

Unique Meghnaghat LNG Power Plant *Building on Fabricated Causes and Draining Bangladesh's Economy*



Executive Summary

The Unique Meghnaghat 584 Megawatt (MW) liquefied natural gas (LNG)-based power plant is being developed by Unique Meghnaghat Power Limited (UMPL), a Special Purpose Vehicle (SPV) of Unique Hotel and Resorts Limited (UHRL), GE Capital Global Energy Investments, Nebras Power Investment Management, and Strategic Finance Limited (SFL). The power plant is situated in Dudhghata, Korbanpur, and Chanderchak villages on the right bank of the Meghna River in Pirojpur Union under Sonargaon Upazila in Narayanganj District of Bangladesh.

After obtaining approval from the Cabinet Committee on 30 May 2018, UMPL signed a Power Purchase Agreement (PPA) with Bangladesh Power Development Board (BPDB) on 24 July 2019 for 22 years of operation from the Commercial Operation Date (COD). Titas Gas Transmission and Distribution Company Limited (TGTDC) signed another agreement on the same date to supply 96.192 million cubic feet (mmscf) of Domestic Fossil Gas (DFG) or LNG per day.

The initial budget of the project was BDT 4,368 crore (USD 515.7 million), of which BDT 3,276 crore (USD 386.8 million) loan was provided by four state-owned banks led by Agrani Bank Limited. The budget was recalculated as USD 503 million (BDT 4,225.2 crore) in March 2022. The budget was again recalculated as USD 613 million (BDT 6,320 crore) in November 2022. UMPL has not given any explanation for additional expenditure. Standard Chartered Bank (SCB) has been appointed as the Financial Advisor for the project.

In March 2022, UMPL applied for an additional loan of USD 30 million (BDT 285.33 crore) from the Infrastructure Development Company Limited (IDCOL), which is financed by the Asian Infrastructure Investment Bank (AIIB). AIIB included

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the project in its pipeline in February 2022 for another loan of USD 75 million (BDT 773.25 crore). The amount increased to USD 110 million on 30 November 2022. The project is scheduled to be approved in December 2022 with financing expected to start in the first quarter of 2023.

Key Findings

- The current capacity of the power sector of Bangladesh is 22,512 MW. The highest demand for electricity was 14,782 MW (16 April 2022), which means **7,730 MW, or 34.3% of the capacity was kept idle in 2022. This power plant will thus contribute to increasing the existing massive margin of overcapacity** (page 5);
- The current demand for fossil gas in the power sector is 2,197 million cubic feet per day (mmscfd) while Petrobangla is capable of supplying 964.9 mmscfd on average, which is 44% of the demand. Petrobangla is not in a position to supply the additional demand of 96.192 mmscfd of fossil gas for the project (page 8). So, the power plant will become another stranded asset, and the Bangladesh Government will have to pay an additional capacity charge for the project;
- The current price of DFG for the power sector is BDT 4.45 per cubic meter, while the price of LNG is BDT 27.08 per cubic meter. So, **the generation cost of electricity from the Unique Meghnaghat Power Plant will be at least BDT 19.10 (USD 0.21) per unit while the latest agreement for solar power was signed at a rate of BDT 6.37 (USD 0.07)**. The lack of fuel and the exorbitant fuel rates will create uncertainty about the cost and power supply of this power plant (page 8, 12);
- **The power plant could take BDT 905.64 crore (USD 87.84 million) as capacity charge annually, and BDT 43,024.92 crore (USD 1.93 billion in the variable exchange rate) in its lifetime.** To compare, the Government could build one more Bangabandhu Karnaphuli River Tunnel or another Dhaka Metro Rail with this amount of money (page 10);
- **The power plant will consume 6.875 cubic feet (cf) of gas to generate each unit (kWh) of electricity, which is the highest among the largest gas power plants and 61% higher than the Bibiyana-III combined cycle power plant** (page 9). As a result, **the power plant will emit 2-3 million tonnes of CO₂e annually and 47-66 million tonnes in its lifetime** which will put Bangladesh in serious carbon lock

against the Paris Agreement goals (page 11);

- According to the UMPL, the power plant is built on 21.07 acres of land taken from 343 landowners and 7 residents. But the total land taken by the power plant is at least 27.95 acres. It means **at least 6.88 acres (32.7%) of land is taken illegally. Out of the land area, at least 3.41 acres are taken from the Meghna river** (page 13);
- **The local landowners were cheated by the sponsors and lost at least BDT 96.22 crore (USD 11.24 million).** They were compelled to leave their land by taking an average rate of BDT 4.58 lakh (USD 5,354.11) per decimal while the power plant bought the land from sponsors at a rate of BDT 9.15 lakh (USD 10,686.76) per decimal (page 14); and
- The project would **undermine Bangladesh’s national agenda to shift towards 100% renewable energy (RE) by 2050 under the Mujib Climate Prosperity Plan (MCPPI),** acting as a clear barrier to this achievement given its technical lifespan will overshoot this timeline.

Key Demands

- Considering the environmental, social, and economic impact of the project, the **AIIB must withdraw Unique Meghnaghat Independent Power Plant (Meghnaghat IPP) urgently from the proposed list of AIIB projects** and decline on-lending to IDCOL for this project as part of its already approved loan to the IDCOL Multi-Sector On-Lending Facility (page 16);
- Focus further energy sector financing for Bangladesh on **developing decentralized RE so that the country can achieve 100% RE by 2050, as per its own Mujib Climate Prosperity Plan** (page 16);
- **Exclude funding for all fossil fuel projects, including gas projects,** from AIIB’s Paris alignment methodology (page 16);
- **Reevaluate the actual scenario of overcapacity, availability of fuels, the burden of the capacity charge, emission, and potential of RE** in Bangladesh (page 16); and
- **Publicly clarify whether the project is being considered for fast-tracking via provisions of the Accountability Framework** of the Bank (page 16).



Photo: Sarmin Akter Bristy/CLEAN

1. Background

The Unique Meghnaghat 584 Megawatt (MW) LNG-based power plant is being developed by UMPL, an SPV of UHRL, GE Capital, Nebras Power, and SFL ([UMPL 2022b](#)). According to the Environmental and Social Impact Assessment (ESIA) prepared by AECOM India, the project is sponsored by UHRL, GE Capital, and SFL ([UMPL 2022a](#)). The Asian Infrastructure Investment Bank (AIIB), a multilateral development bank (MDB) that is considering a USD 110 million loan to UMPL, included Nebras Power as one of the sponsors in its project documentation but notably dropped GE from this list without any clarification of the reason for such an omission ([AIIB 2022b](#)).

