

RENEWABLE ENERGY DEMONSTRATION PLANT



**Expert Centre of Innovative
Clean Energy and Environment**



29 May 2019



Renewable Energy Demonstration Plant

Lumtakong River



ไปกรุงเทพ

ถนนมิตรภาพ

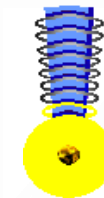
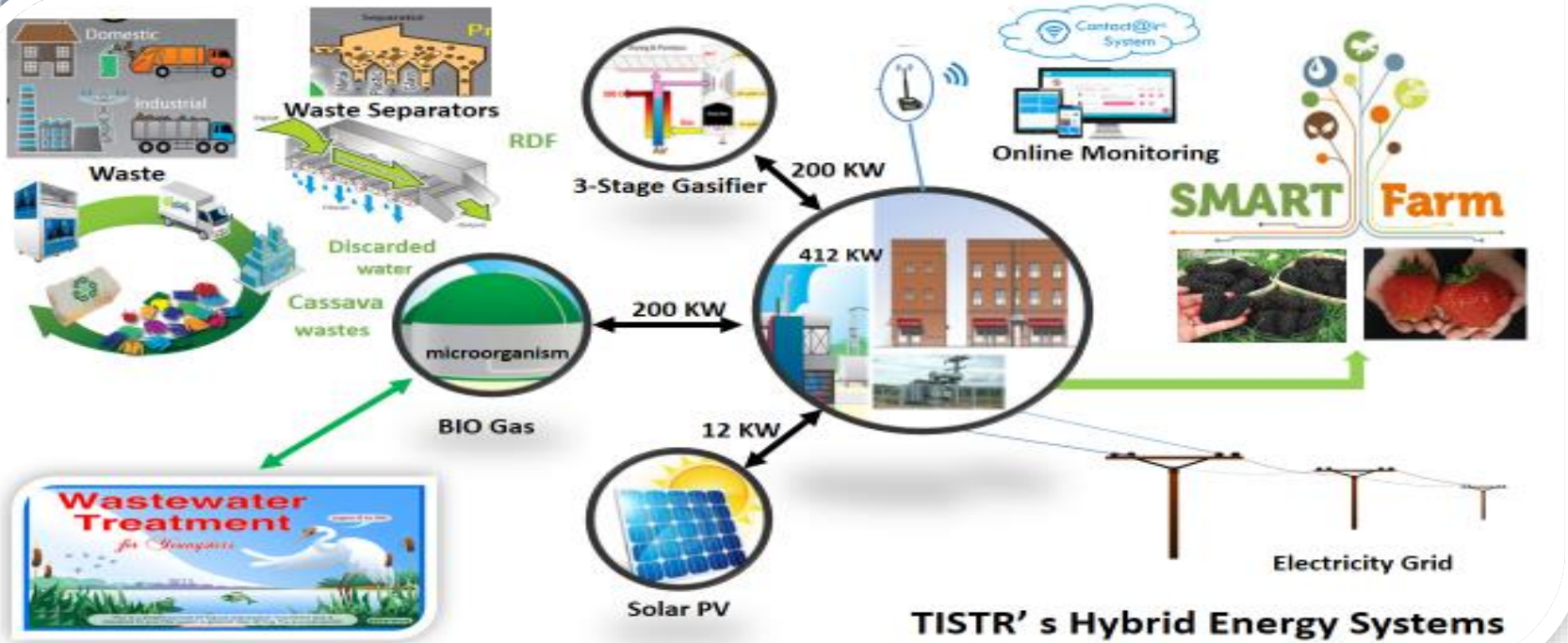
ไปโคราช

MASTER PLAN

ผังแม่บท (รวมส่วนของเอกชน)

