

3. SEMARANG CITY WASTE TO ENERGY (WTE)

Project Profile

Location	Jatibarang Landfill, Semarang, Central Java
Estimated Investment	US\$100 million
Financial Scheme	Public Private Partnership (PPP)
Project Owner	Mayor of Semarang
Construction/ Operating	2021 / 2023
Waste / day	1000 ton/day
Electric capacity	15-17 MW

PPP PROJECT OVERVIEW

Scope of PPP:

- Design, Build, Operate, and Maintain the WtE Facility or related activities of a WtE
- Design, Build, Operate, and Maintain the Supporting Infrastructure for a WtE Facility
- Conduct Site Preparation and Soil Investigation
- Installation of transmission line¹
- Manage Corporate Social Responsibility (CSR) during construction

Payment Mechanism:

- Availability Payment(AP) basis² and Performance Based Penalties
- The GCA has indicated that Semarang Municipality has the ability to pay a Tipping Fee IDR 100 billion
- Right to sell electricity to PLN with Feed in Tariff of USD 13.35 cent/kWh
- Right to sell other residues/by-products

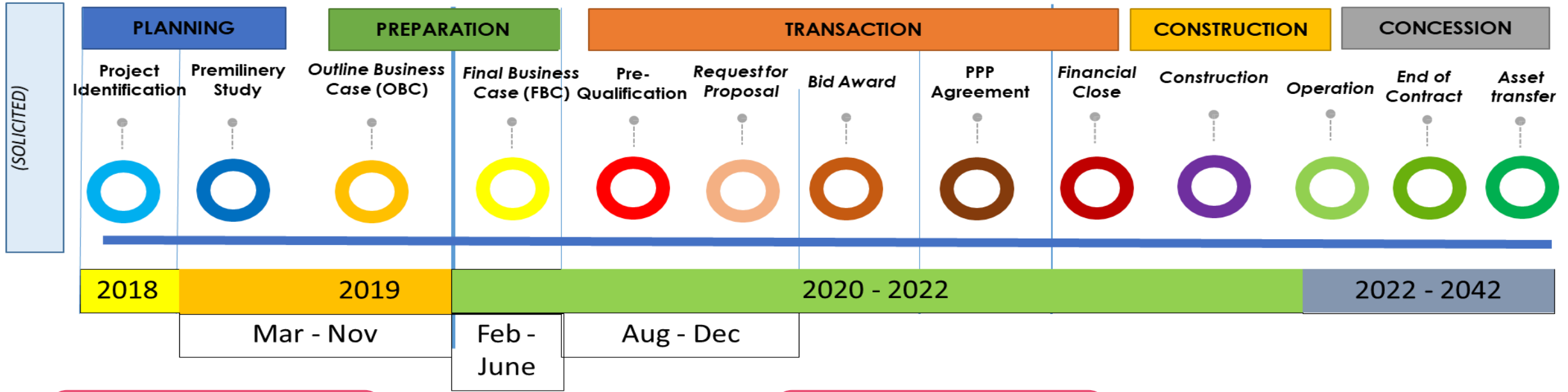
PPP Period:

