

Carmichael Coal Is Not Reducing Poverty in South Asia

High Cost of Coal Is Adding Pressure for Power Tariff Hikes in Bangladesh

Executive Summary

During the Carmichael coal mine's protracted development phase, backers of the Queensland project often stated that the project was needed to help people out of poverty in South Asia. This was merely coal industry spin. If anything, it is doing the exact opposite.

Adani's Godda power plant in Jharkhand state, India, is about to start burning coal from the Carmichael mine and exporting power to Bangladesh. It has recently been reported that the tariff for power sold from the Godda plant to the Bangladesh Power Development Board (BPDB) will be almost double the initial expectation at around US\$150/MWh.

The first unit of the Godda coal plant will begin operating at the end of a year in which Bangladesh's growing reliance on expensive fossil fuels has led to power blackouts and growing pressure to increase consumer power tariffs significantly. School and office hours have been cut during the year to curb rising fuel costs.

Some commentators in Bangladesh have maintained that the addition of coal-fired power will improve the situation. But at a cost of US\$150/MWh, power from the Godda plant — fuelled by Carmichael coal — will be two and a half times the price at which the BPDB sells power to distributors.

The huge gap in price at which the BPDB buys and sells power has to be covered by government subsidies that are becoming increasingly unaffordable and which will lead to the need to increase power tariffs significantly to transfer the burden onto consumers.

This process has already started. In November 2022, the tariff at which the BPDB sells power to distributors was increased 20% and the power distribution companies are now submitting proposals to increase retail tariffs by the same amount.

The tariff for power sold from the Godda plant to the Bangladesh Power Development Board will be almost double the initial expectation.

This was all very predictable. The growing burden of fossil fuel imports has been putting Bangladesh's power system under growing financial strain for years and IEEFA has been warning that this will lead to the need for higher power tariffs.

The cost of BPDB's power purchases from independent power producers (IPPs) rose 58% in FY2020-21. For the first time, the cost of power purchases from IPPs represented more than 50% of the BPDB's total operating expenses. In FY2021-22, the IPP cost rose another 77% to reach US\$4.8 billion.

The Payra coal-fired power plant — the first new plant to be completed in Bangladesh to be fuelled by imported coal — was the largest single contributor to the increase in BPDB's IPP costs across FY2020-21 and FY2021-22. The cost of power from the Payra plant was US\$134/MWh in FY2021-22.

In December 2022, it was reported that the Payra coal plant was struggling to find the U.S. dollar funds it needs to pay for coal imports and repay loans with some payments already missed. The plant reportedly has US\$95 million in unpaid coal imports bills as at November 2022.

It was also known years ago that power from the Godda plant would be expensive. Despite the fact that the power plant sits in India's biggest coal mining state, coal is being imported from Carmichael and railed 700km from port to plant. The full cost of this is being passed onto Bangladesh. The plant will receive capacity payments reportedly up to US\$30 million per month even if it is not utilised.

The Adani Godda coal power plant will add to the growing cost of power purchases from IPPs, adding to the worsening financial pressure that the BPDB finds itself under. The BPDB has not paid IPPs since May 2022 and currently owes them five months of payments amounting to US\$2.5 billion.

The commencement of electricity exports by Adani will only add to the growing economic burden on the Bangladesh government and to rising pressure to shift that burden onto consumers via power tariff increases.

The cost of fossil fuel imports has eroded Bangladesh's foreign exchange reserves and contributed to rising inflation, a widening current account deficit and slowing growth. Credit rating agency Moody's placed Bangladesh under review for a downgrade in early December 2022, citing its rapidly declining foreign exchange reserves driven by rising costs for energy imports.

With full access to electricity announced by the Prime Minister of Bangladesh in March 2022, the key power issue for Bangladesh's development is no longer access but quality and cost of generation and supply.

Increasing power tariffs to unaffordable levels will clearly hinder, not help, Bangladesh's development.

Bangladesh will need to focus more on renewable energy going forward if it wants to limit the burden of fossil fuel imports and increase energy security.

Back in Australia, it is even clearer now that the Godda power plant deal with Bangladesh was aimed primarily at propping up the development of the Carmichael coal mine.

The original plan for Godda was to use local coal mined in Jharkhand state. The plan was later changed to use Carmichael coal and lock the BPDB into a power purchase agreement that allows Adani to import coal into an Indian coal mining state from Australia and pass the full cost onto Bangladesh.