มาตราส่วน 1 : 3000

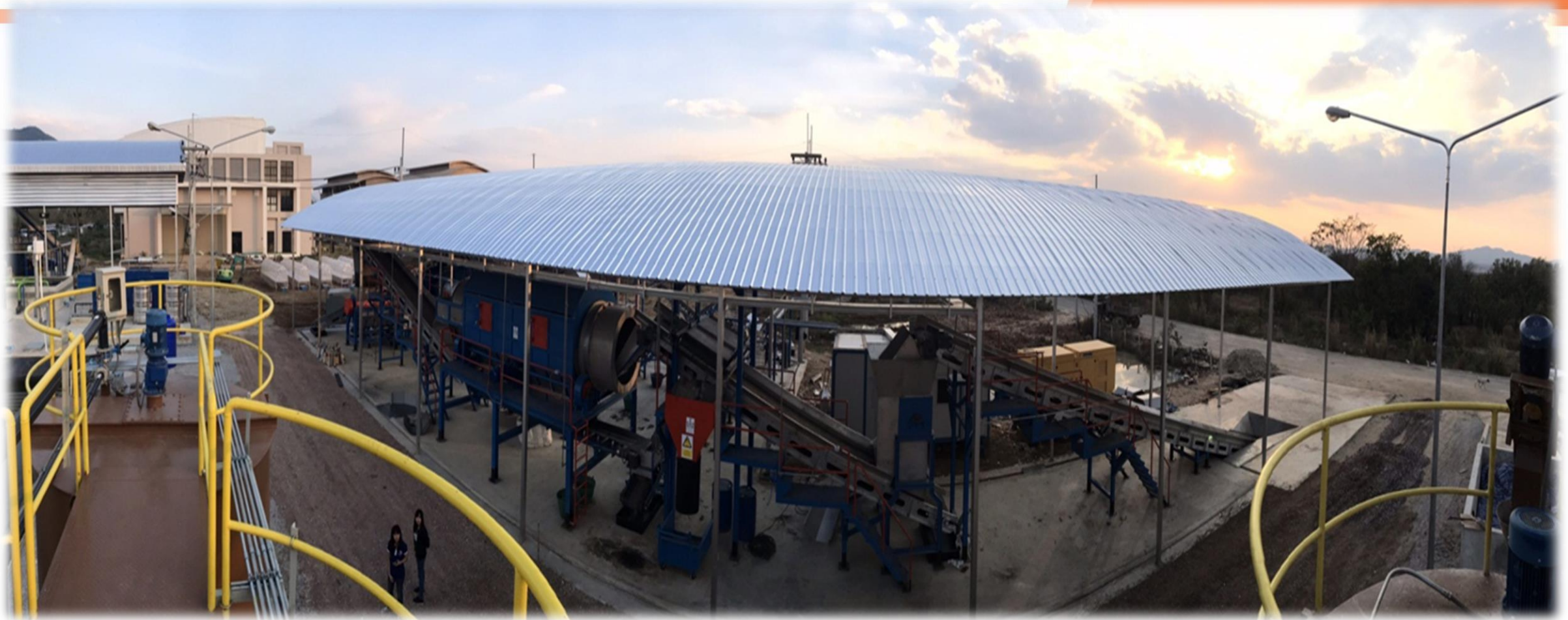




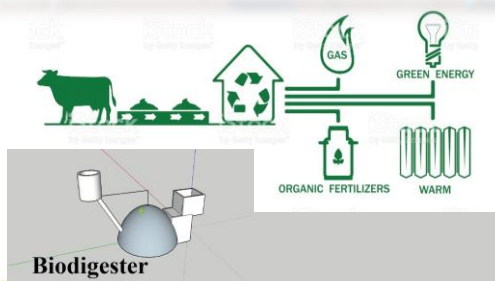
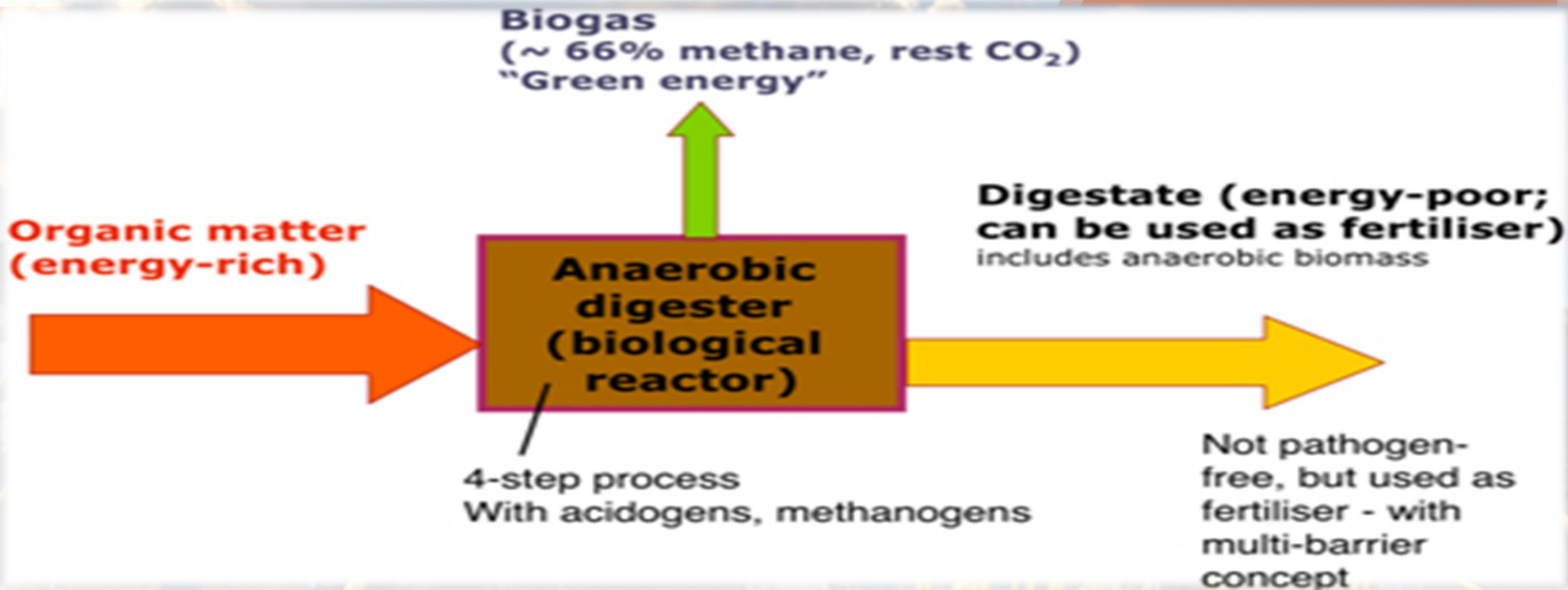
RENEWABLE ENERGY DEMONSTRATION PLANT

