

# WASTE TO ENERGY

ONE-STOP SOLUTION FOR WASTE TREATMENT

14<sup>th</sup> January 2021

## *The Highest Value-For-Money Solution!*



### TECHNOLOGIES

- Recycle
- RDF (Refuse Derived Fuel)
- Biomass
- Anaerobic Digestor
- Incinerator



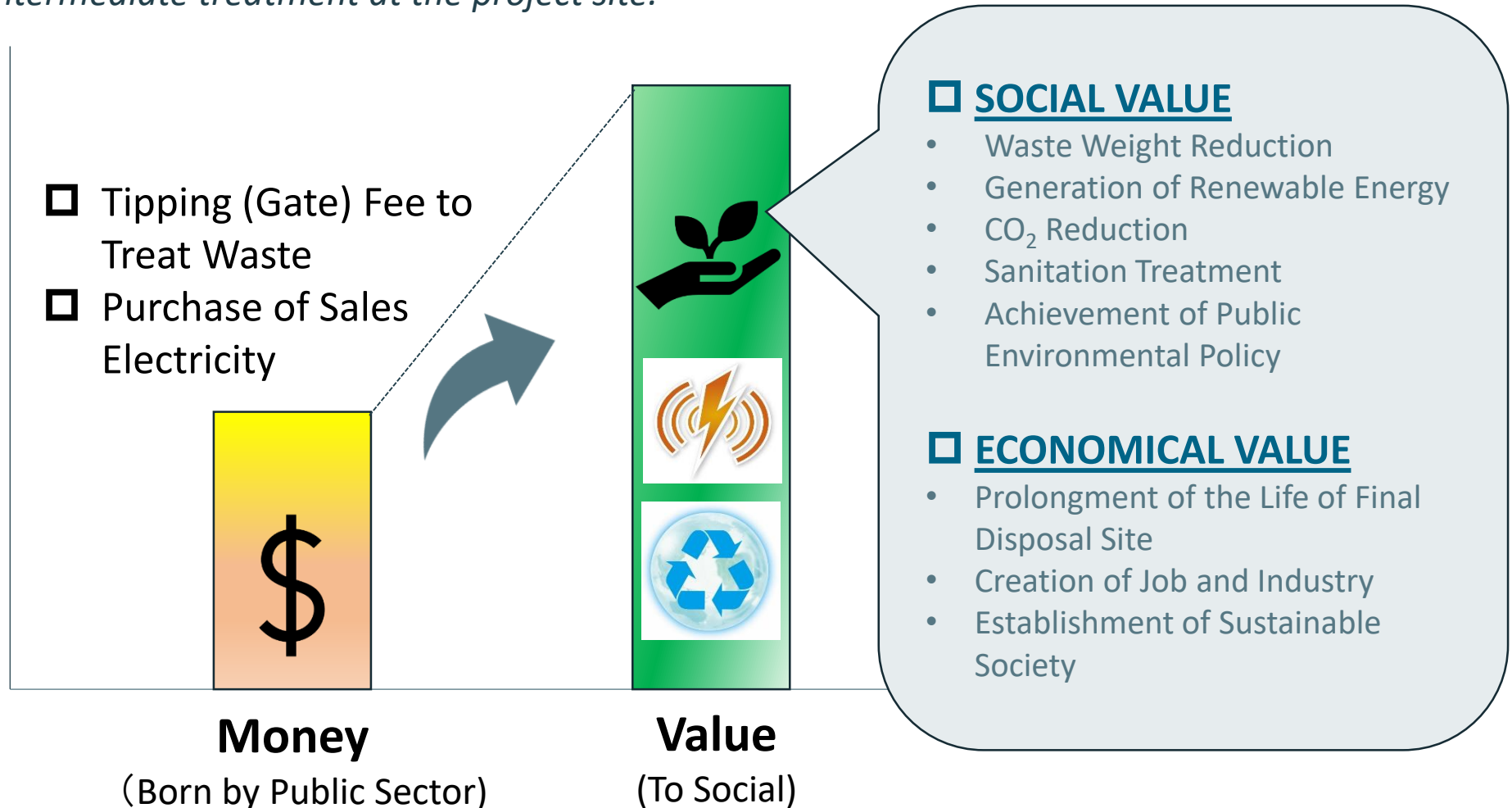
**Waste to Energy**



# 1. Benefit of Waste to Energy

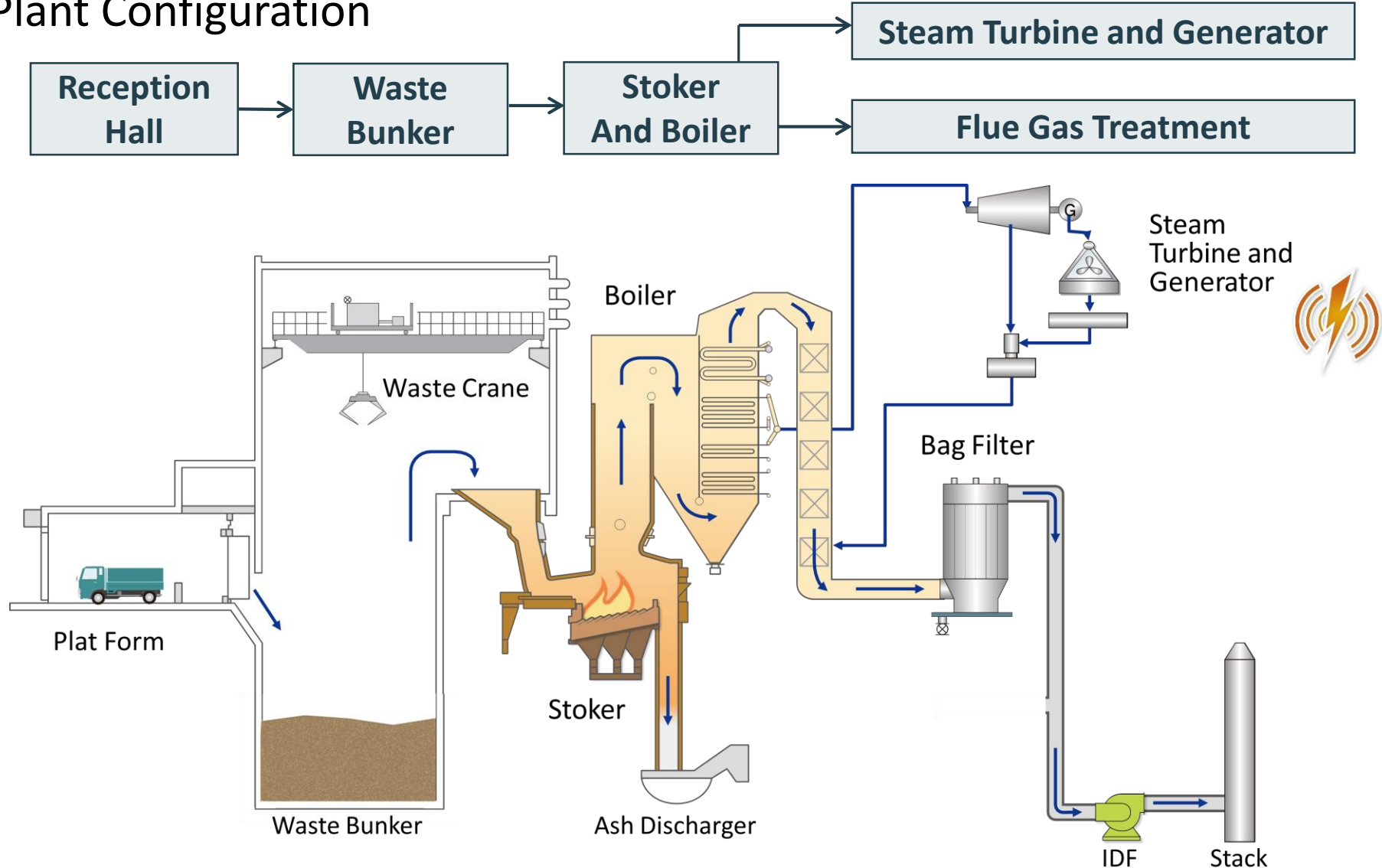
## The Highest Value-For-Money Solution!