The power plant, which is already under construction, is situated in Dudhghata, Korbanpur, and Chanderchak villages on the right bank of the Meghna River in Pirojpur Union under Sonargaon Upazila in Narayanganj District of Bangladesh. The project site is only 17 km from the Southern part of Dhaka city, the capital city of Bangladesh and one of the most polluted cities in the world ([IQAir 2022](#)). The project is also only 4.5 km from Panam City which is an important heritage & archeological site in Bangladesh ([BTB 2022](#)).

In January 2018, UHRL proposed to build a 600 MW combined cycle power plant (CCPP) on a Build-Own-Operate (BOO) basis, bypassing the bidding process by taking advantage of the Quick Enhancement of Electricity and Energy Supply (Special Provisions) Act 2010 ([Dhaka Tribune 2018](#)). The Cabinet Committee for Government Purchase (CCGP) approved the proposal on 30 May 2018 ([Daily Star 2018](#)).



Consequently, BPDB issued a Letter of Intent on 25 June 2018 (FE 2018) and signed a PPA on 24 July 2019 for 22 years from COD. TGTDC, which is a subsidiary of Petrobangla, signed another agreement on the same date to supply 96.192 million cubic feet (mmscf) of DFG or LNG per day (UMPL 2022a, p61).

The initial budget of the project was BDT 4,368 crore (USD 515.7 million, when USD 1 = BDT 84.7) in which BDT 1,092 crore (USD 128.9 million) was equity and BDT 3,276 crore (USD 386.8 million) loan at a debt-equity ratio of 75:25 (UHRL 2021). The budget was recalculated as USD 503 million (BDT 4,225.2 crore) in March 2022 (UMPL 2022a, p76). The budget was again recalculated as USD 613 million (BDT 6,320 crore), as per AIIB's Project Summary Information (PSI) (AIIB 2022b). Neither UMPL nor AIIB documentation explains the additional expenditure.

The Agrani Bank Limited (ABL), a state-owned scheduled bank of Bangladesh, arranged BDT 3055.38 crore (USD 363.74 million) in cooperation with the other three state-owned Banks (TBS 2021a). According to the project website, Standard Chartered Bank (SCB) has been appointed as the financial advisor (UMPL 2022b).

UMPL has also applied to Infrastructure Development Company Limited (IDCOL) for a loan of USD 30 million, according to AIIB's project documentation for a loan of USD 200 million to IDCOL approved in March 2022 (AIIB 2022a). UMPL also applied for a loan of USD 75 million from the Bank - the concept note was approved in February 2020, the same time as the concept note for the loan to IDCOL (AIIB 2022c). The amount increased to USD 110 million on 30 November 2022 (AIIB 2022d). At that time AIIB added information that the project was scheduled for approval in December 2022, with financing expected to start from the first quarter of 2023 (AIIB 2022b). The detailed project proposal has not been disclosed,

likely due to the business secrecy of the private sector investment.

As the project is already under construction, it is not clear how/if the AIIB will manage, mitigate and respond to violations of its Environmental and Social Management Framework (ESMF) retrospectively. Furthermore, despite this project being classified by the AIIB as Category A, entailing high social and environmental risks, it appears it may be fast-tracked through an executive decision-making process that allows the AIIB's President to approve projects meeting certain criteria, bypassing the Board of Directors (note that whether or not the project will be subject to such a process is not publicly disclosed). As per the AIIB's Accountability Framework, if the project is proposed to be approved through this process, a member of the Board of Directors can call for it to be re-routed for Board consideration instead.

2. Does Bangladesh need this Power Plant?

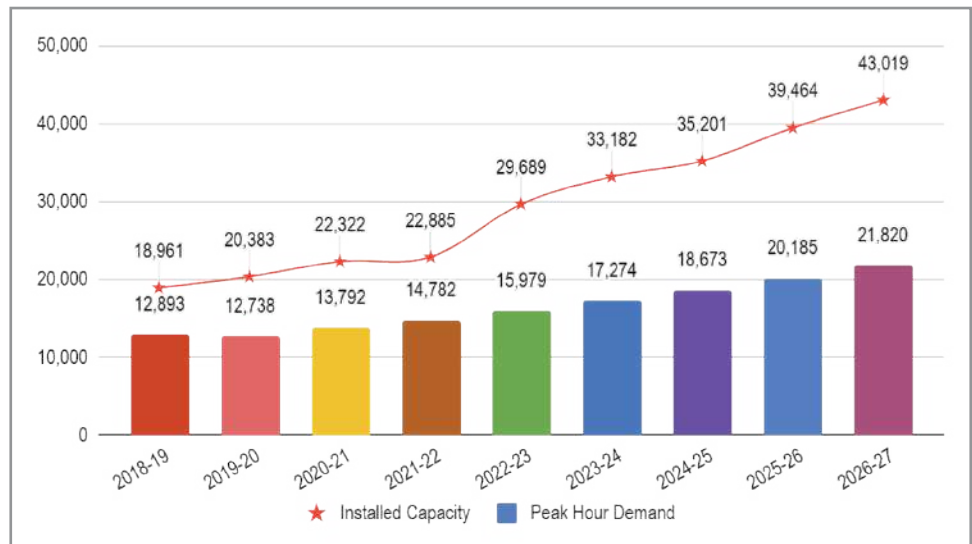
The project is being developed based on an outdated assumption that there would be 20,000 MW installed capacity in Bangladesh by 2021 and 40,000 MW by 2030 (UMPL 2022a, p2). However, in reality, the current capacity in the power sector of Bangladesh was 22,512 MW on 30 September 2022 (BPDB 2022b) and the maximum demand for power was 14,782 MW on 16 April 2022, which means 7,730 MW or 34.3% of the capacity was kept idle in 2022. Several fossil fuels (coal, fossil gas, and petroleum)-based power plants, will start commercial operation in 2023 which will add 25,840 MW to the national grid by 2027 (BPDB 2022a).

Overall, the total installed capacity will be 43,019 MW in 2027 (IEEJ 2022). On the other hand, average peak demand has been increasing at a rate of 8.1% per year. If this

The Unique Meghnaghat project under no circumstances address the needs of the people of Bangladesh. Bangladesh is experiencing serious level of overcapacity, and another gas bomb is not needed. The project will also lead to massive fossil fuel subsidies which will delay the country's transition to renewable energy and further cripple the debt ridden national economy. AIIB should not approve this project if it wishes to be perceived as a bank committed to upholding the SDGs and Paris agreement as a development partner for Bangladesh.

