Cancel the 50 MW Waste-to-energy Plant in Char Bakalia

Prioritize Alternative Waste Management Strategies

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Reckless Betrayal of Nature and Law, Hazardous and Illegal Undertaking, Threat to Riverine Ecosystem, Economy and Public Welfare

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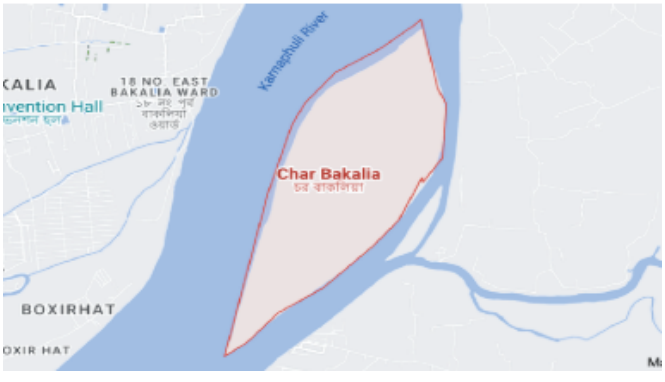
KEY FINDINGS

Chattogram City Corporation proposed a 50 MW waste-to-energy (WTE) plant on 14.164 ha of land in the heart of Karnaphuli River of Char Bakalia. The responsibility for implementing the project was given to a Chinese company through a bidding process in 2023. The key findings of this study are:

- Emission of greenhouse gases from the WTE plant will be 392 thousand tons annually and 9800 thousand tons over its life cycle, which can pose a severe threat to the rich biodiversity of Char Bakalia, including 155 plant species and endangered and migratory birds.
- The daily transportation of 3,000 tons of waste through the river will reduce the river's width and increase the risk of pollution, particularly endangering the natural breeding of carp fishes in the Halda River.
- Disruption to the river's flow and the fishing sector will negatively impact the local economy. Investing in the WTE project will destroy long-term sustainable development opportunities.
- The power plant will emit more greenhouse gases (GHGs) than coal-based power plants. Additionally, the emission of harmful substances such as sulfur dioxide, nitrogen oxide, carbon mono-oxide, particulate matter, dioxins, and heavy metals lead to chest ailments including respiratory issues and other health problems among the local residents.
- According to the Article 18 (A) of Bangladesh Constitution and the Court rule of 2019, a waste to energy project on the river is entirely illegal.
- Biodegradable portions of organic waste have to be converted into organic fertilizer and plastic wastes have to be recycled for a sustainable system.
- Instead of a WTE plant, setting up a solar power plant can help to reduce carbon dioxide emissions of 279.568 thousand tons annually and 6989 thousand tons over its life cycle and will be more cost-effective in the long run.

Recently, the Chattogram City Corporation proposed a waste-to-energy (WTE) plant in Char Bakalia (22°21′ 00.0″N and 91°52′ 48.0″E), situated in the heart of Karnaphuli River, a kingdom of plant diversity and sanctuary for thousands of birds. This project aims to produce 50 MW of electricity from 3,000 tons of waste. Chattogram City Corporation will provide the necessary land and supply the waste. The Chinese state-owned company, CEVIA-CHEC-ORCHARD JV, won the bid (TBS, 2024). Despite claims of environmental benefits, the hidden truth is the plant emits more greenhouse gases (GHGs) than traditional coal-fired power plants. Char Bakalia is a significant ecological zone renowned for its rich vegetation and variety of bird species. Environmentalists, academics, and even local authorities express grave concerns over the potential impact of constructing the power generation plant in the middle of the Karnaphuli River. They express deep concerns about the potential environmental impact of such a large-scale project within this sensitive ecosystem. In response, protesters have submitted a memorandum to the former Prime Minister demanding the project's cancellation and threatened for legal action if their demands are unmet.



Source: Barta 24.com

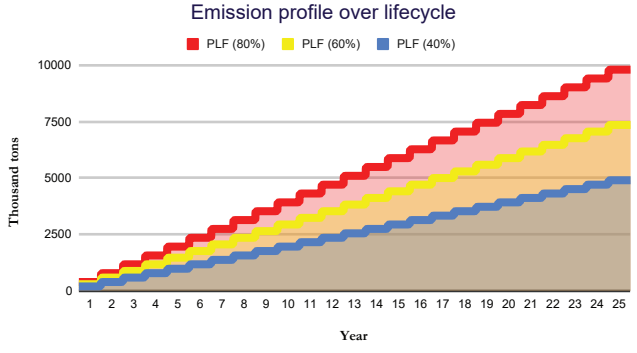
Chittagong, one of Bangladesh's most rapidly growing cities, generates approximately 15% of the country's total waste. In 2023, the Ministry of Local Government, Rural Development and Co-operatives reviewed Chattogram City Corporation proposals, including a Chinese company tasked with constructing the power plant, suggesting a WTE project in Char Bakalia (TBS, 2024). To facilitate this project, the city corporation has officially requested a land allocation of 14.164 hectares from the Ministry of Land. However, the Ministry has not yet decided on this request (BDnews24, 2024; TBS, 2024).