20 years plus 3 years construction period

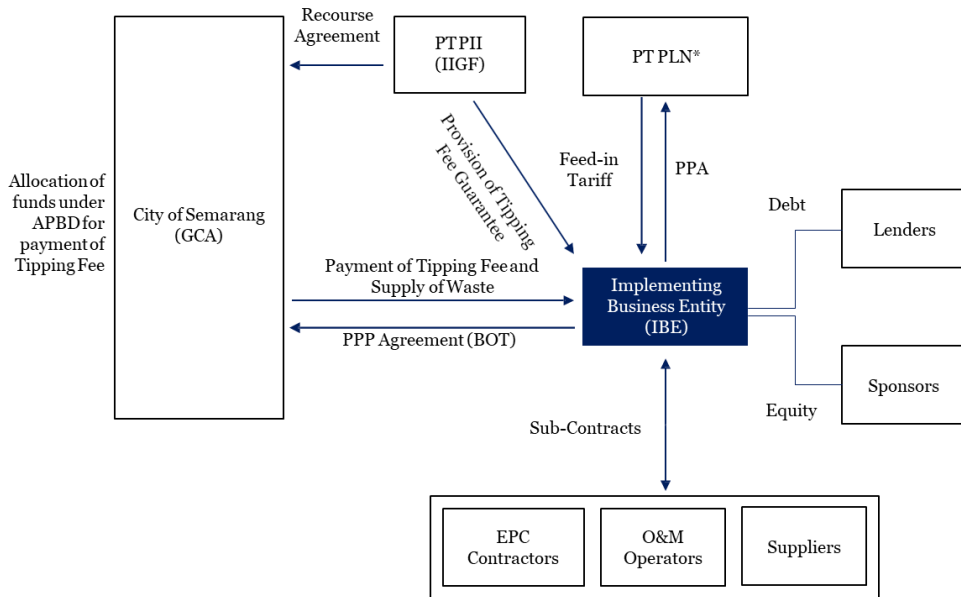
Notes:

1. At this stage, assuming that the Project sells electricity, PLN suggests that the IBE will be responsible to Design, Build, Operate, and Maintain the transmission line.
2. Circular Letter from MOHA on the Acceleration of WtE Project Development was issued on 22 July 2019, which clarifies that the Tipping Fees must be considered as AP.

PPP Time Line



PPP Project Structure



Source of Revenue

1. Availability Payment

AP is a regular payment by Minister/Head of Agency/Head of Regional or City Government to the IBE for the availability of infrastructure services that are in accordance with quality and/or requirements determined in the PPP agreement.

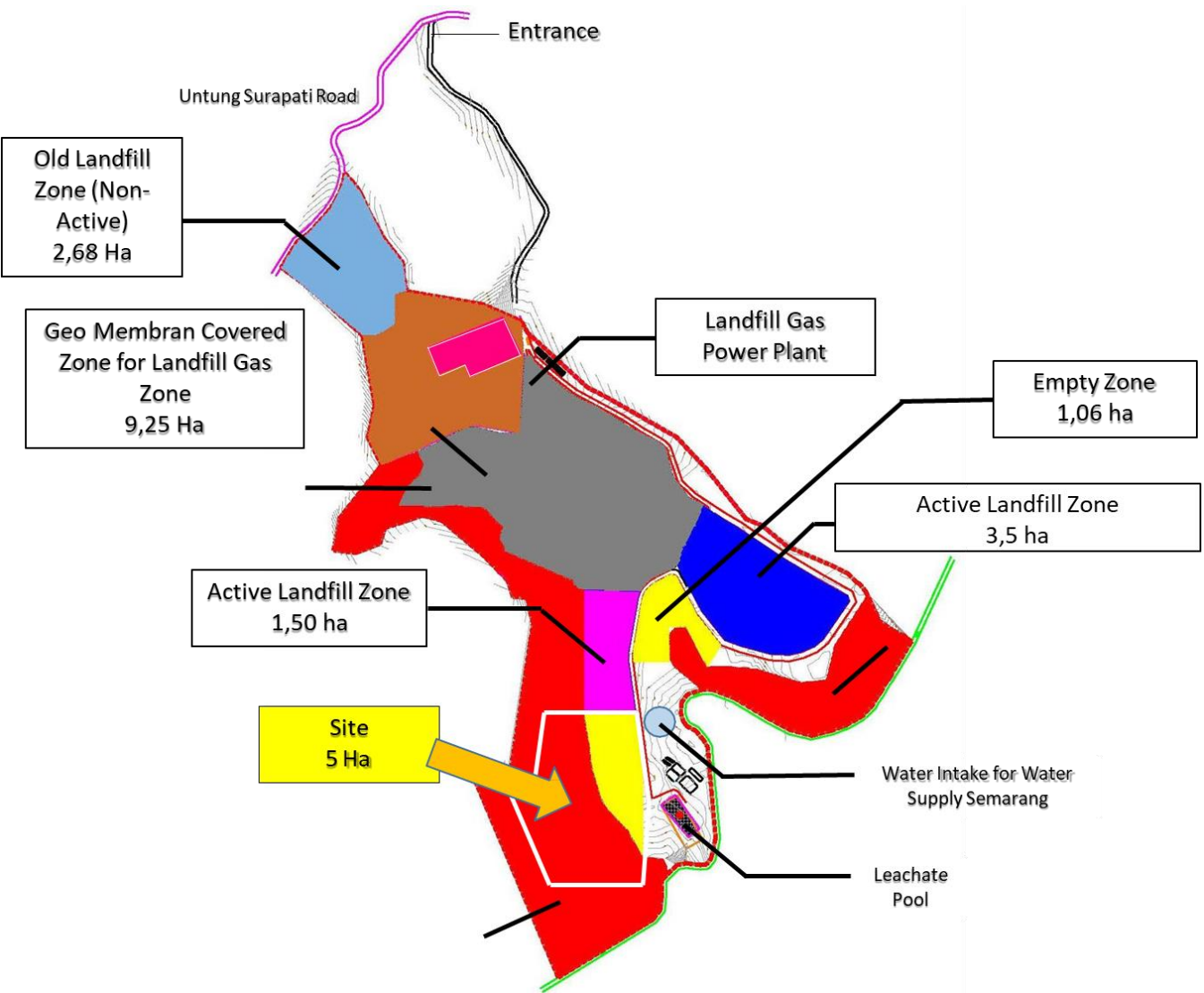
2. Feed in Tariff (FiT)