Rayyan Hassan
Executive Director
NGO Forum on ADB

Figure 1. Demand and Supply of Power in Bangladesh (2021-2027)



Source: Power Sector Progress Report, BPDB (November 2022)

rate is sustained, the electricity demand in the peak hours would be 21,820 MW by 2027. This means that 21,199 MW or 49.3% of capacity will be kept idle by that year (BPDB 2022b). So, the Unique Meghnaghat Power Plant will only contribute to increasing the percentage of stranded assets in the power sector of Bangladesh. As this will necessarily require money from national revenue (see the section below on capacity charges), it means currently underfunded sectors of education, health, environment, and national economic development will remain deprived of badly needed financial flows.

It is also significant that the development of the project is based on an erroneous assumption of 433 kWh per capita consumption of electricity (UMPL 2022a, p78). The actual figure was 426.24 kWh in fiscal year (FY) 2019-20 (BPDB 2020), which increased to 505.62 kWh in FY 2021-22 (BPDB 2022a). In reality, power consumption increases according to the purchasing power and the capacity of the Transmission and Distribution (T&D) system, when the country has enough generation capacity. That is why a significant portion of the generation capacity is kept idle in Bangladesh. Interestingly, UMPL's ESIA report claims that the "Sustainable Development Plan (SDP) of the Government of Bangladesh (GOB) has been blocked due to the erratic supply of electricity," (UMPL 2022a, p78) providing a highly inaccurate picture of the reality, as there are many other causes, none of which include electricity supply.

The ESIA report also alleged that the consequences of not implementing the project will create an undersupply of electricity which "would harm the sustainability of the already existing industrial production in the country as well as the impact upon the quality of life of those affected by the power outages" (UMPL

2022a, p78). This is also incorrect, as the country has been facing an overcapacity of around 35% - 40% since 2019 (Figure 1).

Bangladesh does not need new power generation projects to meet the current and near-future demands, especially those that lock in reliance on volatile, carbon-intensive fossil fuels. Instead, it is critical to phase out fossil fuel power plants by 2050, while all plans and building of new fossil fuel projects, yet to become operational, will need to be suspended if the country is to achieve the targets of the Mujib Climate Prosperity Plan (MCP) which promised to ensure 100% RE by the mid-century (MCP 2021).

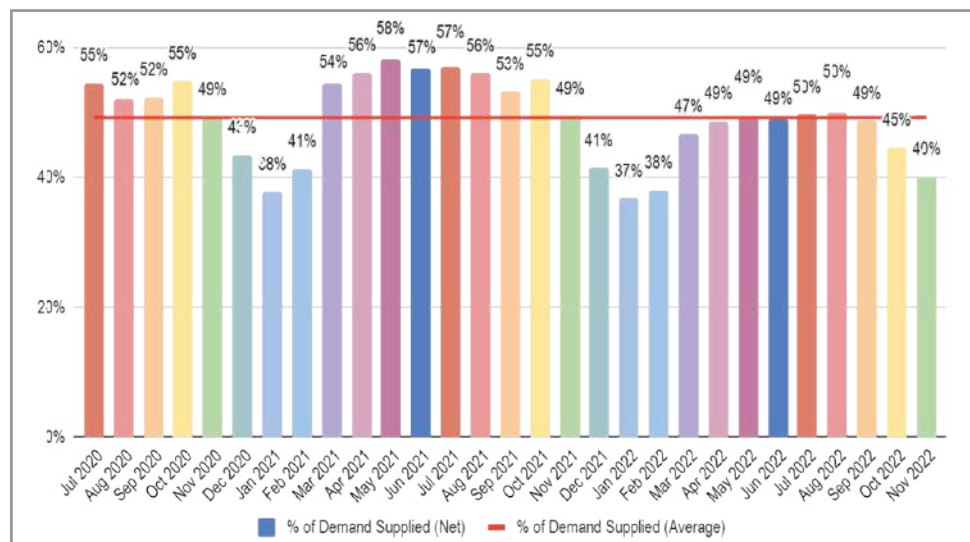
For the MCP to become a practical reality, the country requires massive investment to install RE based power plants, especially in the sub-sectors of solar and wind, not fossil fuels. This target should also rule out AIIB's support for the Unique Meghnaghat project, as according to its recently updated Energy Sector Strategy (ESS), AIIB commits to not support gas power if it is in conflict with "the achievement of a Member's climate policy and commitments".

3. Where is the fuel?

According to AIIB's PSI, Unique Meghnaghat is a gas-fired combined-cycle gas turbine (CCGT) plant (AIIB 2022b). However, it is important to note that according to the UPML's website, the ESIA, and the latest progress report and Annual Report of BPDB, the power plant will run on re-gasified LNG (BPDB 2022a; UMPL 2022b). There are differences between DFG and LNG in Bangladesh. The Bangladesh Oil, Gas and Mineral Corporation (Petrobangla) can supply 2,213 million cubic feet per day (mmscfd) DFG and 661 mmscfd of imported LNG on average (Petrobangla 2022a). In FY 2020-21, Petrobangla supplied DFG to the power sector at a rate of BDT 4.45 per cubic meter, while the price of LNG was BDT 27.08 per cubic meter. In this regard, it's important to recall that excessive fuel prices are passed on as excessive generation costs of electricity (See Figure 3).

The reserve of domestic gas fields is depleting very quickly. Currently, the proven reserve is 9304.53 billion cubic feet (bcf) and the annual supply of fossil gas is 1,055.5 bcf (Petrobangla 2022a, p69). So, the existing gas fields will only be able to supply fossil gas for the next 9 years or up to 2031. The power sector (including captive power

Figure 2.
Monthly Demand & Supply of Fossil Gas in the Power Sector (%)



Source: Daily Gas & Condensate Production and Distribution Report, Petrobangla

plants) requires 59% of the total gas supply in Bangladesh (Petrobangla 2022a, p30). The current demand for fossil gas in the power sector is 2,197 mmscfd but Petrobangla is capable of supplying only 964.9 mmscfd on average, which is 44% of the demand (Petrobangla 2022b). Since 2019, the gas supply to the power sector has been decreasing every month (Figure 2). In reality, there is no DFG to supply to the power plant.

