

Design, Build and Operate of PSTP by leading water technology company

VA TECH WABAG Ltd., a global water technology leader, was awarded the contract to design, build, and operate the PSTP. The scope of the work encompasses design, engineering, supply, construction, installation, and commissioning of the 200 MLD STP. Furthermore, it includes operation and maintenance (O&M) responsibilities for a period of 60 months. Notably, there will be the provision for future expansion up to 800 MLD to meet the growing needs of the city.

Committed to Sustainability

One of the key features of this sewage treatment plant is to reduce the carbon footprint. The plant will operate using the proven activated sludge process for environment friendly sewage disposal. Additionally, through anaerobic sludge digestion, the produced biogas would be used to generate electricity for the significant portion of the plant's requirements, which will be resulting in a substantial reduction in carbon footprint.

This environment friendly approach aligns with global efforts to combat climate change and to improve DWASA's efficiency in sanitation service delivery for accelerating progress in achieving SDG target 6.2.

Fully Automated

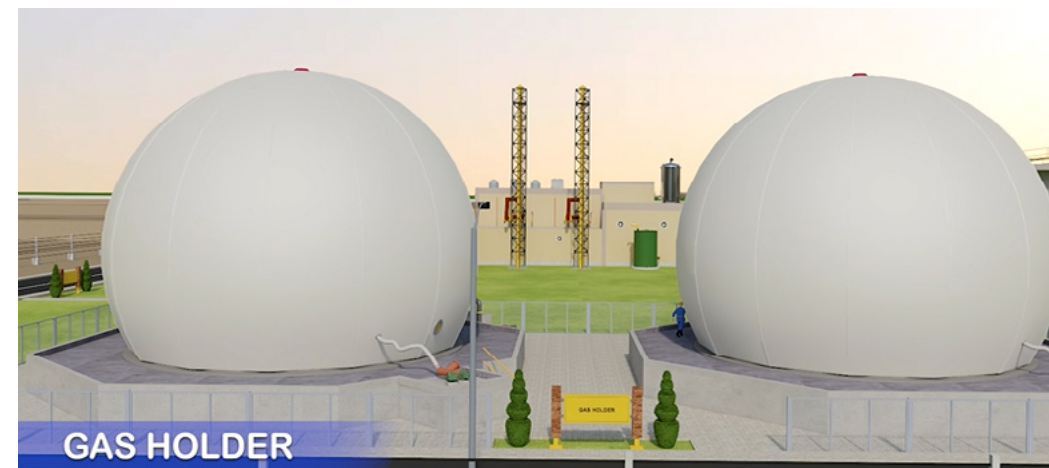
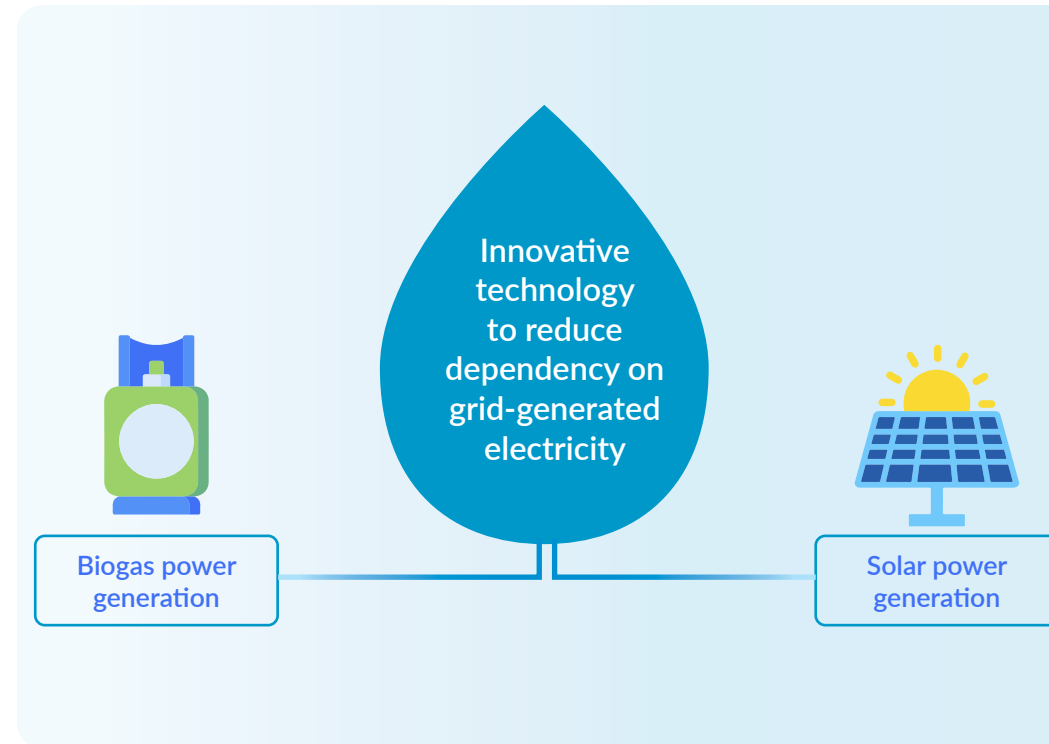
The PSTP will be operated through PLC based Supervisory Control and Data Acquisition (SACDA) system.

