

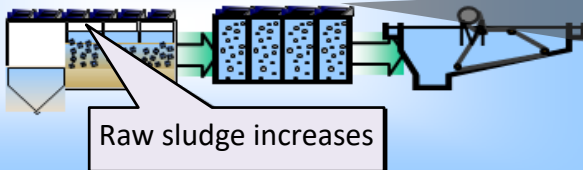
Demonstration Study of an Energy Management System Using Intensive Solid-liquid Separation Technology

Implementer: The Consortium of METAWATER Co., Ltd. and JS

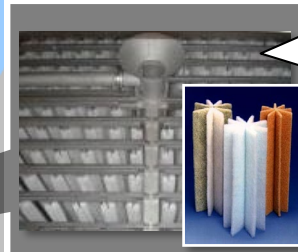
Energy self-sufficiency rate improved by the increase in the raw sludge recovery rate and the efficiency of digestion

Ultrahigh efficiency solid-liquid separation

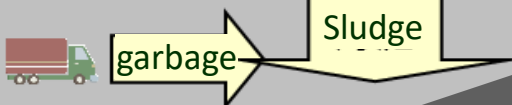
- Clean filtrate reduces aeration volume
- Downsize a blower and a diffuser



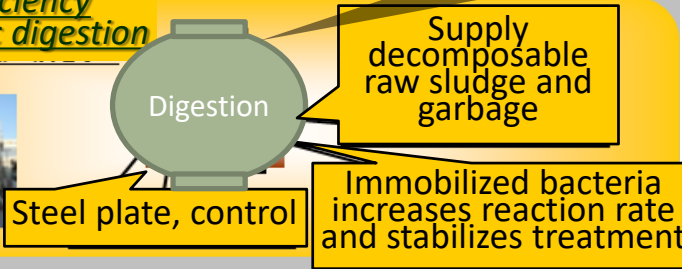
Floating media



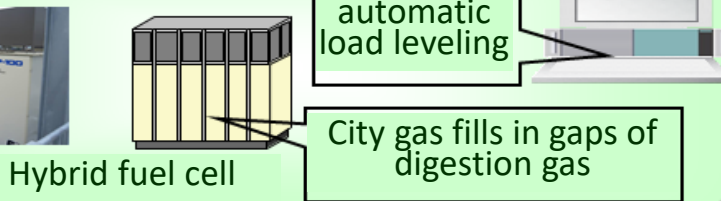
Resin material holding high concentrated bacterial cell



High efficiency thermophilic digestion



Smart power generation



Technology Overview

1. Ultrahigh efficiency solid liquid separation enables energy saving for wastewater treatment process, and energy generation at sludge treatment process.
2. A steel plate digestion tank with garbage supplying, high temperature, high concentration and carrier allows a short digestion period and downsizing.
3. Smart power generation system utilizes 100% digestion gas as hybrid with city gas.

Achievements

- **Performance of solid-liquid separation:** achieve **70%** removal of SS, reduce power consumption for aeration by **13%**, improve raw sludge recovery rate by **51%** → **increase digestion gas generation**
- **Capability of high temperature digestion:** reduce digestion periods from 20 days to **5 days**, downsize digestion tank to **one fourth**, reduce construction costs by **33%**.
- **Energy self-sufficiency:** reduce power consumption of whole WWTP by **59%**.