Currently, Bangladesh has two private Floating Storage and Regasification Units (FSRU), or LNG Terminals, under operation with a capacity of offtaking 1,000 mmscfd (or 3.76 million tonnes) of LNG per year (Petrobangla 2022a, p27). In the past, Bangladesh acquired 2.5 million tonnes of LNG from Oman and Qatar under two Long term Agreements (LTA) and purchased one million tons from the spot markets. Only two power plants, Raozan 2X210 MW Power Plant,

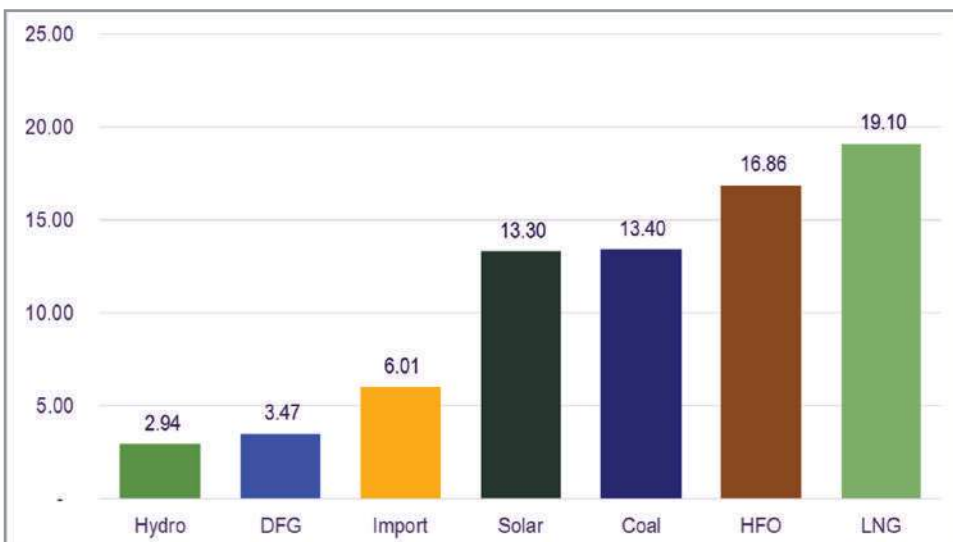
and Shikalbaha 225 MW Power Plant, were getting LNG from the national grid since most of the imported LNG was used by the fertilizer industry and paper mills. Since the Russian war against Ukraine began, the price of LNG started skyrocketing and Bangladesh stopped importing it from the spot market on 3 June 2022. As a result, the FSRUs are supplying a maximum of 462 mmscfd of LNG per day (Petrobangla 2022b).

In this context, there is no realistic possibility for the Unique Meghnaghat Power Plant to be supplied with the required 96.192 mmscfd of LNG from the national grid. In effect, the only logical conclusion is that it will become a stranded asset. This is also in conflict with AIIB's updated ESS, according to which AIIB should not fund gas power projects if they "create a risk for carbon lock-in or stranded assets."

4. Fuel Cost

The objective of the project, as per the AIIB's PSI, is to increase the availability of high-efficiency gas power generation capacity in Bangladesh to reduce the usage of the more polluting and expensive cost of power (AIIB 2022b). A recent analysis of the

power sector in the country based on the Annual Report of BPDB shows that electricity generated from LNG is expected to cost BDT 19.10 (USD 0.21) per kWh in 2023 (Preoty 2022) while generation cost from hydropower is expected to stand at BDT 2.94, followed by DFG (BDT 3.47), solar (BDT 13.30), coal (BDT 13.40) and Heavy Fuel Oil



Source: Annual Report 2021-22, BPDB and Secondary Data

Figure 3.
Electricity generation cost from different sources (per kWh)

(BDT 16.86) (BPDB 2022a). Importantly, BPDB will end up saddled with additional capacity charges if Petrobangla fails to supply adequate fuel for the power plant – which is inevitable, as illustrated above (see Figure 2). Thus, this project can be expected to supply the most expensive electricity, not the cheapest. In this regard, AIIB’s information on the cost of electricity generation in Bangladesh is based on faulty or outdated assumptions that require revising.

3-5% on average, increases the GHG emissions being directly released into the atmosphere. Unfortunately, both the AIIB and UMPL fail to factor in this key calculation.

Furthermore, there is no factual basis on which to claim the Unique Meghnaghat Power plant will be in any way highly ‘efficient’ once operational, despite claims to the contrary being included in the AIIB’s project objectives. The power plant will consume 96.192 mmscf of fossil gas every day (UMPL 2022a), meaning the power plant

Table 1. Gas Requirement of major Combined Cycle Power Plants in Bangladesh

Name of the Power Plant	Required Gas (total mmscfd)	Required Gas (mmscfd/MW)	Required Gas (cf/kWh)
Meghnaghat 584 MW Gas Power Plant (Unique)	96.19	0.165	6.875
Siddhirganj 335 MW Gas Power Plant (EGCBL)	55.00	0.164	6.841
Meghnaghat 335 MW Gas Power Plant (Summit)	55.00	0.164	6.841
Haripur 360 MW Gas Power Plant (Pendekar Energy)	55.00	0.153	6.366
Bibiyana-II 341 MW Gas Power Plant (Summit)	50.00	0.147	6.109
Siddhirganj 210 MW Gas Power Plant (BPDB)	30.00	0.143	5.952
Shahjibazar 330 MW Gas Power Plant (BPDB)	47.00	0.142	5.934
Ashuganj South 450 MW Gas Power Plant (APSCL)	62.00	0.138	5.741
Ashuganj North 450 MW Gas Power Plant (APSCL)	62.00	0.138	5.741
Bibiyana South 383 MW Gas Power Plant (BPDB)	43.00	0.112	4.678
Bibiyana-III 400 MW Gas Power Plant (BPDB)	40.00	0.100	4.167

Source: Daily Gas & Condensate Production and Distribution Report, Petrobangla

Factually, it is also important to acknowledge that LNG is a fossil fuel and in no way a ‘clean’ source of energy. It emits 665-707g of greenhouse gas (GHG) on average to generate every kWh (unit) of electricity in developed countries, such as Japan and the United States (Hondo 2005, Roman-White et al. 2019). Among the primary energy sources used in Bangladesh, Solar Photovoltaic (SPV) is the cleanest energy source followed by hydroelectricity and DFG. LNG contains a minimum of 85% of methane which absorbs at least 23 times more heat than carbon dioxide. Leakage of gas, which is

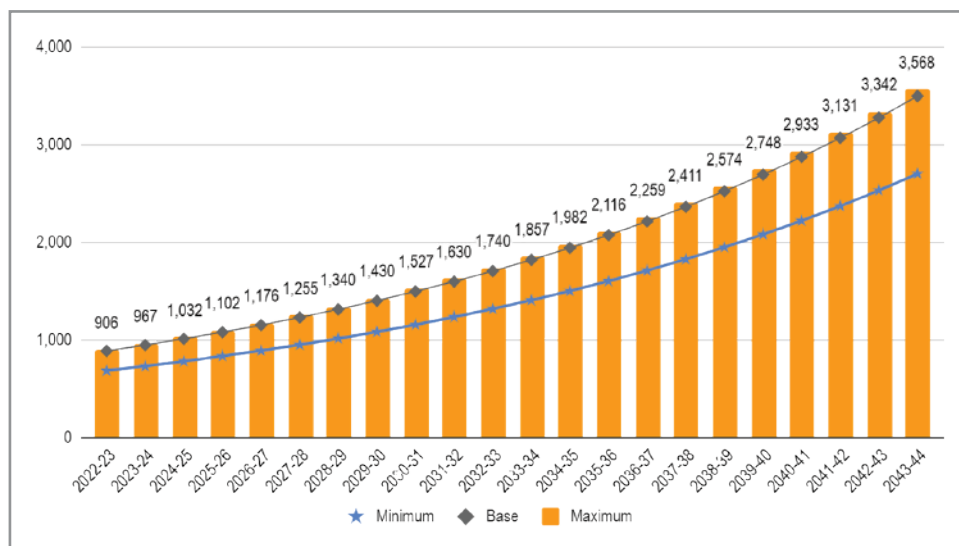
would require 0.1650 mmscfd per MW of capacity and 6.875 cubic feet (cf) to generate each unit of electricity. In reality, when compared to the top ten largest gas-based CCPPs in Bangladesh, this fuel usage requirement per unit of electricity stands out as the highest (Table 1).