Sustainable Development Goals (SDGs)

Aligned with the Sustainable Development Goals (SDGs), this 200 MLD Sewage Treatment Plant in Pagla also aligns with the "Mujib Climate Prosperity Plan" of the Bangladesh Government. These initiatives demonstrate the commitment to address global challenges related to climate change and promoting sustainable development in line with national and international agendas.

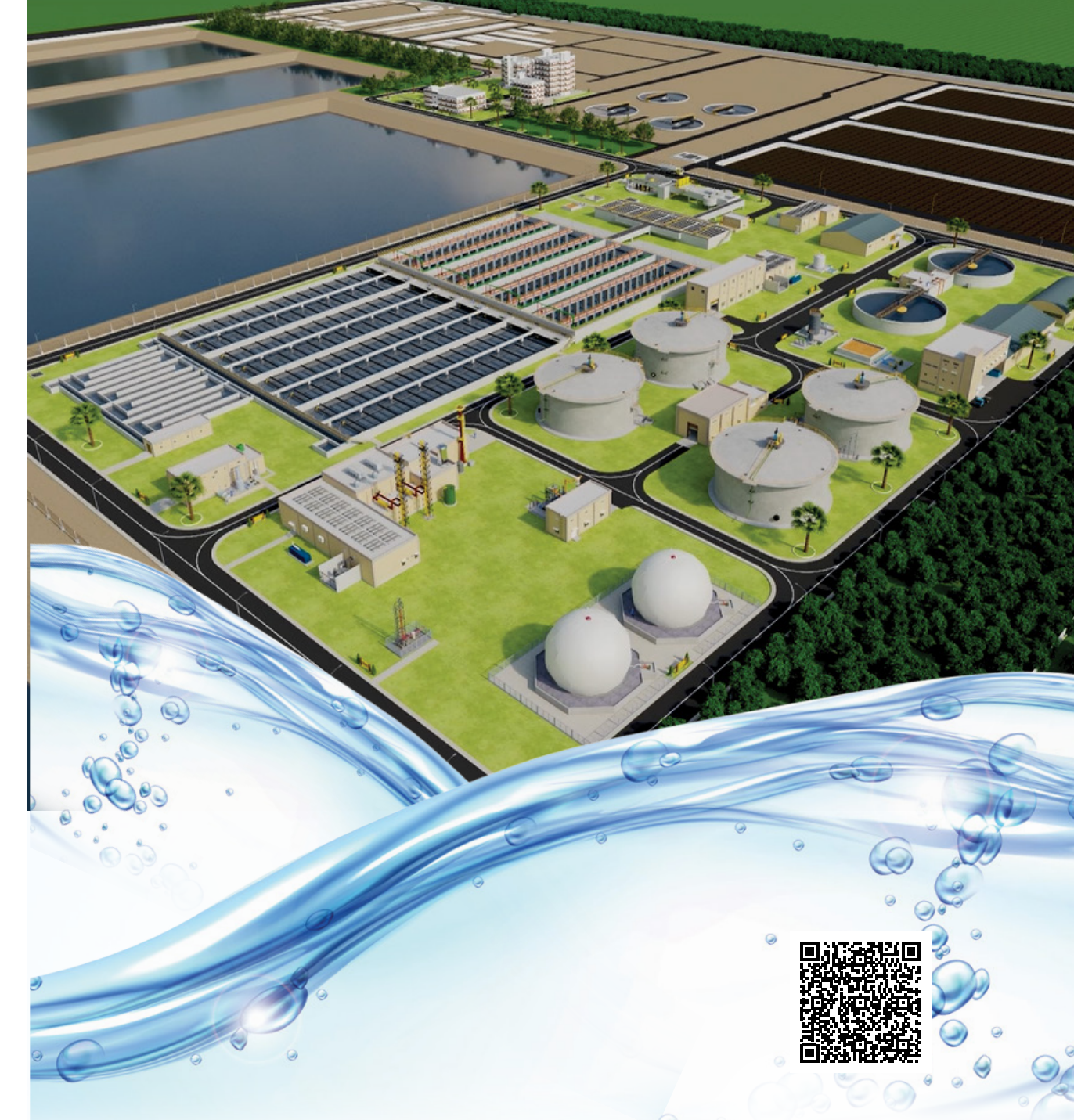
Main Goals:

- Improving the water quality of Buriganga river
- Improving Livability Index of area nearby
- Proper disposal of sludge
- Maximize the usage of renewable energy through Biogas and Solar power generation
- GHG reduction & sustainability
- Usage of energy efficient motors and LED lighting fixture to reduce power consumption



A significant stride

The construction of this sewage treatment plant takes a significant stride towards safeguarding the environment, mitigating the impact of climate change and improving DWASA's efficiency in sanitation service delivery for accelerating progress in achieving SDG target 6.2. By promoting smart sewage management and embracing renewable energy sources, the city paves the way for a greener and more resilient future.