Over a century, Char Bakalia evolved into a vital ecosystem boasting rich biodiversity, hosting a total of 155 plant species; this includes 64 tree species, 20 bamboo varieties, 57 shrubs, 12 creepers, and two parasitic plants. Notably, 113 of these species possess medicinal properties, while 81 are classified as endangered (BDnews24, 2024). This Char contains a variety of plant species, such as Silk Cotton Tree, Spider Flower, Prajacentra, Holly Mangrove, Frog Fruit, Stinking Passion Flower, Giant Calotrope, Dodders, Rough Cocklebur, Prickly Poppy, Shirish etc. Besides,there are also some kinds of fruit trees, including native mango, jam, jackfruit, and coconut (Dainik Azadi, 2024). It serves as a sanctuary for a variety of bird species sheltered by dense foliage, including endangered ones like the black-headed sickle and red-wattled lapwing or locally Lal Latika Hattiti, as well as the Cattle Egret and White Weron, and several species of kingfisher. Moreover, many migratory birds flock to the Char during the winter, drawing admiration from visitors and locals alike. Locals use sanders to bring hundreds of buffaloes to graze every day (BDnews24, 2024). Construction activities and increased human activity around the vegetation area of Char Baklia are threatening to displace and severely harm the local bird and plant populations. The commissioning of a power plant in this sensitive area could lead to the extinction of these species. Instead of transforming the area into a vast reservoir of medicinal plants, preserving biodiversity and endangered plant species, the decision to build a power plant is environmentally destructive.

Source: BDnews24, 2024

Due to the construction of the Kalurghat bridge in

1930, i.e., during the British period, this char gradually grew in the middle of the river due to the accumulation of silt. Although Char Bakalia currently emerges in the center of the river, it is still submerged in tidal water and resurfaces periodically. The construction of a power project in such a sensitive area may further reduce the river's width and disrupt the balance of biodiversity. Experts think that the river's width may be reduced by about half due to this construction. There is a potential risk of waste spreading into the river while transporting it via barge ships from the mainland of Chittagong, posing a significant environmental threat to the two major rivers of the country, Karnaphuli and Halda. The upstream portion of the Halda River, which serves as a crucial breeding habitat for South Asia's main carp fish, will become contaminated. Heavy metals and other contaminants get released from waste-to-energy plants, threatening aquatic life and foreseeing disastrous consequences for the health of the Karnaphuli River (BDnews24, 2024). Considering the crucial role of the Karnaphuli River to Bangladesh's economy, there is significant worry about the ecological impact of daily waste transportation by barge, with a particular focus on the devastation that would undoubtedly inflict on the river's biodiversity (TBS, 2024). While WTE technology is considered renewable, research indicates that it is not actually clean energy. About 1.01 tons of CO_2 are released during the waste incineration of 1 ton of municipal solid waste (MSW) in waste-to-energy (WTE) facilities. According to the estimation, the greenhouse gases (GHGs) emission from the power plant could range from 392 thousand tons annually (80% PLF). Over a tenure of 25 years, the cumulative GHG emissions from the facility could reach 9800 thousand tons.



Waste-to-energy (WTE) plants release various pollutants, including sulfur dioxide, nitrogen oxides, carbon mono-oxide and particulate matter. Poorly fed WTE facilities may emit concentrated toxins with serious potential health risks, such as dioxins/furans and heavy metals (Cole-Hunter et al., 2020). These pollutants degrade air quality and threaten the surrounding flora and fauna (Pavlas et al., 2010; MZA, 2022). The emissions from such plants can cause chest ailments including respiratory issues and other health problems among the local residents (Pavlas et al., 2010).

A techno-economic feasibility study conducted by researchers proposed for Bangladesh Power Development Board (BPDB) of commercial-scale 15 MW on-grid ground solar PV systems in Char Bakalia. The financial benefits of solar power include its ability to pay back the initial investment within a relatively short period of 4.5 years, making electricity at a low cost (Nabil et al., 2024). According to the latest agreement, the production cost of solar power has been fixed at BDT 8.12 per unit (BPDB, 2023), where the cost of energy generated from WTE power plant has been fixed BDT 18.29 per unit (TBS, 2021). Moreover, solar power may ensure environmental benefits, particularly in reducing CO_2 emissions of 279.568 thousand tons annually and 6989 thousand tons over its operational lifespane.

Instead of constructing a WTE plant on Char Bakalia, alternative waste management strategies should be prioritized. Investing in Clean Technology includes biodegradable portions of organic waste that have to be converted into organic fertilizer, and plastic waste has to be recycled. Besides, liquid waste can be a good source of fuel gas. Our country's solid waste contains more liquids with low calorific value, from which it is difficult to generate efficient electricity.

There is no example of establishing a waste-to-energy plant in the middle of a river elsewhere in the world, such projects are being prioritized in our country which poses a threat to environmental balance. According to the constitution of Bangladesh (18A) for the

protection and improvement of environment and biodiversity, "The state shall endeavor to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests and wildlife for the present and future citizens," (Constitution Act, 2011) and thereby, the waste treatment project in the middle of the river is illegal. The High Court judgment in January 2019 declared the rivers of our country as living entities, legal and juristic persons (TDS, 2019), and thereby, the WTE plant in Char Bakalia violates the court order.

We do not want waste to energy (WTE) plant. Environmentalists and academics oppose the WTE plant and suggest the adoption of alternative waste management strategies instead. The best strategy for reducing urban waste and achieving sustainable waste management in Bangladesh is to adopt clean technologies. For urban waste management under Clean Development Mechanism (CDM), biodegradable portions of organic waste have to be converted into organic fertilizer. The revenue generated using this technology has to be invested in the solar energy sector.

Therefore, to ensure sustainable economic development, energy security and a safe environment according to Vision 2041, we demand to cancel the WTE project in Char Bakalia, which is against the constitution and laws of Bangladesh for the protection and improvement of the environment and biodiversity.

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