

Demonstration of an Electricity Generation System from Sewage Biomass Source

Implementer: The consortium of Wakayama City, JS, Kyoto University, Nishihara Environment Co.,Ltd., and Takuma Co.,Ltd.

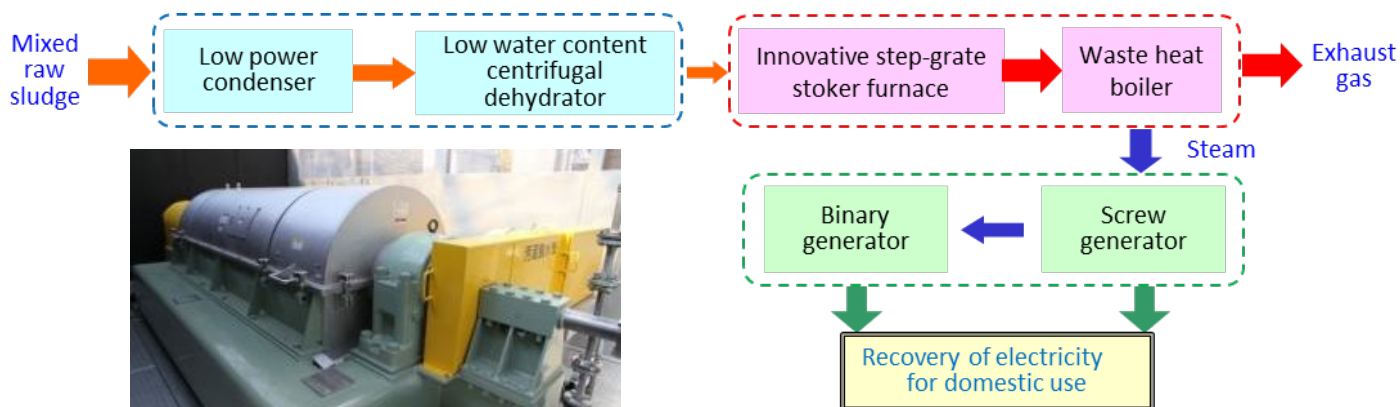
Energy self-sufficiency improved by power generation with waste heat from sewage sludge incineration

Technology Overview

1. Low water content of sludge using centrifugal dewatering device with internal double coagulation
2. Energy recycling with innovative step-grate stoker furnace
3. Energy conversion using a binary generators, etc.



Left: Screw type generator
Right: Binary type generator



Two-agent sludge conditioning centrifugal dewatering device

Achievements

Feasibility study of single-coagulant dewatering + fluidized bed incineration with capacity of 100t/day (24t-DS)

- **Reduce O&M cost by 50%**
- **Reduce greenhouse gas emission by 90%**
- **Reduce energy consumption by 70%**
- Generate electricity of 2,400MWh/year*

* Equivalent to 30% of electric power consumption of whole WWTP