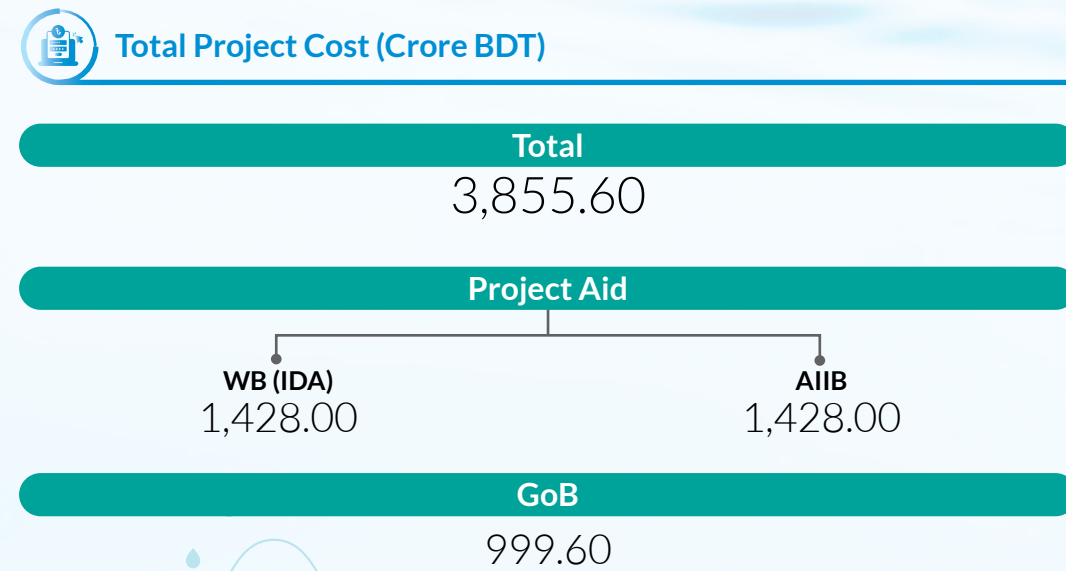
Pagla Sewage Treatment Plant

A Smart Approach towards Environmentally Sustainable and Climate Resilience Endeavor



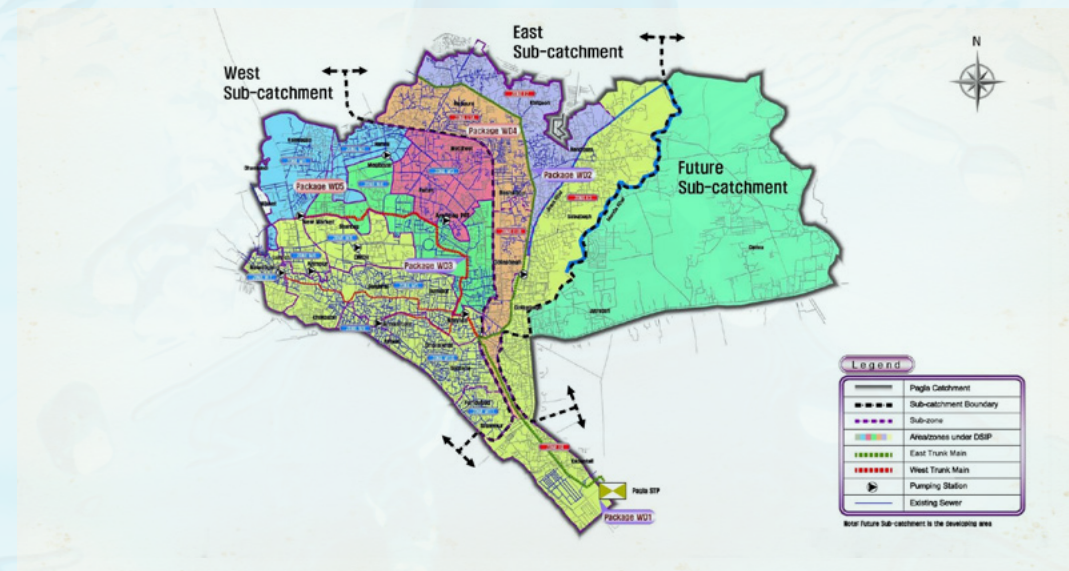
Dhaka stands as a prosperous megacity that plays a pivotal role in the country's economy and politics. Rapid urban development and population growth have given upsurge to the environmental challenges. To address these pressing issues and promote sustainable development, the Dhaka Sanitation Improvement Project (DSIP) has been initiated, with funding support from the World Bank (WB), the Asian Infrastructure Investment Bank (AIIB) and GoB. This project focuses on the Reconstruction of Trunk Mains, Sewerage Network and Reconstruction, Expansion and Operation of Pagla Sewage Treatment Plant (PSTP) to improve sanitation services to over 1.5 million people in southern part of Dhaka city.