The Waste to Energy plant enable to maximize the social value and economical value for intermediate treatment at the project site.



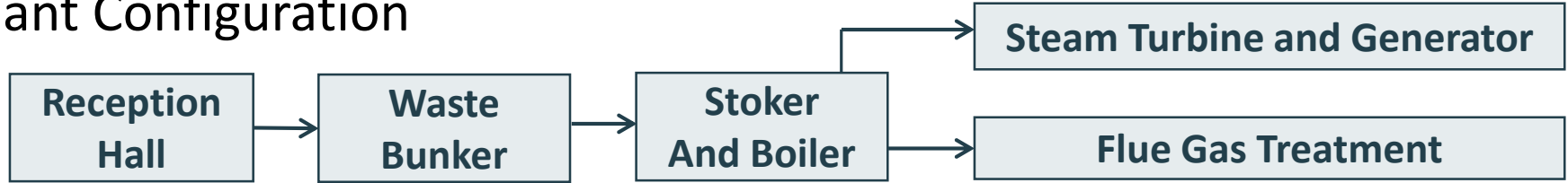
# 2. Waste to Energy Technology

## Plant Configuration



# 2. Waste to Energy Technology

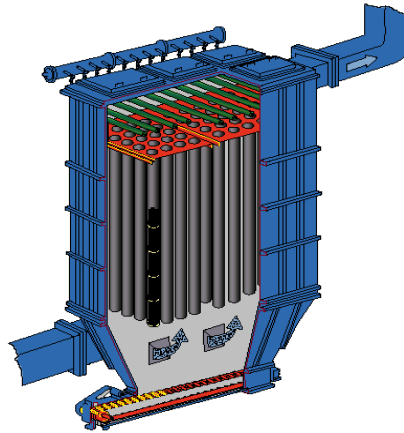
## Plant Configuration



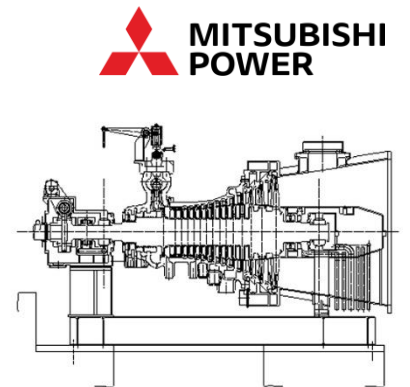
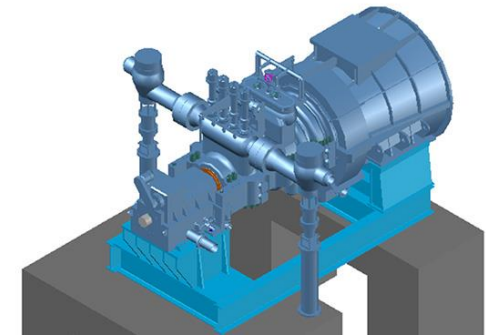
Stoker and Boiler



Flue Gas Treatment

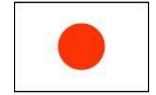


Steam Turbine and Generator



# 3. Waste to Energy in Japan

□ More than **200** Waste to Energy Plants are operating in Japan.

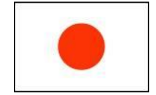


□ More than **70 %** of public waste treatment plant is recently constructed under PPP\* structure in Japan . \* PPP means Public Private Partnership project of DBO, BTO, BOT and BOO to utilize the vitality of the private sector at the maximum.



## Waste to Energy System

MORE >



## One-STOP Solution for Waste Treatment

By providing our reliable WTE technology and optimized PPP services including operation and maintenance to achieve stable and long-life plant operation.



### Waste to Energy Technology

Based on extensive  
experience for plant  
construction



### PPP Service Provider

Based on extensive  
experience for PPP  
execution

# 4. Waste to Energy in Singapore



## 6<sup>th</sup> Waste to Energy Plant is now under construction as PPP Project

It will generate 120 MW (net) and be the highest efficient plant in Singapore.