- Municipal Solid Waste Sorting Technology
- **Biogas Technology**
- 3 Stages Gasification Technology





Municipal Solid Waste Sorting to RDF



BIOGAS TECHNOLOGY

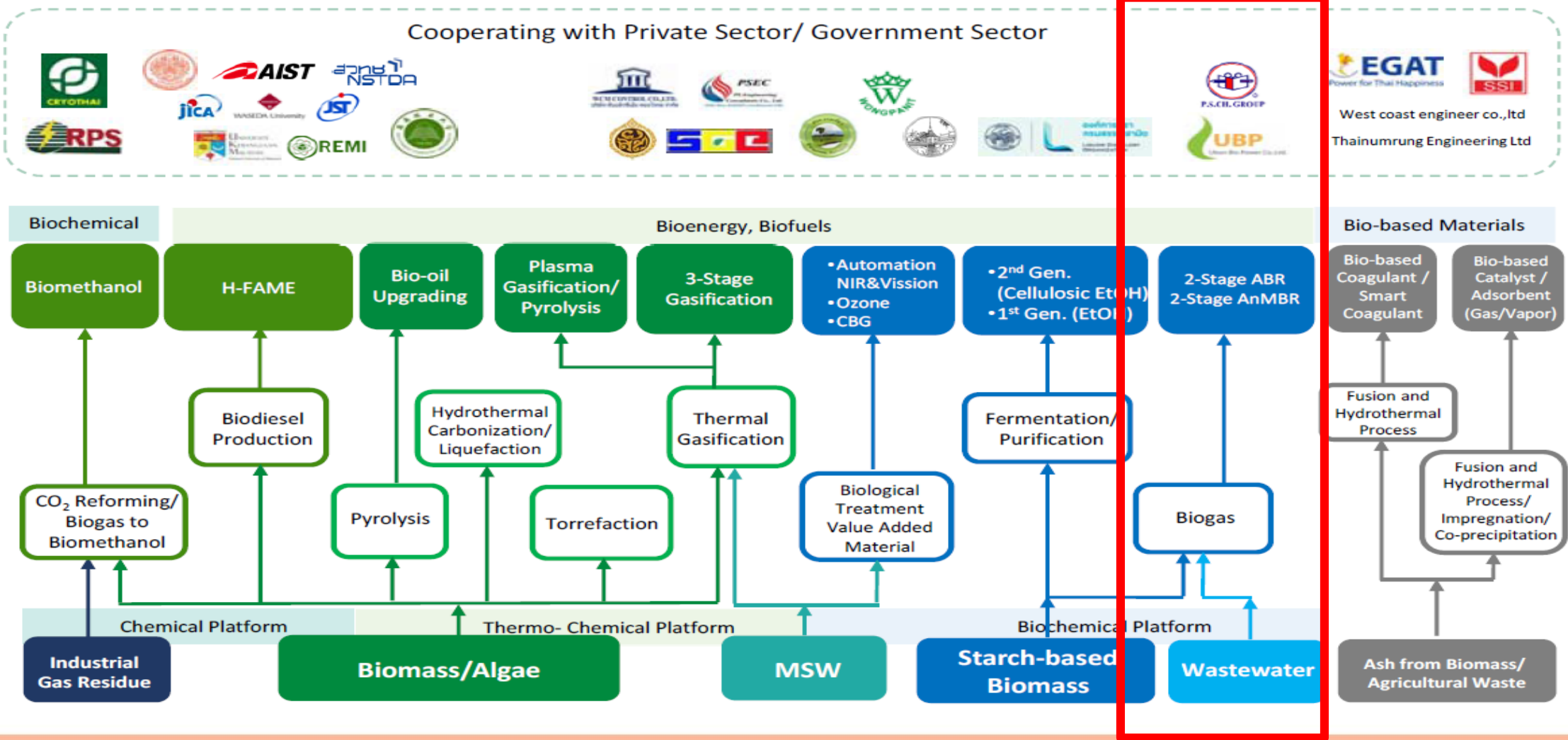
TISTR Technology Available for Sharing

Domestic, National & International Innovative/ Appropriate Technology

