARISON  
WITH DIFFERENT  
DEVELOPMENT  
PROJECTS**

**1.22 BN  
US DOLLAR**  
Karnaphuli  
River  
Tunnel

**2.59 BN  
US DOLLAR**  
Dhaka  
Metro  
Rail  
(MRT-6)

**3.87 BN  
US DOLLAR**  
Padma  
Bridge

**11.01 BN  
US DOLLAR**  
Lifetime  
Capacity  
Charge of  
Godda Coal  
Power Plant

**EXCESSIVE  
CAPACITY CHARGE OF  
ADANI GODDA COAL  
POWER PLANT**



and USD 11.01 billion (BDT 1,08,360.60 crore) for its 25 year lifetime. Alternatively, if it operates on the Lowest Scenario, BPDB will have to pay USD 331.66 million (BDT 2,865.55 crore) in capacity charges annually and USD 8.62 billion (BDT 84,903.72 crore) in its lifetime.

So, in the Highest Scenario, APL will recover its total investment within 4.67 years and reap profit for the next 20 years. In the case of the lowest scenario, the investment would be recovered in 6 years. To provide context that illustrates the high cost, the lifetime capacity charge for the Power Plant is 9 times more than the budget of Bangabandhu Karnaphuli River Tunnel (TBS 2021), 4.25 times more than Dhaka Metro Rail Line (UNB 2021) and 2.9 times more than the Padma Multipurpose Bridge (BBA 2022).

According to the Power Division, PGCB will not be able to construct the necessary transmission line before December 2022 to use the electricity from Godda Coal Power Plant (UNB 2022). So, the power plant will be kept idle for four months after COD. BPDB will have to pay USD 141.10 million (BDT 1,219.10 crore) in capacity charges for the idle period. The amount will be added to the total loss of BPDB which is currently facing loss by paying in capacity payments.

Image-8

Protest of Local People against the Godda Power Plant



*Photo: The Newsd (21 April 2017)*



## 6.4 | SOCIAL AND ENVIRONMENTAL COSTS

The negative impacts of coal power plants on climate, local environment and human health also have economic values. Several national and international institutions calculated the social and environmental costs of coal power plants which varied from USD 0.009 to 0.039 per kWh annually depending on the technology and modelling. Price of emitted carbon is also calculated by different national and international Emission Trading Schemes (ETS) and estimation of the International Financial Institutions (IFIs).

Image-9

Local Women's Protest against Adani Godda Power Plant



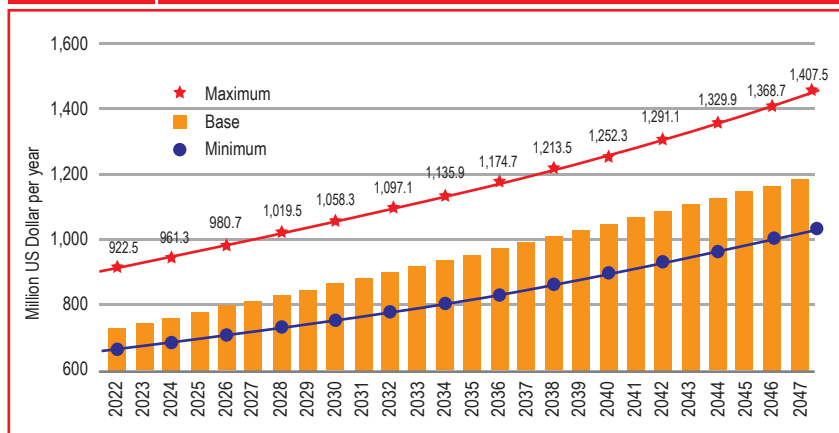
Photo: The Newsd (10 May 2017)

All of the pollutants emitted from coal fired power plants have significant impacts not only at the local level but also at regional level. According to the calculation of Shoibal Chakravarty & E. Somanathan, the environmental cost of coal power plants in India is USD 0.024/kWh (Chakravarty & Somanathan 2021). In addition to the environmental cost, the social cost is estimated at USD 0.015/kWh which includes health impacts, crop yield losses and material damage (Samadi 2017). The Conservation Action Trust (CAT) estimated the health cost as low as 0.009/kWh per annum (Goenka & Guttikunda 2015). Considering different research findings, the study team estimated the average social and

environmental cost of the Godda coal power plant as USD 0.036/kWh per annum.