End user	NEA
Location	Tuas, Singapore
Processing object	Municipal Solid Waste
Operation	2021
Project	DBOO (EPC + O&M for 25years)
EPC Contractor	MHI-AP
Design Capacity	4,200 tons/day ▪ 1,050 tons/unit ▪ 4 units STG: 68MW X 2units



# 4. Waste to Energy in Singapore

## DBOO Structure

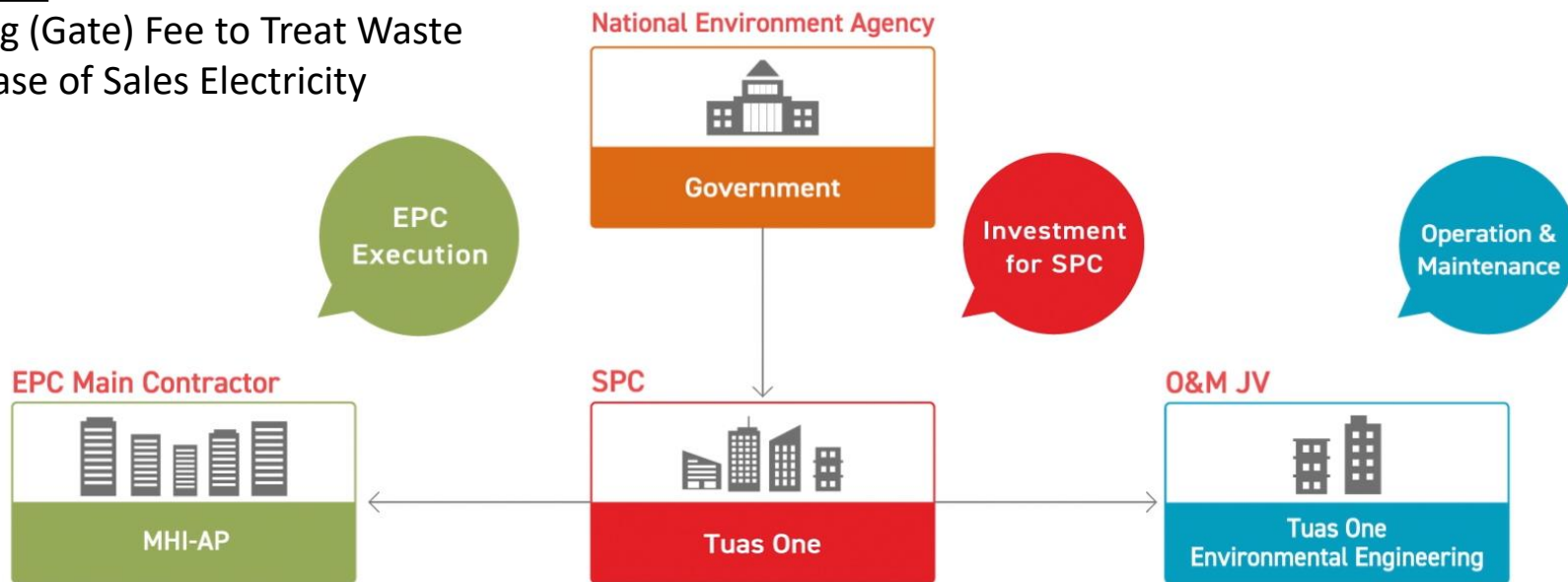
Design, Build, Operate and Own



*6<sup>th</sup> Waste to Energy Plant is now under construction as PPP Project*