TISTR Key Technology

TISTR Platform Technology for Biomass Conversion

Biomass



BIOGASIFICATION FOR GENERATE ELECTRICITY 250 kW

Wastewater Treatment

Aeration Tank & MBR

Gas Storage
1,000 m³

Gas Cleaning

Fare

Gas to Energy

ABR 1,600 m³

Gasifier

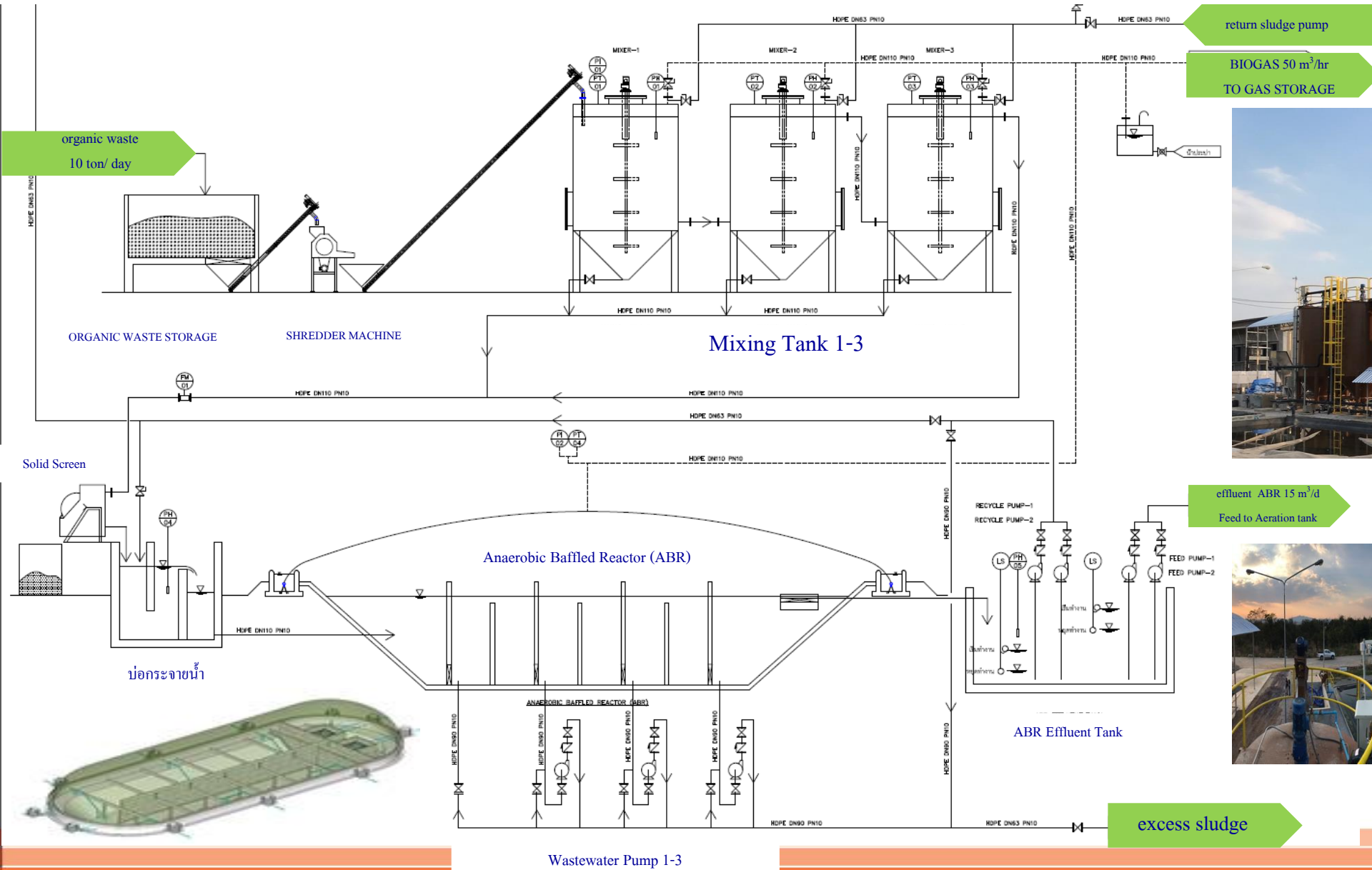