The Godda coal power plant will generate 9.40 billion units of electricity annually and 234.91 billion units over its 25 year lifetime (Chapter 2.4) at the base scenario. In this case, the annual social and environmental cost of HAPs emitted from the Godda coal power plant would be USD 338.3 million (INR 2,582 crore). The cost could vary from USD 314.2 million (INR 2,398.3 crore) to USD 401 million (INR 3,061 crore) at the lowest and base scenario.

**Figure-7** Annual Price of Pollutants & CO<sub>2</sub> of Godda Power Plant



Source: Analysis of the Study Team

Considering the decreasing thermal efficiency rate and pollution control machineries (PCM), emission of HAPs will likely increase in the future. In a conservative approach, not counting the additional emissions, the lifetime social and environmental cost of the Godda coal power plant is estimated as USD 8.46 billion (INR 64,549.5 crore) according to the current price. The cost could vary from USD 7.86 billion (INR 59,958.1 crore) to USD 10.03 billion (INR 76,523.1 crore) in its lifetime.

The Asian Development Bank (ADB) started supporting Developing Member Countries (DMCs) to initiate carbon taxes and ETS according to its new Energy Policy (ADB 2021a) and recommends a rate of USD 25.00/ton of CO<sub>2</sub>, but warned that a higher price is required to limit

global warming to 2°C (ADB 2021b). According to the International Monetary Fund (IMF), the price should be USD 70.00 per tonne of CO<sub>2e</sub> to generate 2%-4% Gross Domestic Product (GDP) growth (IMF 2019). The European Bank for Reconstruction and Development (EBRD) determined the carbon shadow price at Euro 35.00 (USD 38.52) per tonne of CO<sub>2e</sub> for coal-fired power plants at the 2014 price (EBRD 2014) while the World Bank Group (WBG) recommended a price of USD 41-82/tonne in 2021 and USD 78-156/ton in 2050 (WBG 2017).

But the Intergovernmental Panel on Climate Change (IPCC) recommended a minimum price of USD 36.30 per tonne of CO<sub>2e</sub> (2016) which will increase 2% annually in real terms (ADB 2017). Simulating all of the institutional estimations, the price of CO<sub>2e</sub> per tonne would be 48.83 according to the 2021 price which may rise to 94.25 by 2047.

Annual emission of the Godda coal power plant is 8.0 Mmt CO<sub>2e</sub> (7.4 Mmt - 10.7 Mmt) which will gradually increase inversely proportional to fuel efficiency as per the estimation of the study team (chapter 5). The total lifetime emission is estimated as 221.2 Mmt, where the minimum emission could be 193.6 Mmt and maximum 277.7 Mmt.

Calculating the variable cost of carbon, the annual price of carbon of the Godda coal power plant is estimated as USD 391.4 million (INR 2,987.4 crore) per year, ranging from USD 363.53 million (INR 2,774.9 crore) to USD 521.46 million (INR 3,980.3 crore). Accordingly, the price of lifetime CO<sub>2</sub> emission from the power plant will reach USD 15.93 billion (INR 1,21,577 crore) according to the current price, and varies from USD 13.85 billion (INR 1,05,700 crore) to USD 19.86 billion (INR 1,51,620 crore).