	Date of Signing of Loan Agreement	WB 30/06/2020 AIIB 01/09/2020
	Date of Effectiveness of the Loan Agreement	WB 24/02/2021 AIIB 25/02/2021
	Development Partner	World Bank (WB) and Asian Infrastructure Investment Bank (AIIB)
	Contractor of PSTP	VA TECH WABAG LIMITED
	Type of Contract	Design, Build and Operate (DBO)



Project Catchment

The catchment area encompasses part of the Pagla catchment approximately 64 sq. km; namely as Kalabagan, Mogbazar, Shahbag, Eskaton Arambag, Paltan, Sahidbag, Motijheel Rampura, Taltola, Bashaboo, Golapbag, Ahmedbag, Saidabad Goran, Baganbari, Khilgaon and West Nandipara etc.



Major Components of DSIP

Package No.	Activity Description	Location	Capacity/ Main Feature
WD1	Reconstruction, Expansion and Operation of Pagla STP	Pagla Catchment	Treatment Capacity: 200 MLD
WD2	Reconstruction of Eastern Trunk Main	Modhubagh to PSTP	12.00 km Pipeline
WD3	Reconstruction of Western Trunk Main	Nilkhet to Doyagonj More	6.00 km Pipeline
WD5A	Reconstruction /New Construction of Sewerage Networks in Zone-W1 & W2	Kalabagan, Mogbazar, Shahbag & Eskaton etc.	78.70 km Pipeline
WD5B	Rewconstruction /New Construction of Sewerage Networks in Zone- W3 & W4	Arambag, Paltan, Sahidbag, Motijheel, etc.	126.00 km Pipeline
WD6A	Reconstruction/New Construction of Sewerage Networks in Zone - E1A+E1B	Rampura, Taltola, Bashaboo, Golapbag, Ahmedbag, Saidabad etc.	112.00 km Pipeline
WD6B	Reconstruction/New Construction of Sewerage Networks in Zone - E2	Goran, Baganbari, Khilgaon, West Nandipara etc.	75.10 km Pipeline
WD7	Reconstruction / New Construction of Sewerage Networks in Zone-C and Reconstruction/ Rehabilitation of south-western Trunk Main	Sabujbahg, East Nandipara, Natunpara, Golapbag East etc.	72.30 km Pipeline

Brief description of Pagla Sewage Treatment Plant

The treatment process of the STP is based on Conventional Activated Sludge with partial nitrification. Furthermore, the sludge generated from the treatment plant will be anaerobically digested to generate biogas which in turn will be used for generation of power using gas engines.

The treatment plant consists of the following units:

- Inlet Distribution Chamber
- Pre-Treatment Facility
- Primary Treatment Facility
- Secondary Treatment Facility
- Disinfection Facility
- Treated Effluent Discharge Facility
- Sludge Treatment Facility
- Gas Processing Facility
- Gas Engine
- Odour Control Facility
- Chemical Treatment Facility
- Auxiliary Units



Raw Sewage Characteristics:

BOD ₅	: 350 mg/L
COD	: 750 mg/L
SS	: 400 mg/L
T-N	: 60 mg/L
pH	: 6.5 ~ 8.0
Fecal Coliform	: 10 ⁷ MPN / 100 ml
Design minimum wastewater temperature:	20°C.
Maximum wastewater temperature :	31°C

Fecal sludge/septage characteristics:

BOD ₅	: 800 mg/L
COD	: 4,000 mg/L
SS	: 6,600 mg/L

Effluent Discharge Characteristics:

BOD ₅	: Not more than 30 mg/L
COD	: Not more than 120 mg/L
SS	: Not more than 30 mg/L
TAN (NH ₄ -N + NH ₃ -N)	: Not more than 15 mg/L
Fecal Coliform	: Not more than 1,000 MPN/100 ml

Dewatered Sludge Characteristics:

- Water Contents: Less than 75%
- Solids capture rate ≥ 95%