Plasma

Generator

MSW sorting

Bio gasification technology

Process Biogas Flow Diagram



1

return sludge pump
 BIOGAS 50 m³/hr
 TO GAS STORAGE



2

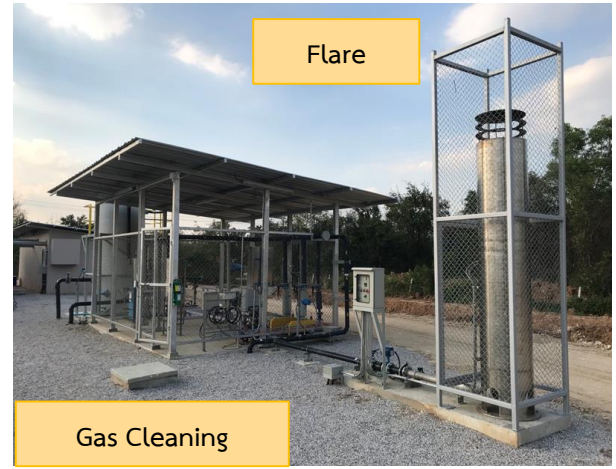
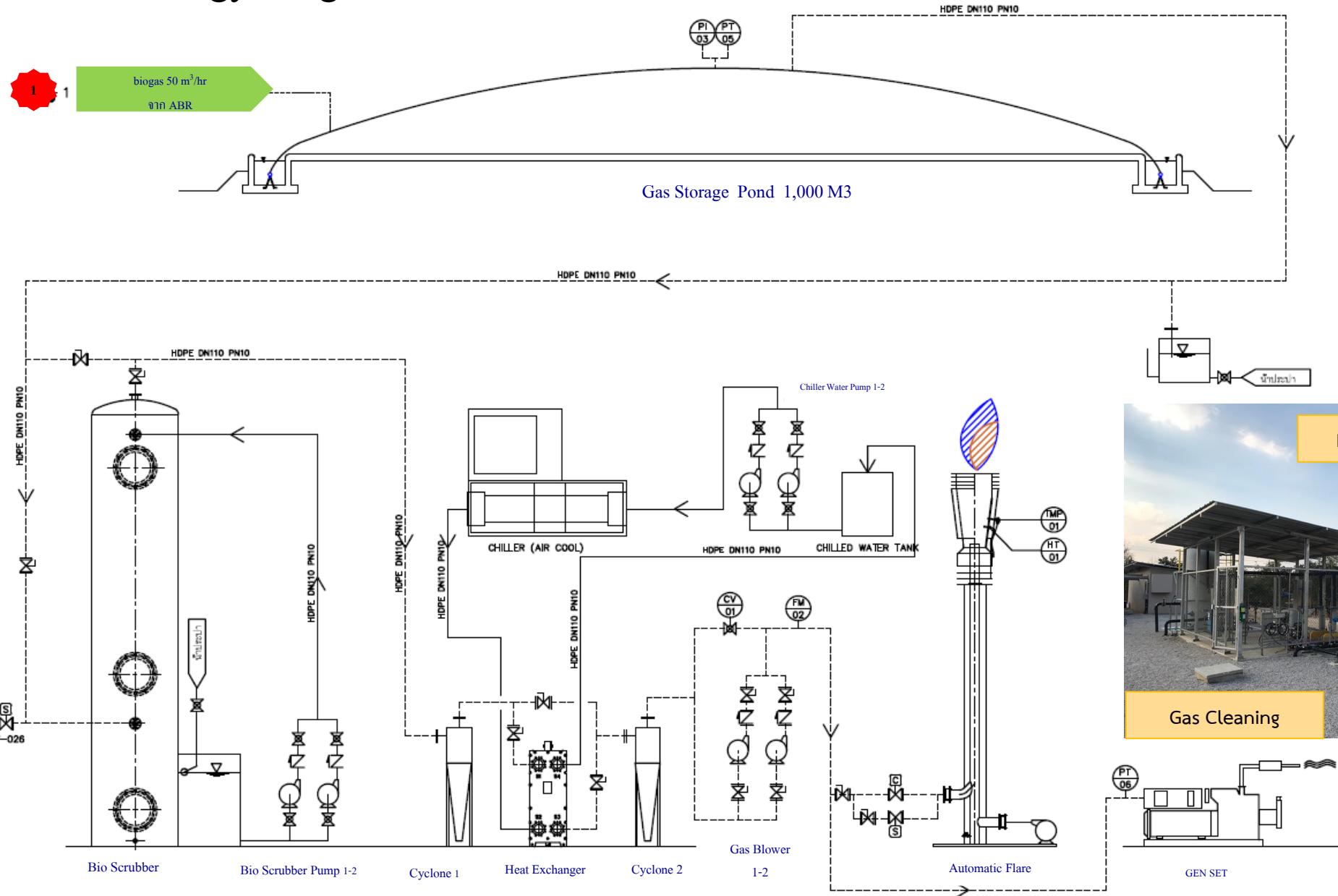
effluent ABR 15 m³/d
 Feed to Aeration tank



