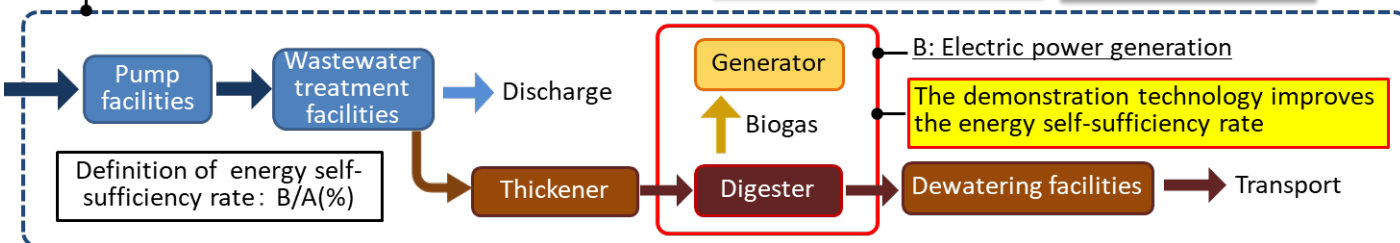
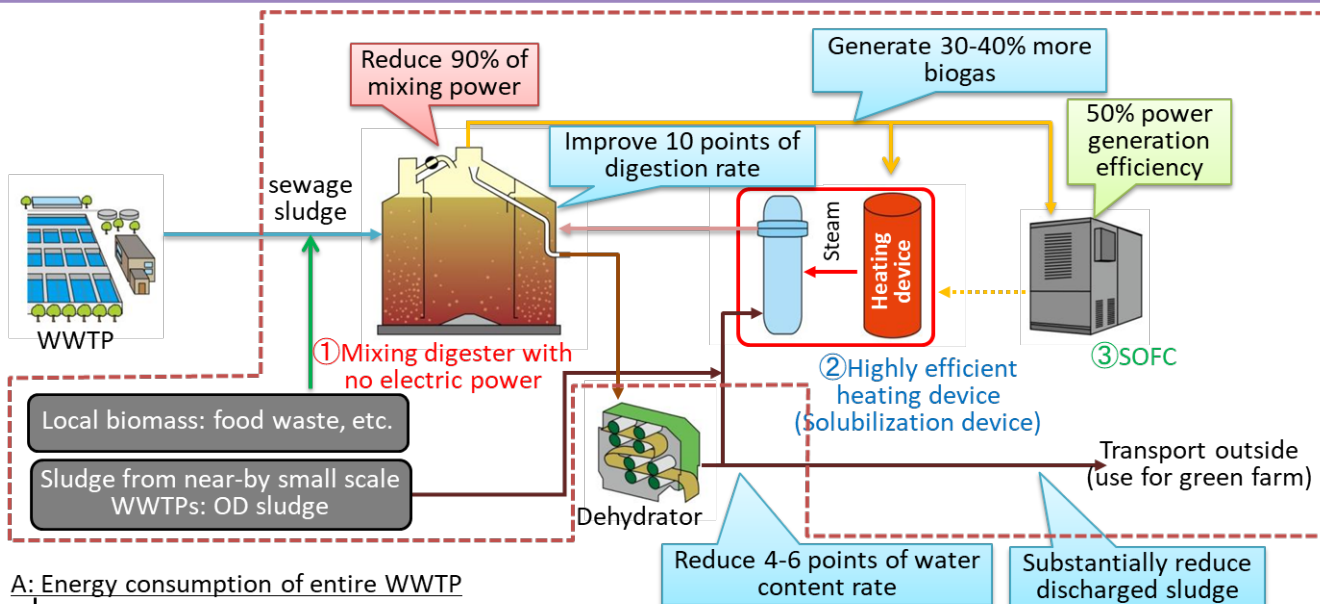


Demonstration project for the practical use of local energy production and local consumption technology with high-efficiency anaerobic digestion system

Implementer: The consortium of Mitsubishi Kakoki Kaisha, Ltd., Kyushu University, JS, and Karatsu City

The combination of three innovative technologies and the utilization of local biomass improve energy self efficiency



Technology Overview

- ① Mixing digestion tank with no electric power : The pressure of generated biogas stirs sludge with no electric power.
- ② Highly efficient solubilization device : Reduce digestion periods and increase biogas generation. Sludge reforming reduces water content rate and sludge generation.
- ③ Solid oxide fuel cell (SOFC) : Simple pretreatment process (desulfurization, siloxane removal) enables power generation

Achievements

- Energy saving: Reduce digestion tank power consumption by **90% or more**
- Digestion performance: Increase gas generation by **30% or more**
- **40% or more** reduction of sludge generation
- **41.4%** energy self-sufficiency *

*Estimation of daily average 30,000m³/day +local biomass