According to the Daily Gas & Condensate Production and Distribution Report of Petrobangla, the Bibiyana-III Gas-fired Power Plant (sponsored by BPDB) requires the lowest amount of gas to generate electricity (4.167 cf per unit), followed by Bibiyana South 383 MW Gas Power Plant (4.678 cf), Ashuganj

North 450 MW Gas Power Plant (5.741 cf), Shahjibazar 330 MW Gas Power Plant (5.937 cf), Siddhirganj 210 MW Gas Power Plant (5.952 cf), Summit Bibiyana-II 341 MW Gas Power Plant (6.109 cf), Haripur 360 MW Gas Power Plant (6.366 cf) and EGCBL Siddhirganj 335 MW Gas Power Plant (6.841 cf).

Taken together, this means that the calculations related to projected emissions and the claims of efficiency do not match up-to-date evidence-based data, making it impossible to draw factually correct conclusions.

Figure 4.
Annual Capacity Charge
of Unique Meghnaghat
Power Plant (BDT Crore)



Source: Daily Gas & Condensate Production and Distribution Report, Petrobangla

5. Capacity Charge

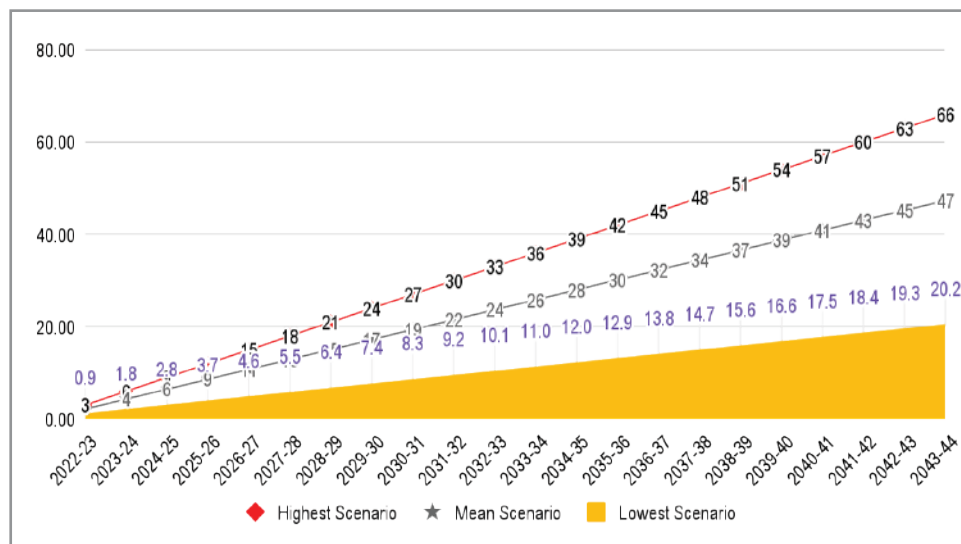
According to the project’s ESIA report, the power plant will run on a 90% Plant Availability Factor (PAF) and 84.6% Plant Load Factor (PLF) (UMPL 2022a, p44). BPDB will pay USD 0.020296 (BDT 2.09 when USD 1 = BDT 103.10) per kWh as a capacity charge for the next 22 years, as per the PPA signed between BPDB and UMPL. The power plant would generate 4,328 gigawatt-hour (million units) of electricity per year and 95.22 tWh in its lifetime. If the power plant runs on declared PAF, the capacity charge would be BDT 905.64 crore (USD 87.84 million) in the first year of operation, which will reach BDT 3,567.58 crore in the last year of operation. In this case, the sponsors will recover their total investment within seven years of operation.

In the lifetime of the power plant, the sponsors will get BDT 43,024.92 crore (USD 1.93 billion in the variable exchange rate) as the capacity charge. In contrast, within the context of infrastructure development in the

country, this amounts to two-thirds of the budget for building the entire Dhaka Metro Rail Line project (UNB 2021) and 37% higher than the Bangabandhu Karnaphuli River Tunnel (TBS 2021b).

An example of how large gas-power plants create a burden on the national economy, AIIB Management, and Board members need to look no further than the Bhola Independent Power Plant. In 2018, the Bank provided a loan of USD 60 million to Nutan Bidyut Bangladesh Limited (NBBL), a subsidiary of Indian conglomerate Shapoorji-Pallonji Group, for implementing Bhola 225 MW Gas-based Power Plant (AIIB 2018) which declared COD on 9 June 2021 (BPDB 2022b). In the last one and a half years, the power plant generated 1,814.43 million units of electricity, which were sold to BPDB for BDT 525.78 crore (USD 55.56 million), of which BDT 359.81 crore (USD 38.13 million) or 69% of the total payment was the capacity charge (BPDB 2021, BPDB 2022a).

Figure 4.
Cumulative Emission of
Unique Meghnaghat
Power Plant
(million tonnes)



Source: Analysis of the Study team basis on the ESIA Report and Secondary Data

“Unique Meghnaghat is the first project AIIB labels as Paris aligned, but on dubious grounds. The International Energy Agency (IEA) calls for a ‘huge decline’ in fossil fuels to reach the Paris goal of limiting global warming to 1.5C. How can AIIB rule out viable renewable energy options in Bangladesh in favour of a greenfield gas project - this is not only against the Paris Agreement, but also AIIB’s own new energy strategy.”

Petra Kjell Wright
 Campaigns Manager
 Recourse

6. Emission and the Paris Alignment

AIIB has a target date of 1 July 2023 for all of its operations to be aligned with the Paris Agreement on climate change. In the PSI, AIIB claimed that the power plant is aligned with the Paris agreement, however, this is a dubious claim that is problematic on several levels. Firstly, AIIB has not yet made its Paris alignment methodology public, hence it is unclear how they are coming to this conclusion. This is the first project AIIB has officially labeled as ‘Paris aligned’.