excess sludge

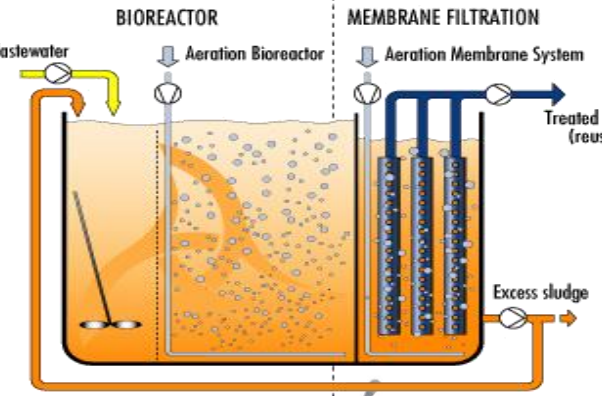
Wastewater Pump 1-3

Process Gas Flow to Energy Diagram

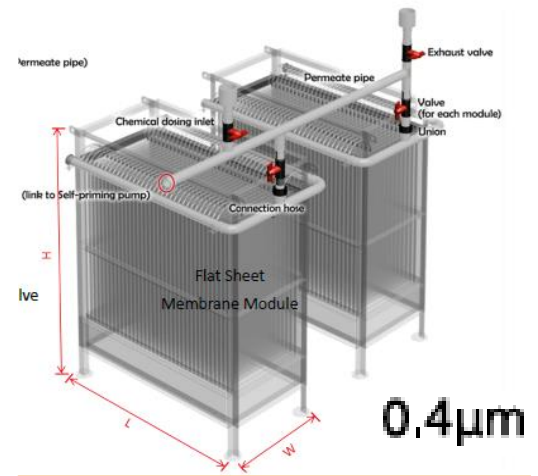