In a recent interview with the *Financial Times*, Adani Group Chairman Gautam Adani admitted that with hindsight he would not have developed the Carmichael coal mine given the intense opposition to the project.

If consumer power tariffs are forced up due to growing dependence on imported fossil fuel projects like the Godda coal power plant, the people of Bangladesh are likely to regret it too.

Increasing power tariffs to unaffordable levels will clearly hinder, not help, Bangladesh's development.

Introduction

The first unit of Adani's Godda coal-fired power plant in Jharkhand state, India, will begin exporting power to Bangladesh from 16 December 2022.¹ The plant is to be fuelled by coal from the Carmichael mine in Queensland, Australia.

It has recently been reported in Bangladesh that the tariff for power sold from the Godda plant to the Bangladesh Power Development Board (BPDB) will be almost double the initial expectation, now at around US\$150/MWh.²

During the Carmichael coal mine's protracted development phase, backers of the Queensland project often stated that it was needed to aid development and help people out of poverty in South Asia.^{3, 4, 5}

The very high price for power from the Adani Godda plant strongly suggests otherwise and comes at the end of a year in which the growing financial pressure on Bangladesh's power system, caused by the nation's growing dependence on expensive fossil fuel imports, came to a head.

Context: Rising Financial Pressure on Bangladesh's Power System

In March 2022, Prime Minister Sheikh Hasina announced that Bangladesh had reached full electricity access in the country with every home now connected to power.⁶ This follows significant progress on increasing electricity access in Bangladesh over the last few decades. Access had reached 96% by 2020 according to the World Bank.⁷ The key power issue for Bangladesh's development is no longer access but quality and cost of generation and supply.

With domestic gas supplies dwindling, the growing burden of fossil fuel imports has been putting Bangladesh's power system under growing financial strain for years and IEEFA has been warning that this will lead to the need for higher power tariffs.⁸

The burden of capacity over-expansion based on imported fossil fuels threatens to overwhelm the financial status of the Bangladesh Power Development Board (BPDB). BPDB's operating loss doubled in FY2020-21, driven by a very significant rise in the cost of electricity purchases from independent power plants (IPPs),

¹ The Daily Star. [800MW to come from Adani Godda plant from Dec 16](#). 21 November 2022.

² The Business Standard. [PDB gets 1,400MW coal power from Dec at double the cost](#). 24 November 2022.

³ Australian Financial Review. [Against Adani? You're against lifting the world's poorest out of poverty](#). 27 February 2018.

⁴ The Courier Mail. [Adani wants CQ's coal to lift millions out of poverty](#). 27 March 2018.

⁵ Rockhampton Regional Council. [Carmichael Mine will bring millions of India's people out of poverty](#). 17 March 2017.

⁶ The Daily Star. [Full electricity coverage a landmark achievement: PM](#). 22 March 2022.

⁷ World Bank. [Access to electricity \(% of population\) – Bangladesh](#).

⁸ IEEFA. [Rising cost of IPPs and further dependence on imported fossil fuels threatens the need for increasing power tariffs](#). 11 February 2022.

which rose 58% over the prior year. The result of BPDB's very large operating loss was that the necessary government subsidy to bail out BPDB's losses reached a record Tk117.8 billion (US\$1.1 billion) in FY2020-21, up from Tk74.4 billion in the prior year.

In FY2021-22 the situation worsened again significantly. The cost of electricity purchase from IPPs rose a further 77% to reach US\$4.8 billion. The government subsidy required to ensure the BPDB didn't make very large losses increased 152% to almost US\$3 billion (Table 1).