FiT is the tariff per kWh that will be purchased by PLN through the PPA.

Note:

* PT PLN's involvement and a Power Purchase Agreement (PPA) is required only for WtE technology option producing electricity.

Layout of Jatibarang Landfill



Project Overview

Project Background

- The total amount of MSW generated in Semarang in 2017 is estimated at 1,022 tonnes/day.
- Based on the current solid waste disposal, TPA Jatibarang will only be sufficient to accommodate the incoming waste for another two years.
- This Project is one of the National Strategic Project (*Proyek Strategis Nasional/PSN*) under Presidential Regulation (Perpres) No. 3 of 2016.
- Perpres No.35/2018 on Acceleration of the Development of Waste-to-Energy Plant based on Environmentally Friendly Technology.
- Perpres No.38/2015 on the Cooperation between Government and Business Entities for the Provision of Infrastructure.
- LKPP Regulation No. 29/2018 on Procedures for Implementing Business Entity Procurement in Infrastructure Provision Through PPP Initiated By Ministries/Heads of Agencies/Heads of Regional Government (Solicited).
- Bappenas Regulation No. 4/2015 on the Implementation Procedures for the Cooperation between the Government and Business Entities in the Provision of Infrastructure.

Enabling regulations

Responsibilities between the GCA, PLN, and the Private Sector for WtE

Scope	Construction	Financing	Operation	Maintenance
WtE Facility	IBE	IBE	IBE	IBE
Supporting Infrastructure of WtE Facility	IBE	IBE	IBE	IBE
Transmission Line (for WtE)	IBE	IBE	PLN/IBE ¹	PLN/IBE ¹
Provision of sites for Project and Fly Ash – Bottom Ash (FABA) Landfill	GCA	GCA	GCA	GCA
Waste Supply	-	-	GCA	-

Note: 1. At this stage, PLN suggests that the IBE will be responsible for designing, building, operating, and maintaining the transmission line. This is to be further discussed with PLN and GCA.

Minimum Requirements & Output Specifications of the Project

The proposed Minimum Requirements of the Project includes:

