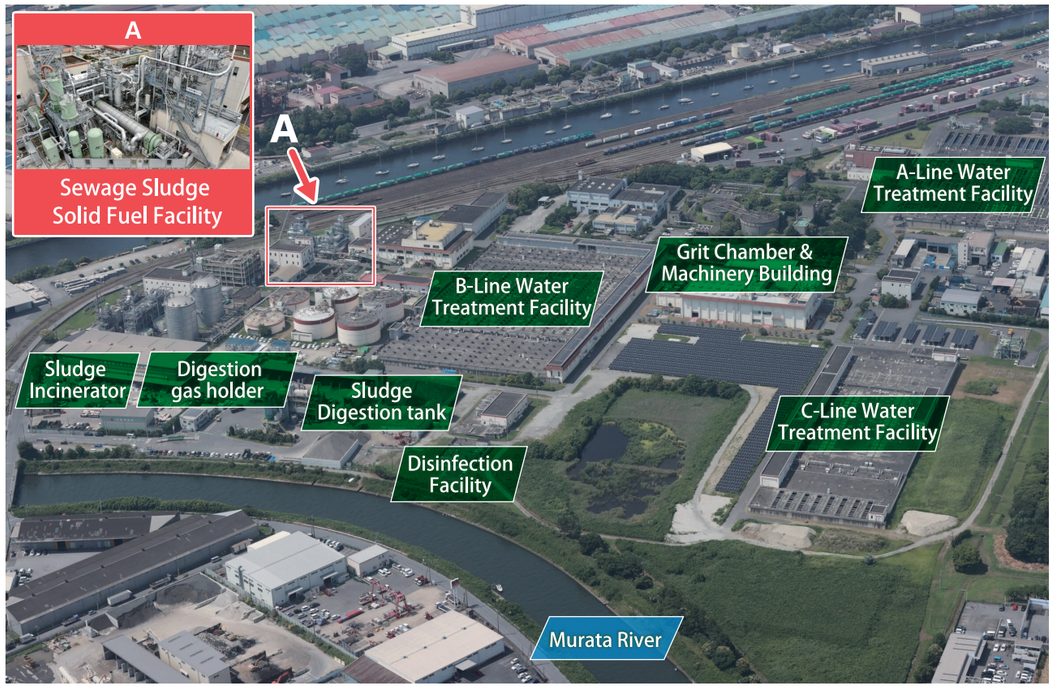
Aerial Photograph of Nanbu Sewage Treatment Plant



2025.7.4

Contact

[Design & Construction]

ADD : Sewerage Facilities Construction Division, Sewerage Facilities Department ,
Construction Bureau, Chiba City
1-1 Chibaminato, Chuo-ku, Chiba City, 260-8722

TEL : 043-245-5444

[Management & Operation]

ADD : Nanbu Sewage Treatment Plant,
Sewerage Facilities Department, Construction Bureau, Chiba City
893 Murata-cho, Chuo-ku, Chiba City, 260-0825

TEL : 043-265-1357

千葉開府900年
900th CHIBA CITY
千の葉に　時を刻んで　900年

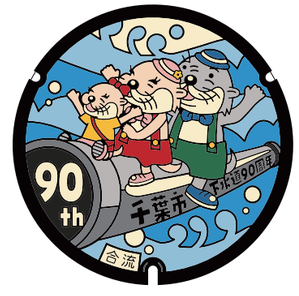


Chiba City Nanbu Sewage Treatment Plant

Sewage Sludge Solid Fuel Facility



千葉市
CHIBA CITY



Commemorative manhole cover design
for the 90th anniversary

Overview of the Sewage Treatment Plant

Chiba City's sewerage project began in 1935 as part of urban planning, starting with sewerage development in the center city. Progress was temporarily halted by World War II, but resumed in November 1963 with the start of operations at the Omiya Sewage Treatment Plant (decommissioned in January 1997).

Chiba City's sewerage plan covers a total planned area of 13,596 ha, accounting for approximately 50% of the administrative area of 27,209 ha. This area is divided into three treatment Areas: the Chuo Treatment Area (1,665 ha), the Inba Treatment Area (4,869 ha), And the Nanbu Treatment Area (7,062 ha).