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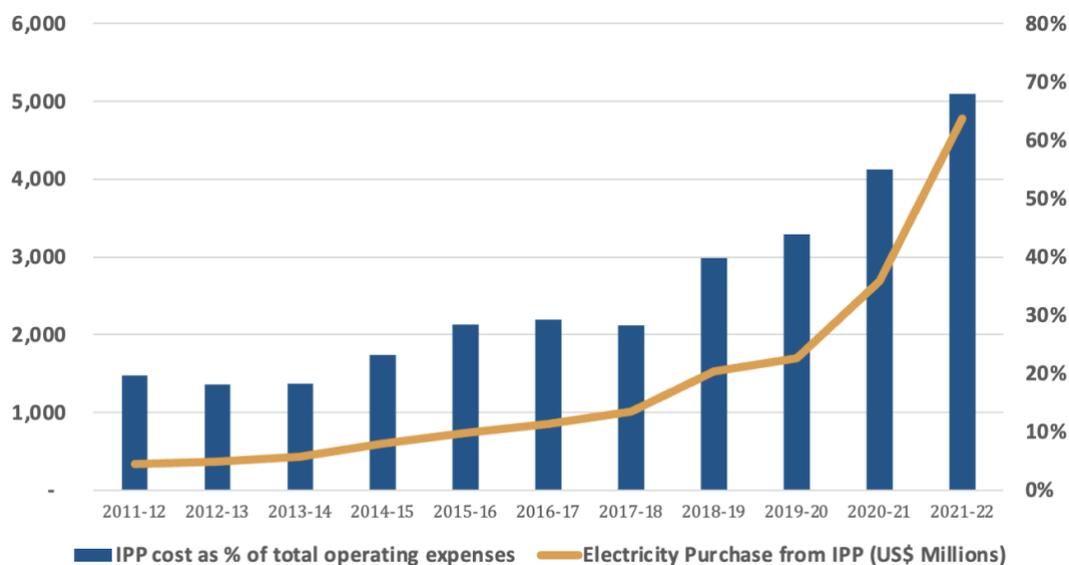
Table 1: Bangladesh Power Development Board Operating Expenses

	FY2021-22 US\$ million	FY2020-21 US\$ million	Change
Operating Revenue	4,174	3,908	7%
Subsidy from Government	2,879	1,143	152%
Total Revenue	7,054	5,052	40%
Generation Expenses	(615)	(568)	8%
Electricity Purchase from IPP	(4,778)	(2,693)	77%
Electricity Purchase from India	(454)	(458)	-1%
Electricity Purchase from Rental	(271)	(323)	-16%
Electricity Purchase from Public Plant	(681)	(672)	1%
Transmission Expenses for Wheeling Charge	(24)	(24)	1%
Distribution Expenses	(108)	(115)	-6%
General and Admin Expenses	(47)	(434)	-89%
Other	(60)	331	-118%
Total Operating Expenses	(7,037)	(4,955)	42%
Operating Profit	17	97	-83%

Source: Bangladesh Power Development Board, IEEFA calculations.

The cost of electricity purchased from IPPs represented more than 50% of BPDB's total operating expenses for the first time in FY2020-21. The following year this burden rose again and IPP costs now represent 68% of total operating costs (Figure 1). The single largest contributor to the increased IPP burden over the previous two fiscal years was the new Payra coal-fired power plant.

Figure 1: Rising Cost of Power Purchase from Independent Power Producers (US\$ million)



Source: Bangladesh Power Development Board, IEEFA calculations

Bangladesh Power Sector Crisis in 2022

The first unit of the Godda coal plant will begin operating at the end of a year in which Bangladesh's growing reliance on expensive fossil fuels has led to power blackouts⁹ and growing pressure to increase consumer power tariffs significantly.¹⁰

The impact of the invasion of Ukraine and subsequent spike in fossil fuel prices — as well as the strengthening U.S. dollar — has had a major impact on Bangladesh, which has become increasingly reliant on imported LNG in recent years and is now about to become more dependent on imported coal. Record high prices for LNG and coal have been unaffordable; school and office hours have been cut during the year to curb rising fuel costs.¹¹

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⁹ Reuters. [Fuel crisis cuts electricity in Bangladesh, sparking energy debate](#). 1 August 2022.

¹⁰ The Business Standard. [Prices of gas, electricity to go up in Feb before IMF releases fund](#). 10 November 2022.

¹¹ Aljazeera. [Bangladesh cuts school, office hours to save power amid crisis](#). 24 August 2022.

The cost of fossil fuel imports has eroded Bangladesh's foreign exchange reserves and contributed to rising inflation, a widening current account deficit and slowing growth. Credit rating agency Moody's placed Bangladesh under review for a downgrade in early December 2022, citing its rapidly declining foreign exchange reserves driven by rising costs for energy imports.¹² Bangladesh approached the International Monetary Fund (IMF) for a US\$4.5 billion loan in July 2022 to help it cope with the mounting economic pressure.¹³ The IMF reached a staff-level agreement on the loan in November 2022.¹⁴ Reducing power subsidies through tariff increases is likely to be a condition for obtaining the loan.¹⁵

LNG and coal prices will eventually moderate somewhat from the record highs seen in 2022, but Bangladesh is becoming increasingly exposed to these commodities that will remain volatile and will continue to place a high economic burden on the nation as prices fluctuate going forward.