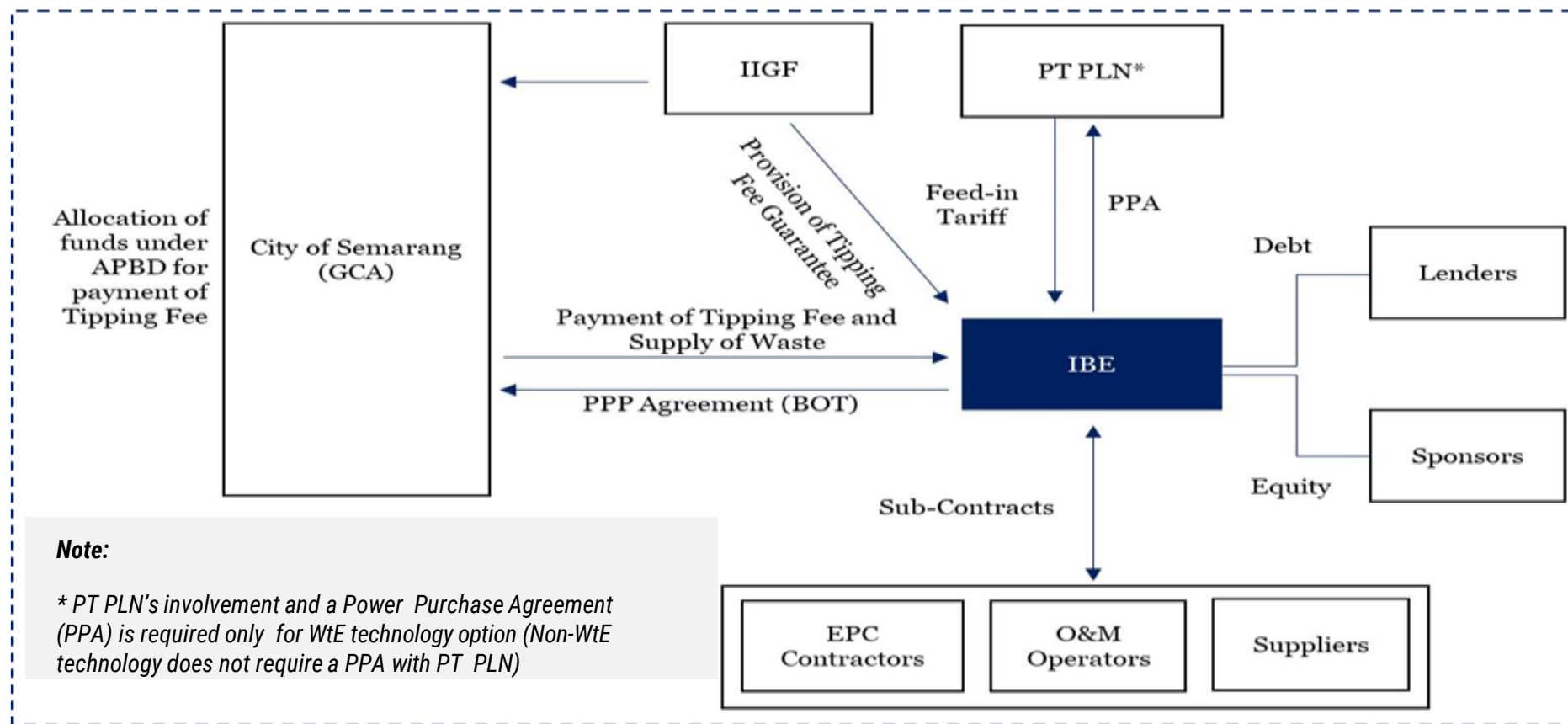
1. Comply with relevant legislations in Indonesia.
2. A proven technology with a proven track record of successfully processing waste with compositions similar to that of the Project, and resilience to changes in waste composition.
3. A technology proven to reduce the waste by more than 80% of accepted MSW through the facility on a mass basis.
4. Control of emissions compliant with the better of international or Indonesian Standards.

The proposed Output Specifications of the Project includes, as a minimum:

1. To provide reception facilities that can quantify and monitor quantity and quality of waste delivered to the facility.
2. To process around 1,000 tpd of MSW through the facility.
3. Divert a minimum of 80% on a mass basis of Accepted MSW from Landfill per year through the Facility.
4. Operate for 20 years and meet, at a minimum, the equivalent of the higher of international or Indonesian environmental standards for air emissions.

The GCA is willing to consider other waste technology (i.e. non-WtE) options, as long as it address the proposed Output Specifications of the Project.

Potential Project Structure



CONTACT

Interested parties may contact the following person for further information or queries.

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