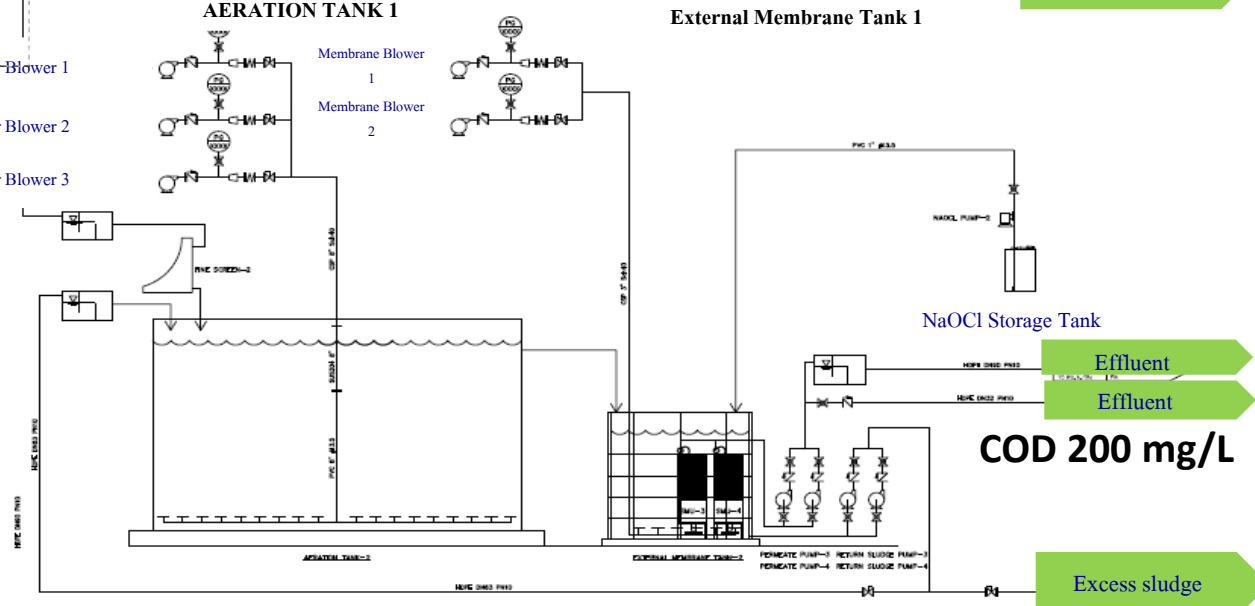
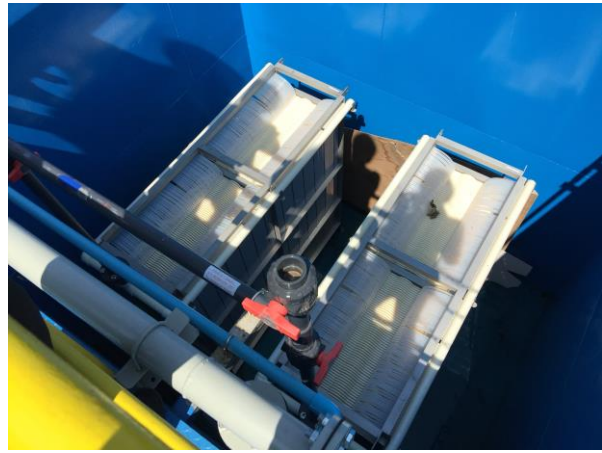
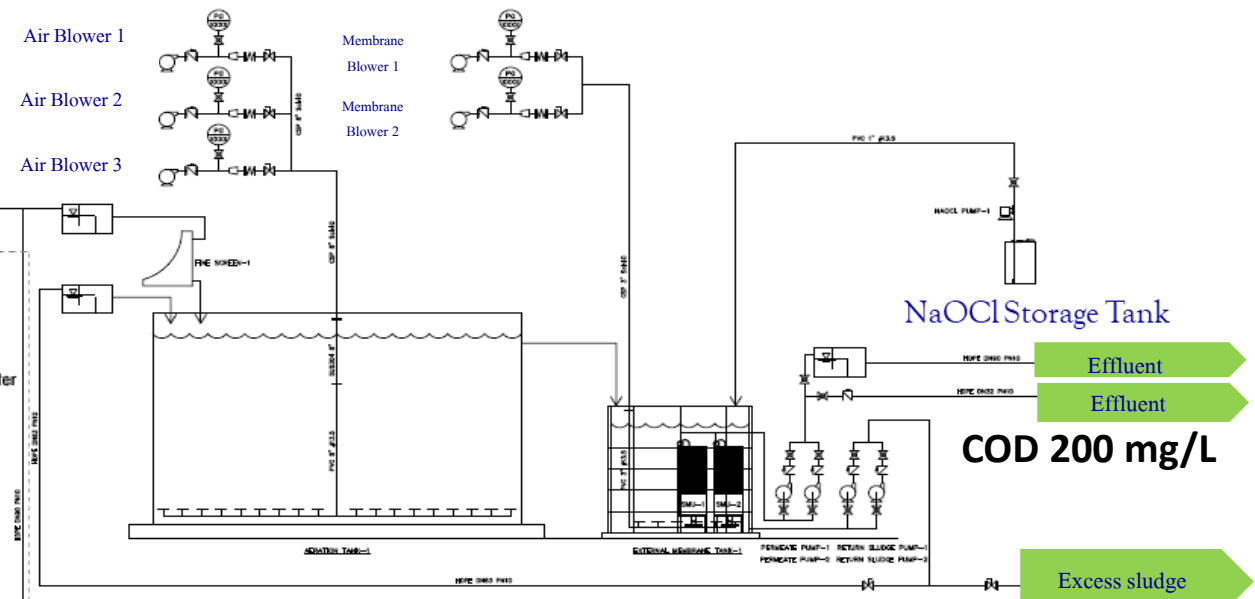