Secondly, by labeling a greenfield fossil gas power plant as ‘Paris aligned’ AIIB risks fundamentally undermining what this means not only for AIIB itself but for all other MDBs as well since the individual MDB Paris alignment methodologies are supposed to build on a joint MDB framework. Fossil gas projects cannot be considered in line with the Paris Agreement’s aspiration to limit global warming to 1.5°C, not the least a greenfield project with a 20-30 year time span.

In the concluding argument for why this project is ‘Paris aligned’, AIIB claims that “the Project is net positive in terms of overall CO_{2e} reduction over the life of the project.” According to AIIB, one of the reasons for this is that the power plant is “equipped with GE 9HA.01 class gas turbine, which is one of the most efficient turbines globally and in the country (up to ~64% net efficiency)”. It also estimates that the emission factor of Meghnaghat IPP is 335.66g of CO_{2e} per kWh (AIIB 2022b). But the fossil gas consumption, as shown in the ESIA report, is one of the highest amounts among all of the CCPPs in Bangladesh (see Table 1), meaning the AIIB’s calculation of emissions is not only questionable but lacking in any clear scientific credibility.

Actual CO_{2e} emissions depend on the electricity generation, which is based on the PLF of the power plant and level of efficiency. According to the analysis of three scenarios (Highest, Lowest, and Mean), calculated based on the declared efficiency and amount of fuel, the power plant could emit a minimum of 0.92 and a maximum of 3.0

million tonnes of CO_{2e} in the atmosphere per year. Accordingly, if it were to become operational, the power plant would emit a minimum of 20.23 and a maximum of 66.04 million tonnes of CO_{2e} over the course of the agreed-upon term of 22 years according to the PPA

7. Potential of RE in Bangladesh

To further prove the project is Paris aligned and thus the necessity of Unique Meghnaghat IPP, the AIIB references erroneous information on the potential of RE in Bangladesh and associated costs. In the PSI, the AIIB simply dismisses the case for investing in RE in favor of gas, referring to, “scarcity of land, high renewable energy tariffs, variability of renewable energy, weak institutional capacity, limited renewable energy resources potential, limited grid network capacity and the relatively high initial cost of setting up renewable energy plants are among the obstacles to implementing large-scale, on-grid renewable energy projects” (AIIB 2022b). Notably, the AIIB does not include any analytical studies to back up these claims, instead, it seems to be based on assumptions with no factual basis.

Bangladesh does not have any scarcity of land for RE. According to the draft National Solar Energy Roadmap 2021-2041 (NSER) the country has enough land for installing 20,000 - 30,000 MW of solar energy (SREDA 2021). The country has 575,936 acres of Khas Land (state-owned land) on which at least 100,000 MW of Solar Photovoltaic Power Plants could be installed (Mehedi et al. 2022). According to the study report of the United States National Renewable Energy Laboratory (NREL), the country has the potential of installing 30,000 MW of wind energy (Jacobson et al. 2018). The AIIB ignored all of this credible research and policies of Bangladesh.

The tariff of RE is indeed comparatively higher in Bangladesh than in the neighboring countries (i.e. India). But the tariff is still lower than any other fossil fuel except DFG and it is decreasing at a rate of 12% per year. The latest PPA was signed with Rangunia Solar Power Limited at a rate of USD 0.07 per unit. Increasing investment, available finance, and competition based on reverse auctions can dramatically reduce the tariff of RE in the country. RE (i.e. Solar or Wind) can only supply intermittent power. So, variability is an integral part of the RE system. A smart grid is necessary to ensure 100% RE in any country. But the traditional grid can accept at least 10% of intermittent power. As per current capacity, the national grid of Bangladesh can offtake at least 19% of RE in the T&D system. It means at least 4,275 MW of Solar or Wind energy projects could be taken and implemented in the current scenario.

In conclusion, there are no obstacles to installing RE-based power plants in Bangladesh, meaning that it appears the AIIB is prepared to finance UMPL without a clear, evidence-based analysis of the actual power sector scenario, which is in violation of its updated ESS. As an MDB relying on public finance, AIIB should proactively support the transition from fossil fuels to RE in borrowing member countries, taking clear measures to avoid perpetuating business as usual (BAU) investments in fossil gas or promoting the development of projects that are destined to become stranded assets by labeling them as Paris-aligned without any actual valid rationale.

8. Land Acquisition



Image 1.
Land Grabbed by
Unique Meghnaghat
Power Plant

Source: Google Map (as of 29 April 2022)

According to initial reports, UHRL and SFL purchased 18.75 acres of land from the local inhabitants (Daily Star 2019). But the total area of the project, as per the ESIA report, is referred to as 21.07 acres, of which 19.02 acres are agricultural land and 2.05 acres are homestead (UMPL 2022a, p93). However, by using data from Google Earth on 29 April 2022, it is evident that the Meghnaghat 600 MW CCPP has taken at least 27.95 acres of land on the bank of the Meghna river, which is 6.88 acres higher than the land purchased by the sponsors. At least 3.41 acres have been taken from the Meghna river and the other 3.47 acres are either Khas Land (state-owned land) or owned by the local inhabitants. In addition to that, the power plant grabbed 0.33 acres of land for three jetties in the Meghna River.

According to the ESIA, the land was purchased from 343 landowners and 7 residents based on a 'willing buyer and willing seller' (WBWS) exchange (UMPL 2022a, p189). In Bangladesh, WBWS is considered by many as a tactic to deprive the small and marginal farmers of getting a justified price for the land, as evidenced by the case of Bhola IPP (Mehedi et al. 2018). There are no legal provisions guiding a WBWS process under national law. According to the Acquisition and Requisition of Immovable Property Act 2017, if the land is acquired by a private entity the landowners are entitled to get paid 300% over the market price (MOLJPA 2017).

Based on a review of the UHRL's Annual Report, it is evident that the local people did not receive fair compensation in exchange for their land, which was not valued at current market rates, let alone at adjusted rates to take into consideration the implied long term

losses to family income that could have been generated through the use of the land.

As per the report, UHRL bought 1,032.61 decimals of land from the local people by paying BDT 47.34 crore (USD 5.53 million when USD 1 = BDT 85.62) at an average rate of BDT 4.58 lakh (USD 5,354.11) per decimal. The company sold the land to UMPL for BDT 94.48 crore (USD 11.04 million) at a rate of

BDT 9.15 lakh (USD 10,686.76) per decimal (UHRL 2021). Similarly, SFL transferred 1074.75 decimal lands against BDT 98.34 crore (USD 11.49 million) at the same rate. Rather than getting paid over the market price, the local landowners lost at least BDT 96.22 crore (USD 11.24 million) in this transaction.



