



REPUBLIC OF INDONESIA  
MINISTRY OF NATIONAL DEVELOPMENT PLANNING/  
NATIONAL DEVELOPMENT PLANNING AGENCY


# PUBLIC PRIVATE PARTNERSHIP

INFRASTRUCTURE PROJECTS PLAN IN INDONESIA

# 2022

# Piyungan Waste Treatment

Location : Special Region of Yogyakarta

<b>Sector : Waste Management</b>	<b>Sub-Sector : Waste Management System</b>
	<p><b>Description:</b> The capacity of waste landfill (TPA) has been exceeded while there is an increase in the volume of waste that enters Piyungan Landfill, so appropriate technology and professional operation management are necessary. Piyungan Landfill receives around 650 - 700 tonnes per day of waste from Yogyakarta City, Sleman Regency, and Bantul Regency.</p> <p><b>Estimated Project Cost:</b> USD 123.55 Million</p> <p><b>Financial Feasibility:</b> IRR : 30.5% NPV : USD 177 Million</p> <p><b>Estimated Concession Period:</b> 20 years</p>
<p><b>Government Contracting Agency:</b> Governor of Special Region of Yogyakarta</p> <p><b>Type of PPP:</b> Solicited</p> <p><b>Return of Investment:</b> User Charge</p>	

### Indicative Project Schedule

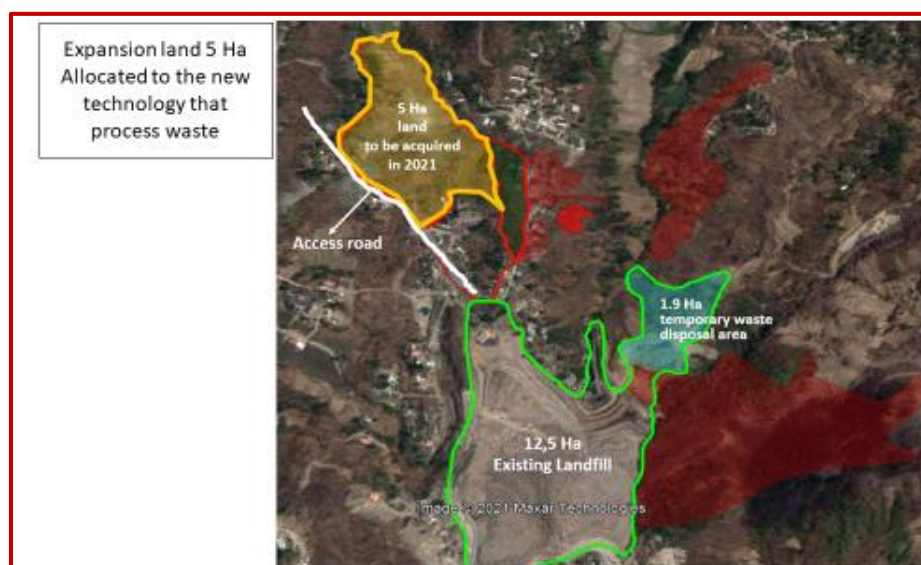
**Project Status :** Final Business Case

### Indicative Project Structure

## Project Digest

<b>Project Title</b>	<b>Piyungan Waste Treatment</b>
<b>Government Contracting Agency</b>	Governor of Special Region of Yogyakarta
<b>Implementing Agency</b>	Department of Environment and Forestry, Special Region of Yogyakarta
<b>Preparation Agency</b>	Bappenas & World Bank Facilitates OBC, and PT PII (PDF assignment by the Ministry of Finance) for FBC and transaction
<b>Project Cost</b>	USD 123.55 Million
<b>Estimated Concession Period</b>	20 years
<b>Location</b>	Special Region of Yogyakarta

### 1. Project Picture (Map and/or Illustration of Project)



Picture 1 – Map Location of Piyungan Landfill

### 2. The Opportunity

#### 2.1. Project Background

- The capacity of waste landfill (TPA) has been exceeded while there is an increase in the volume of waste that enters Piyungan Landfill, therefore appropriate technology and professional operation management are necessary.
- Insufficient land capacity in Piyungan Landfill to treat domestic waste and the absence of waste treatment to reduce the amount of domestic waste.
- Inadequate infrastructure in Piyungan Landfill that could have a negative impact to environment.

#### 2.2. Project Description

- Piyungan Landfill receives around 650 - 700 tonnes per day of waste from Yogyakarta City, and Sleman Regency and Bantul Regency.
- The area of existing Piyungan Landfill is 12.5 ha, which 10 ha used for landfill area

that consist of 2 cells and another 2.5 ha used for supporting facilities (offices, workshops, leachate treatment plant, weighbridges, and buffer zone).

- The landfill area that can be filled with waste is ± 72.620.83 m<sup>2</sup> (in 2017). However, this landfill area is estimated to be full in 2022. At this time the landfill area gradually start closing down.
- There was an expansion of new land of approximately 1,9 ha. This expansion land is planned to be used for temporary waste disposal area before the new waste processing technology operates.
- In 2021-2022, the Local Government will add new land approximately 5 ha which is planned for the new waste treatment technology.

### 2.3. Project Objectives

This project aims to manage domestic waste to create a sanitary environment

## 3. Business Entity's Scope of Work

The potential scope of partnership that can be carried out by investors, but not limited to the following, are:

1. New waste treatment technology (Anaerobic Digester / Refuse Derived Fuel / Incinerator etc.).
2. Methane gas production from waste processing that can be used as Incinerator or RDF energy
3. Waste sorting (it depends on technology) and processing facility
4. Landscape arrangement from its area & maintenance
5. Operate and maintain of the new Piyungan waste treatment technologies

## 4. Technical Specification

This project aims to manage domestic waste based on the following regulations:

1. Constitution of Republic of Indonesia Number 18 of 2008 about waste management.
2. Regulation of the Minister of Public Works Republic of Indonesia Number 03/PRT/M/2013, regarding the Implementation of Infrastructure and Facilities in Handling Households Waste and Other Type of Household Waste.
3. Local Regulation of Special Region of Yogyakarta Number 3 of 2013 regarding the Households Waste and Other Type of Household Waste Management.

## 5. Environmental Impact Assessment (EIA/AMDAL) Findings

Environmental Impact Assessment (AMDAL) of TPA Piyungan will be conducted between Q4 2022 - Q1 2023 parallel with the preparation of FBC and LARAP document.

## 6. Land Acquisition and Resettlement Action Plan

There was an expansion of new land approximately 6,9 ha (1,9 ha of land has been acquired and 5 ha will be acquired in 2022). Land acquisition will be carried out by the DIY Government.

## 7. Project Cost Structure

Estimated Project Cost		USD 123.55 Million
Indicative Debt to Equity Ratio		
- Debt Level		80%
- Equity Level		20%
IRR		30.5%
NPV		USD 177 Million

## 8. Government Support and Guarantee

Government support are in the form of:

- Land provision, DIY Government provides land for construction of the project in Sitimulyo village, Piyungan.
- Permittance, the government is committed to providing necessary permits for the investors to implement this project.
- Support from central government (Ministry of Public Works and Housing) to optimize Piyungan Waste Processing and improve supporting facilities
- Support in the policy on developing an integrated waste management infrastructure.

A government guarantee may be required to mitigate the project's risks from changes in demand risk and shifts in political scenario. In this regard, the level of risk perceived from investors will be determined at market sounding.

## 9. Contact Information

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