Gas Cleaning System

Process Wastewater Treatment Flow Diagram



Aeration Tank & Submersible Membrane Tank



Submersible Membrane



Biogas 1 m³ heating value 21 MJ
1 kW generator can run on 5.64 m³ of biogas

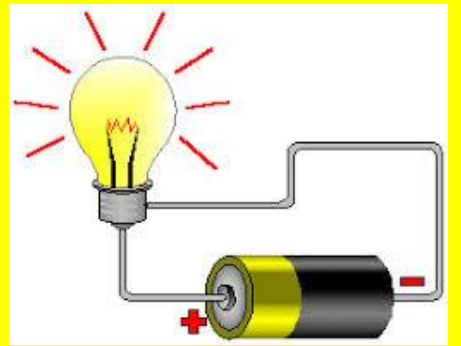
LPG
0.46 kg

diesel
0.60 liter

fuel oil
0.55 liter

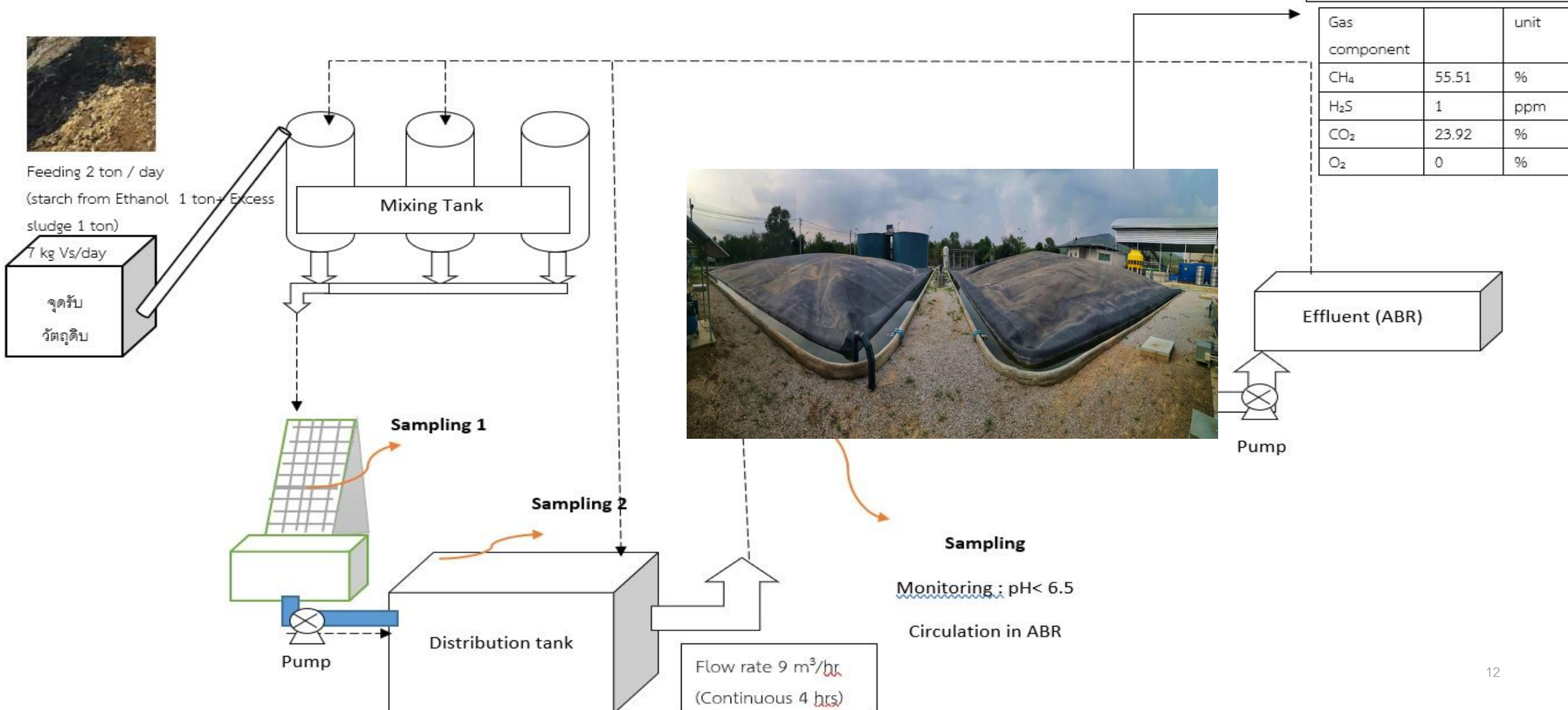
wood
1.5 kg

electricity
1.25 KWh



The Research on going

Flow diagram for operating 15 days

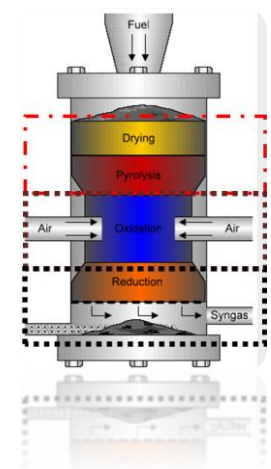




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Gasification System



Thank you