Image 2.
The wall of UMPL
extended in the
Meghna River

Photo: Sarmin Akter Bristy/CLEAN

9. Violation of Human Rights

UMPL started landfilling and construction works before getting environmental clearance from the Department of Environment (DOE). While discussing with the inhabitants of Dudhghat village, 93% of the respondents told the study team that they did not know about the power plant before the construction works started. UMPL started landfilling and construction works of the power plant even before constructing any boundary wall. The piled sand breached the adjacent areas and covered the agricultural lands of the local inhabitants. As a result, the local farmers have not been able to cultivate any crops since 2019.

The power plant took the land which was used as grazing land for the livestock of local

people. So, the cowsheds of the area have become empty in the last two years. The local people used to bathe, wash their clothes, and fish in the Meghna river. After UMPL built a boundary wall to the power plant, the local inhabitants, including the women, have to walk approximately one km to get access to the river.

UMPL also harassed local inhabitants into leaving their land, while polluting the local environment. In one example, UMPL started filling the surrounding lands of Abdul Malek Bhuiyan (62)¹ at midnight without any prior notification. He and his family members protested the illegal work. Subsequently, goons allegedly appointed by UMPL beat up his son, Kalam (23). During piling works, they felt like an earthquake was happening. Due

to the heavy construction work on the power plant, the floors of his house are now cracked and have become weak, but he has not received any compensation for his loss. The family will have to leave the area as it is impossible to live by the boundary wall of the power plant.

Image 3.
Breached Sand on
the Agricultural
Land outside
the Boundary



Photo: Hasan Mehedi/CLEAN

10. Grievance Redressal

Access to a Grievance Redress Mechanism (GRM) is an integral part of the accountability mechanism of the AIIB. Disclosure of the project documents, including the Environmental and Social Management Plan (ESMP) and GRM, in locally understandable language, is mandatory according to the Project-affected Peoples Mechanism (PPM) of the Bank. Based on study visits undertaken to the site in April 2022 by the Bangladesh Working Group on External Debt (BWGED), it was easily apparent that no Complaint Box existed at the main gate of the power plant or in the directly surrounding area. There was also no information board about the GRM in the villages around the site.

¹ Pseudonyms are used for the safety of the community members as per Community Safety Policy of the Bangladesh Working Group on External Debt (BWGED)

According to the project's ESMP, an 11-member Grievance Redressal Committee (GRC), chaired by the General Manager (Site) of UMPL had been formed. It is claimed that the committee includes three community representatives: (i) the Chairman of Pirojpur Union (who is the very same person accused by the affected communities of carrying out retaliatory measures); (ii) a Ward Member from Dudhghata Village under Pirojpur Union; and (iii) a female Ward Member from Dudhghata Village under Pirojpur Union. However, it appears this committee may exist on paper only. For example, the female member has testified to local civil society groups that she did not know anything about the committee, and in fact, believes that it is possible her name was added without her being informed or consenting.

11.Demands

As a post-Paris Agreement MDB, the AIIB has a clear responsibility to support its member countries to achieve the goal of 1.5°C by 2050. The AIIB has set a target date of 1 July 2023 for all of its operations to be aligned with the Paris Agreement on Climate Change. The average lifetime of a fossil fuel-based power plant is 25-30 years. So, if a power plant comes into operation by 2023, it will not be phased out by 2050. Therefore, approving more fossil fuel projects will fundamentally undermine the implementation of the Paris Agreement. The findings of this report clearly show that there is no room for the Unique Meghnaghat Power Plant under the Paris Agreement. More broadly, it is one concrete example of why the AIIB must unequivocally exclude all fossil fuel projects from its Paris alignment methodology. It also provides compelling evidence of the risks related to the fast track process for approving projects under the Accountability Framework.

Specifically, in relation to the proposed financing for the Unique Meghnaghat CCGT, we are calling on the AIIB to:

- 1 Withdraw Unique Meghnaghat Independent Power Plant (Meghnaghat IPP) urgently from the proposed list of AIIB projects.
- 2 Decline on-lending to IDCOL for this project as part of the IDCOL Multi-Sector On-Lending Facility.
- 3 Focus further energy sector financing for Bangladesh on developing decentralized RE so that the country can achieve 100% RE by 2050, as per its own Mujib Climate Prosperity Plan (MCPPI).
- 4 Exclude funding for all fossil fuel projects, including gas projects, from its Paris alignment methodology.
- 5 Add Category A high-risk projects to the list of restrictions for fast-tracking projects through the Accountability Framework.

Considering the urgency of the issues at hand, we are further calling on AIIB Board Members to:

- 1 Request management to publicly clarify whether the project is being considered for fast-tracking via provisions of the Accountability Framework of the Bank.
- 2 Call for the project to be discussed at the next board meeting for reevaluating the actual scenario of overcapacity, availability of fuels, the burden of the capacity charge, emission, and potential of RE.
- 3 Raise specific questions to find out why evidence-based data related to the project's stated objectives and planned operations are not only missing but appear to have been ignored;
- 4 Urge the project to be withdrawn from the AIIB's pipeline of projects, on the basis that it clearly undermines national ambitions to reach reliance on 100% RE by 2050, risks contributing to carbon lock-in, and is already expected to become a stranded asset before it even reaches commercial operating date. This is also against the principles of the updated ESS.
- 5 Call on AIIB management to publicly disclose and consult on AIIB's Paris alignment methodology.