New Coal Plants to Add to the Growing Burden

Bangladesh cancelled 10 coal-fired power projects in 2021 as it became increasingly difficult to secure funding for such emissions-intensive projects amid the declining cost of renewable energy.¹⁶ Despite this, a few coal plants that were already under construction have either recently started operations or are due to do so shortly, in addition to the Adani Godda plant. A key role for these plants was to replace reliance on very expensive oil-fired power and diminishing domestic gas while meeting growing power demand. However, the expense of these projects will contribute to the worsening financial strain the Bangladesh power system is under while locking in further reliance on imported fossil fuels.

New coal projects are backed by power purchase agreements that include capacity payments to the plant, which apply even if it is not used.

As the International Energy Agency (IEA) noted in November 2022, such projects are backed by power purchase agreements that include capacity payments to the plant, which apply even if it is not used.¹⁷ This ensures IPPs can secure debt funding for the project by transferring risk onto a state-backed power utility and, ultimately,

¹² Moody's. [Moody's places Bangladesh's Ba3 ratings under review for downgrade](#). 9 December 2022.

¹³ Reuters. [Bangladesh seeks \\$4.5 bln IMF loan as deficit widens, newspaper says](#). 27 July 2022.

¹⁴ IMF. [IMF Staff Reaches Staff-Level Agreement with Bangladesh on the Extended Credit Facility/Extended Fund Facility and the Resilience and Sustainability Facility](#). 9 November 2022.

¹⁵ The Business Standard. [Subsidy pressure triples to Tk1.6 lakh crore as imports remain costly](#). 11 December 2022

¹⁶ Reuters. [Bangladesh scraps plans to build 10 coal-fired power plants](#). 28 June 2021.

¹⁷ IEA. [Coal in Net Zero Transitions: Strategies for rapid, secure and people-centred change](#). November 2022.

power consumers. Bangladesh's capacity payment liability has already come under the scrutiny of the IMF.¹⁸

In addition to the Adani Godda plant, other recent and upcoming coal power projects in Bangladesh include:

- The 1,320 megawatt (MW) Payra coal-fired power plant came online in 2020 but half its capacity sat unused until March 2022 as the necessary transmission capacity was not in place. This resulted in significant capacity payments of US\$12 million/month while half the capacity sat idle,¹⁹ adding significantly to the cost of power from the plant. The Payra plant was the largest contributor to the very significant increase in the BPDB's cost of power purchases from IPPs across FY2020-21²⁰ and FY2021-22. The cost of power from the Payra plant increased to US\$134/MWh in FY2021-22.

In December 2022, it was reported that the Payra coal plant was struggling to find the U.S. dollar funds it needs to pay for coal imports and repay loans with some payments already missed. The plant reportedly has US\$95 million in unpaid coal imports bills as at November 2022.²¹

- Like Godda, the first unit of the 1,320MW Rampal coal-fired power plant is due to come online in December 2022. Another similarity with Godda is that the cost of power from Rampal has also almost doubled and will now be close to US\$140/MWh. Capacity charges paid to the Rampal plant will be US\$25 million/month at full capacity, regardless of whether it is utilised or not.²² The high cost of Rampal coal-fired power means it will be contributing to the worsening financial situation the Bangladesh power system finds itself in, not alleviating it.²³
- The over-schedule and over-budget 1,200MW Matarbari coal-fired power plant is now expected to begin operating in 2024. A series of cost hikes could make Matarbari one of the most expensive coal-fired power plants in Asia.²⁴ The plant has been financed by public funding from the Japan International Cooperation Agency and is being constructed by Sumitomo Corporation. In March 2022, Sumitomo pulled out of a planned second 1,200MW plant at Matarbari.²⁵ In June 2022, Japan decided not to fund the second project.²⁶

¹⁸ The Financial Express. [IMF queries hefty capacity payments, power subsidy](#). 3 November 2022.

¹⁹ The Business Standard. [Second unit of Payra 1,320MW power plant resumes production](#). 26 April 2022.

²⁰ IEEFA. [Rising cost of IPPs and further dependence on imported fossil fuels threatens the need for increasing power tariffs](#). 11 February 2022.