Figure-7 shows the combined payables by the APL for social and environmental impacts of both HAPs and CO<sub>2</sub> of the Godda Coal Power Plant. Considering the impacts, APL is responsible to pay USD 729.64 million (INR 5,569.34 crore) on an average per year and USD 24.72 billion (INR 188,708.29 crore) in its lifetime to compensate for the damage of local, national and global environment.



adani

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW THERMAL POWER PROJECT  
GODDA

अडाणी पावर (झारखण्ड) लिमिटेड

2 X 800 MW तापीय विद्युत परियोजना  
गोड्डा





## RECOMMENDATIONS

Considering the social, environmental and economic risks of the Godda Coal Power Plant, the ideal situation is to dismantle the power plant as soon as possible. In addition to that,

1. It must be emphasised to the GOI that while a decade ago this may have been a positive arrangement to meet the energy needs of Bangladesh, currently it is a burden that future generations will not see this in good light;
2. **Both of the Governments should cancel the PPA and create a flexible supply regime for Renewable Energy (RE).** Since it involves commercial agreements, a joint committee can be formed to resolve any issues arising out of the change;
3. In the light of the statements made during COP-27, both GOB and GOI should explore ways of annulling the existing bilateral agreement and replacing an agreement in line with the Paris Agreement and Glasgow commitments;

Such an effort will enable both countries to exhibit their climate stewardship and will be a powerful demonstration to push the Annex-1 countries.



As the PPA cannot be cancelled unilaterally, GOB should start a negotiation with GOI for early retirement of the power plant without any additional financial burden on BPDB. Before the deal on early retirement, *the Government of Bangladesh*:

1. Must **impose a No Electricity No Payment (NENP) policy** on Adani Power (Jharkhand) Limited consistent with the new PPAs for Rental Power Plants and importing electricity;
2. Should circulate a rule of **cancelling capacity charge if the power plant fails to meet at least 42% efficiency and 50% plant load factor**;
3. Must instruct Adani Power Limited to supply **at least 15% electricity from RE sources by 2025 and 30% by 2030** in line with the Sustainable Development Goals (SDG) and Mujib Climate Prosperity Plan (MCCPP);
4. Should propose **importing only RE based electricity from neighbouring countries** keeping in mind that imported electricity will not cross 10% of the total generated power;
5. Must **force Adani Power Limited to comply with international human rights and environmental standards** on the ground;
6. Should **adopt Emission Standards (ES) and Human Rights Standards (HRS)** for imported products and services to ensure international standards in importing power from neighbouring countries.

As GOB is not in position of amending the PPA unilaterally, *the Government of India* must:

1. **Cancel all permissions of the Adani Godda coal power plant** to protect the indigenous and affected communities from consequences of emission and pollution;
2. **Try Adani Power Limited for human rights violation** and forceful acquisition of land and other natural resources;
3. **Compensate the affected indigenous people** with the same size

and quality of land and other resources they lost to the Godda Coal Power Plant;

4. **Withdraw all false court cases filed against the affected communities and Human Rights defenders (HRD).**
5. **Impose carbon tax on Adani Godda Coal Power Plant** at a rate defined by IPCC and other UN agencies;
6. **Force APL to provide financial resources as environmental and social damage compensation** which is not less than the estimation of the independent scientific and economic research findings.



Photo: AAP/Dave Hunt

Source: Rebecca Colvin, *The Conversation*: 24 March 2020





Photo: Deepanwita Gita Niyogi  
Source: *The Down to Earth* (1 November 2018)

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BWGED (Bangladesh Working Group on External Debt) is a flexible forum of progressive activists and organisations from different sects of the society in Bangladesh. The BWGED was primarily formed by NGO Forum on ADB in 2013 to ensure safeguards for the affected communities and human rights defenders from adverse impacts of IFI financed projects. Later, the Working Group has been expanded to broader community of civil society by including External Debt Issues in 2016. The principle document, Bangladesh Peoples Safeguard Position Paper, is endorsed by the members in early 2016.

BWGED and its members work on the issues of Environment & Climate, Energy & Power, Water & Agriculture and Large Infrastructure to protect environmental and human rights of the smallholders and natural resource dependent communities of Bangladesh.