Acronyms

ABL	Agrani Bank Limited	IDCOL	Infrastructure Development Company Limited
AIIB	Asian Infrastructure Investment Bank	IEEJ	The Institute of Energy Economics, Japan
APSCCL	Ashuganj Power Station Company Limited	IPP	Independent Power Producer
BAU	Business as usual	kWh	Kilowatt-hour (unit of electricity)
bcf	Billion cubic feet	LNG	Liquefied Natural Gas
BDT	Bangladesh Taka	LOI	Letter of Intent
BOD	Board of Directors	LTA	Long-term Agreements
BOO	Build-Own-Operate	MCPPP	Mujib Climate Prosperity Plan
BPDB	Bangladesh Power Development Board	MDB	Multilateral Development Bank
CCGP	Cabinet Committee on Government Purchase	mmscfd	Million metric standard cubic feet per day
CCGT	Combined-cycle Gas-turbine (power plant)	MW	Megawatt
CCPP	Combined-cycle Power Plant	NREL	National Renewable Energy Laboratory
CO ₂ e	Carbon Dioxide equivalent	NSER	National Solar Energy Roadmap 2021-2041
COD	Commercial Operation Date	PAF	Plant Availability Factor
DFG	Domestic Fossil Gas	PLF	Plant Load Factor
DOE	Department of Environment	PPA	Power Purchase Agreement
EGCBL	Electricity Generation Company of Bangladesh Limited	PPM	Project-affected Peoples Mechanism
ESIA	Environmental and Social Impact Assessment	PSI	Project Summary Information
ESMF	Environmental and Social Management Framework	SCB	Standard Chartered Bank
ESMP	Environmental and Social Management Plan	SDP	Sustainable Development Plan
ESS	Energy Sector Strategy	SFL	Strategic Finance Limited
FSRU	Floating Storage and Regasification Unit	SPV	Special Purpose Vehicle
GE	General Electric	SREDA	Sustainable and Renewable Energy Development Authority
GHG	Greenhouse Gas	T&D	Transmission and Distribution
GRC	Grievance Redressal Committee	TGTDCL	Titas Gas Transmission and Distribution Company Limited
GRM	Grievance Redress Mechanism	tWh	Terrawatt-hour (billion units of electricity)
gWh	Gigawatt-hour (million units of electricity)	UHRL	Unique Hotel and Resorts Limited
HFO	Heavy Fuel Oil	UMPL	Unique Meghnaghat Power Limited
		USD	United States Dollar
		WBWS	Willing Buyer and Willing Seller

Reference

- AIIB 2018. Project Summary Information (PSI): Bangladesh Bhola IPP. Asian Infrastructure Investment Bank (AIIB): 12 February 2018
- AIIB 2022a. Project Document: IDCOL Multi-Sector On-Lending Facility. Asian Infrastructure Investment Bank (AIIB): 8 March 2022
- AIIB 2022b. Project Summary Information: Unique Meghnaghat IPP. Asian Infrastructure Investment Bank: 24 November 2022
- AIIB 2022c. Bangladesh: Unique 584 MW Combined Cycle Power Plant. Asian Infrastructure Investment Bank (AIIB): Accessed on 30 November 2022
- AIIB 2022d. Bangladesh: Unique Meghnaghat IPP. Asian Infrastructure Investment Bank (AIIB): Accessed on 30 November 2022
- BPDB 2020. Annual Report 2019-2020. Bangladesh Power Development Board (BPDB): 15 October 2020
- BPDB 2021. Annual Report 2020-21. Bangladesh Power Development Board (BPDB): 14 October 2021
- BPDB 2022a. Annual Report 2021-22. Bangladesh Power Development Board (BPDB): 27 November 2022
- BPDB 2022b. Power Sector Progress Report: November 2022. Bangladesh Power Development Board (BPDB): 23 November 2022
- BTB 2022. Panam City: Beautiful Bangladesh. Bangladesh Tourism Board (BTB): Accessed on 9 December 2022
- Daily Star 2018. "Consortium led by Unique Hotel to set up 600MW power plant". *The Daily Star*: 31 May 2018
- Daily Star 2019. "Unique Meghnaghat to build 584MW plant". *The Daily Star*: 25 July 2019
- Dhaka Tribune 2018. "GE Power to develop the Meghnaghat power plant". *The Dhaka Tribune*: 2 October 2018
- FE 2018. "Consortium led by Unique Hotel to develop 584-megawatt power plant". *The Financial Express*: 28 June 2018
- Hondo, Hiroki 2005. Life cycle GHG emission analysis of power generation systems: Japanese case. *ELSEVIER Energy*, Vol. 30, Issue 11-12, P 2042-2056: August-September 2005
- IQAir 2022. World Air Quality Report 2021. IQAir: 24 March 2022
- Jacobson, M., Draxl, C., Jimenez, T., O'Neill, B., Capozzola, T., Lee, J.A., Vandenberghe, F., & Haupt, S.E. 2018. Assessing the Wind Energy Potential in Bangladesh. National Renewable Energy Laboratory (NREL): September 2018
- MCPP 2021. Mujib Climate Prosperity Plan (MCPP): Decade 2030. Global Center on Adaptation (GCA), Climate Vulnerable Forum (CVF), IDCOL, AROHA, ILO, IRENA, Climate Analytics, ICCCAD and MCII: September 2021
- Mehedi, H., Hossain, M.S. & Alam, S.M.M. 2018. Bhola Independent Power Plant (Bhola IPP) and its Impact on Local Communities: Voices from the Ground: A Civil Society Study Report. CLEAN (Coastal Livelihood and Environmental Action Network): September 2018
- Mehedi, H., Bristy, S.A., Halder, K., Khan, S. & Akram, N. 2022. "Energy Data Management: Challenges in Bangladesh". *BWGED*: December 2022
- MOLJPA 2017. Acquisition and Requisition of Immovable Property Act 2017 (Bangla). Ministry of Law, Justice and Parliamentary Affairs (MOLJPA): 21 September 2017
- Petrobangla 2022a. Annual Report 2021. Bangladesh Oil, Gas and Mineral Corporation (Petrobangla): 14 October 2022
- Petrobangla 2022b. Daily Gas & Condensate Production and Distribution Report. Bangladesh Oil, Gas and Mineral Corporation (Petrobangla): 30 November 2022
- Preoty, Helen Mashiyat 2022. Economic and Environmental Risk of Liquefied Natural Gas

(LNG) in Bangladesh. Centre for Policy Dialogue (CPD): September 2022

Roman-White, S., Rai, S., Littlefield, J., Cooney, G. & Skone, T.J. 2019. Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States: 2019 Update. National Energy Technology Laboratory (NETL): 12 September 2019

SREDA 2021. Draft National Solar Energy Roadmap 2021-2041. Sustainable and Renewable Energy Development Authority (SREDA): December 2021

TBS 2021a. "Four state banks sign syndicate project loan facility agreement". *The Business Standard (TBS)*: 16 June 2021

TBS 2021b. "Karnaphuli tunnel excavation to end before the deadline". *The Business Standard (TBS)*: 6 October 2021

UHRL 2021. Annual Report 2020-21. United Hotel and Resorts Limited (UHRL): 2 December 2021

UMPL 2022a. ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh. Unique Meghnaghat Power Limited (UMPL): March 2022

UMPL 2022b. All about UMPL: Who We Are. Unique Meghnaghat Power Limited (UMPL): Accessed on 11 December 2022

UNB 2021. "Bangladesh Braces to Finish Dhaka Metro Rail Project". *The UNB News*: 13 June 2021

Expected citation

Mehedi, H., Bristy, S.A., Alam, S.M.M, Khan, S. & Akram, N. 2022. Unique Meghnaghat Power Plant: Building on Fabricated Causes and Draining Bangladesh's Economy. BWGED in association with CLEAN, Recourse and NGO Forum on ADB: December 2022

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