### Public Sector

- ❑ Tipping (Gate) Fee to Treat Waste
- ❑ Purchase of Sales Electricity



One-STOP Solution for Waste Treatment

MOVE THE WORLD FORWARD

MITSUBISHI  
HEAVY  
INDUSTRIES  
GROUP

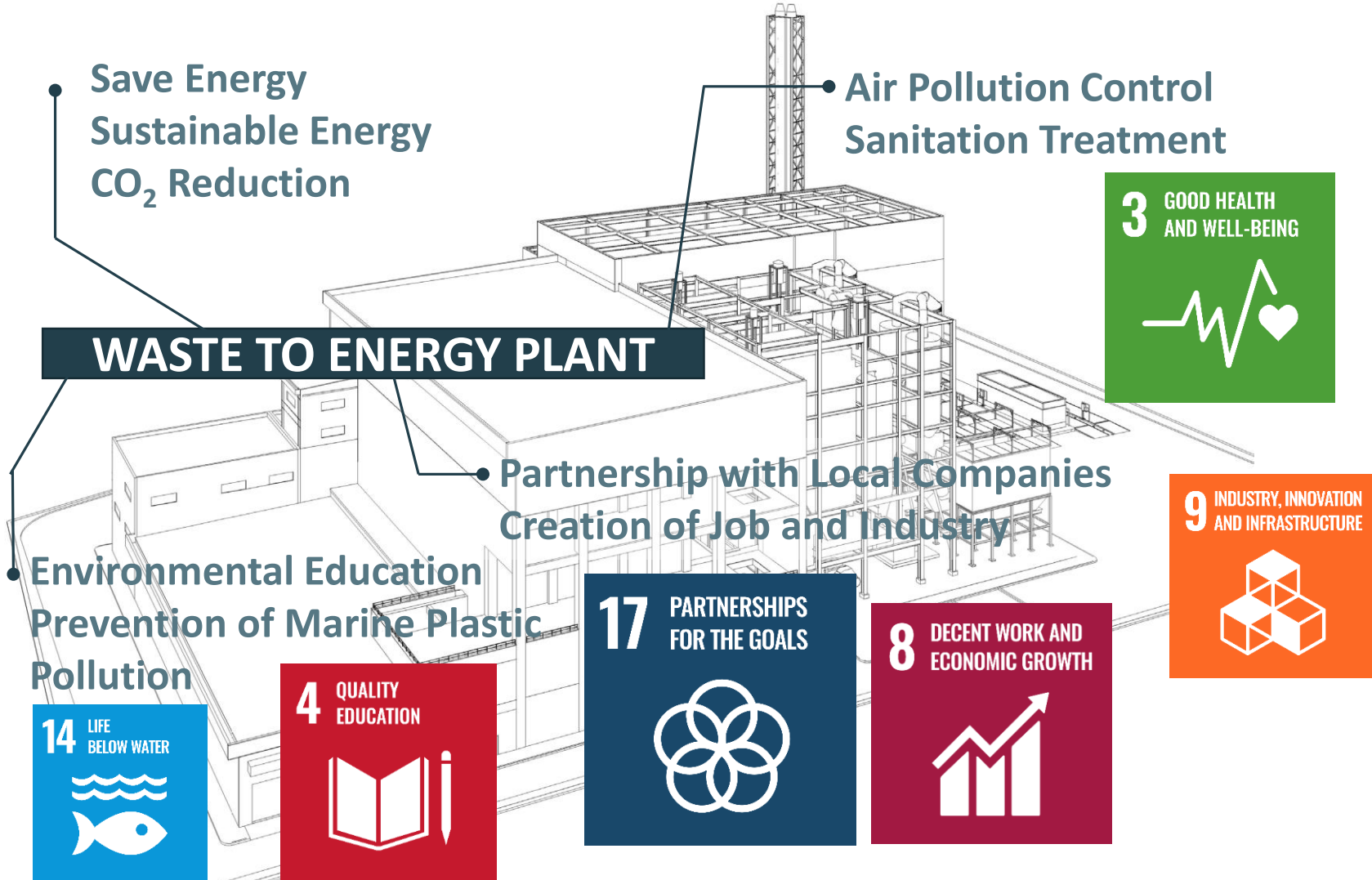
# 5. Waste to Energy in Indonesia



11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

7 AFFORDABLE AND CLEAN ENERGY





**MITSUBISHI HEAVY INDUSTRIES**  
**ENVIRONMENTAL & CHEMICAL ENGINEERING**