²¹ The Business Standard. [Payra Power Plant's coal import bills, loan payment stuck over dollar crisis](#). 10 December 2022

²² The Business Standard. [PDB gets 1,400MW coal power from Dec at double the cost](#). 24 November 2022.

²³ IEEFA. [Rampal coal plant inauguration won't solve Bangladesh's power woes](#). 7 September 2022.

²⁴ IEEFA. [Japan-funded Matarbari coal plant in Bangladesh costs 8 to 10 times more than comparable plants in China](#). 1 June 2022.

²⁵ Argus Media. [Sumitomo exits Bangladesh coal plant expansion plan](#). 3 March 2022.

²⁶ The Business Standard. [Japan cancels financing Matarbari coal project phase 2](#). 22 June 2022.

High Cost of Adani Godda Power Is Unaffordable for Bangladesh

Some commentators in Bangladesh have maintained that the addition of coal-fired power will improve the power system's financial situation by replacing expensive oil-fired power. But at a cost of almost US\$150/MWh, power from the Godda plant — fuelled by Carmichael coal — will be well above the average cost of other IPPs in Bangladesh and the current cost of power imports from India (Table 2).

This is not a surprise — it was known years ago that power from the Godda plant would be expensive. Despite the fact that the power plant sits in India's biggest coal mining state, coal is being imported from Carmichael and railed 700km from port to plant. The full cost of this is being passed onto Bangladesh. It was also known that the Godda plant would receive capacity payments which are reportedly up to US\$30 million per month even if it is not utilised.²⁷

The Godda power plant sits in India's biggest coal mining state, yet coal is being imported from Carmichael and railed 700km from port to plant.

Table 2: Cost of Bangladesh Power Development Board Power Sources

BPDB Cost of Generation/Purchase FY 2021-22	Tk/kWh	US\$/MWh
Hydro	2.70	26.21
Gas	3.46	33.59
Domestic coal	9.17	89.03
Oil	22.10	214.56
Purchase from IPPs	11.55	112.14
Import from India	6.11	59.32
Reported Adani Godda tariff	15.00	145.63

Source: Bangladesh Power Development Board, IEEFA calculations.

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²⁷ The Business Standard. [PDB gets 1,400MW coal power from Dec at double the cost.](#) 24 November 2022.

under. The BPDB has not paid IPPs since May 2022 and currently owes them five months of payments amounting to US\$2.5 billion.²⁸

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Carmichael Coal Is Hindering, Not Helping, Bangladesh's Development

Power from the Adani Godda plant — fuelled by Carmichael coal — will be two and a half times the price at which the BPDB sells power to distributors. The huge gap in price at which the BPDB buys and sells power has to be covered by government subsidies that are becoming increasingly unaffordable and will lead to the need to increase power tariffs significantly to transfer the burden onto consumers.

This process has already started. In November 2022, the tariff at which the BPDB sells power to distributors was increased 20% and the power distribution companies are now submitting proposals to increase retail tariffs by the same amount.²⁹

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Backers of the Carmichael coal project claimed that it was needed to help millions in South Asia out of poverty. This was merely coal industry spin. If anything, it is doing the exact opposite.

Bangladesh will need to focus more on renewable energy going forward if it wants to limit the burden of fossil fuel imports and increase energy security.³⁰

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²⁸ Prothom Alo. [Private power plant operators cry for unpaid bill worth \\$2.5b](#). 7 November 2022.

²⁹ The Business Standard. [Retail power price hike looms after 19.92% rise in bulk tariff](#). 21 November 2022.

³⁰ IEEFA. [For security and affordability, Bangladesh must shore up renewable energy](#). 18 November 2022.

that allows Adani to import coal into an Indian coal mining state from Australia and pass the full cost onto Bangladesh.

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If consumer power tariffs are forced up due to growing dependence on imported fossil fuel projects like the Godda coal power plant, the people of Bangladesh are likely to regret it too.

³¹ Financial Times. [Asia's richest man Gautam Adani reveals global media ambitions](#). 25 November 2022.

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The Institute for Energy Economics and Financial Analysis examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

About the Author

Simon Nicholas

Simon Nicholas is an energy finance analyst with IEEFA in Australia. Simon holds an honours degree from Imperial College, London, and is a Fellow of the Institute of Chartered Accountants of England and Wales. He has 16 years' experience working within the finance sector in both London and Sydney at ABN Amro, Macquarie Bank and Commonwealth Bank of Australia.

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