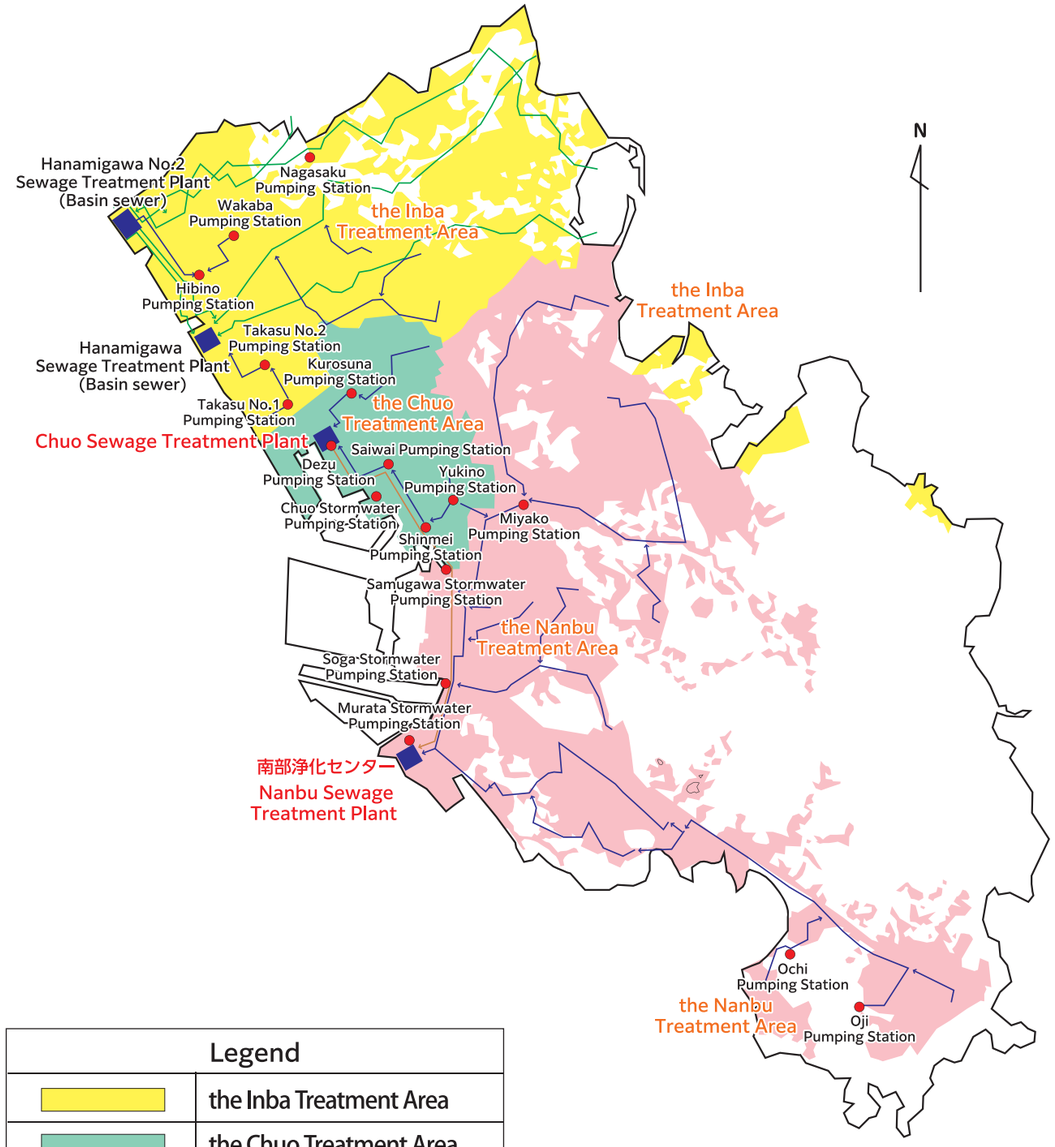
Nanbu sewage treatment plant, serving as the treatment plant for the Nanbu Treatment Area, was designed for a planned population of 416,350 and a planned treatment capacity of 224,560 m³/day. Construction began in 1973, and partial operation commenced in April 1981.

Currently, Nanbu Sewage Treatment Plant operates a facility with a treatment capacity of 187,400 m³/day using an advanced treatment process (anaerobic, anoxic, and aerobic processes).This process utilizes microorganisms to remove not only pollutants from the wastewater but also nitrogen and phosphorus, which are causative agents of red tides in Tokyo Bay.Additionally, a facility with a treatment capacity of 68,400 m³/day, using the Conventional activated sludge process that decomposes pollutants in wastewater using microorganisms, is also in operation.

（Overview of Nanbu Sewage Treatment Plant）

Site area	225,000㎡			
Treatment capacity	255,800㎥ Separate sewer system			
Treatment process	Anaerobic processes・Anoxic processes・ Aerobic processes		Conventional activated sludge process	
Sludge Treatment process	Concentrated→Digestion→Dehydration→ Sewage sludge solid fuel facility・Incineration→Effective use			
Planned effluent quality	BOD：10mg/L、SS：10mg/L T-N ：8mg/L、T-P ：0.4mg/L			BOD：15mg/L, S S ：15mg/L
Current treatment capacity	107,000㎥/Day	25,000㎥/Day	55,400㎥/Day	68,400㎥/Day
Start of operation	May 2001	January 2008	April 2013	April 1981
Receiving water body	Tokyo Bay			
Overall planned Treatment capacity	224,560㎥/Day			

Public Sewerage Planned Area Map



Legend	
	the Inba Treatment Area
	the Chuo Treatment Area
	the Nanbu Treatment Area
	Sewage Treatment Plant
	Pumping Station

Overview of Sewage Sludge Solid Fuel Production

Q What is solid fuel?

Solid fuel is a “biomass fuel※” made from “sewage sludge”.

By creating “solid fuel” from “sewage sludge” produced when cleaning wastewater, it can be used as a substitute for coal in cement factories and other places, transforming into thermal energy and more!

※Biomass... refers to renewable resources derived from plants and animals.



Aqua (Dad)

Q What are the advantages?

This facility is more environmentally friendly than conventional facilities.

By effectively utilizing “sewage sludge” --which was previously disposed of as waste --as a “coal substitute fuel” that can be used in a wide range of applications, we can reduce greenhouse gas emissions!

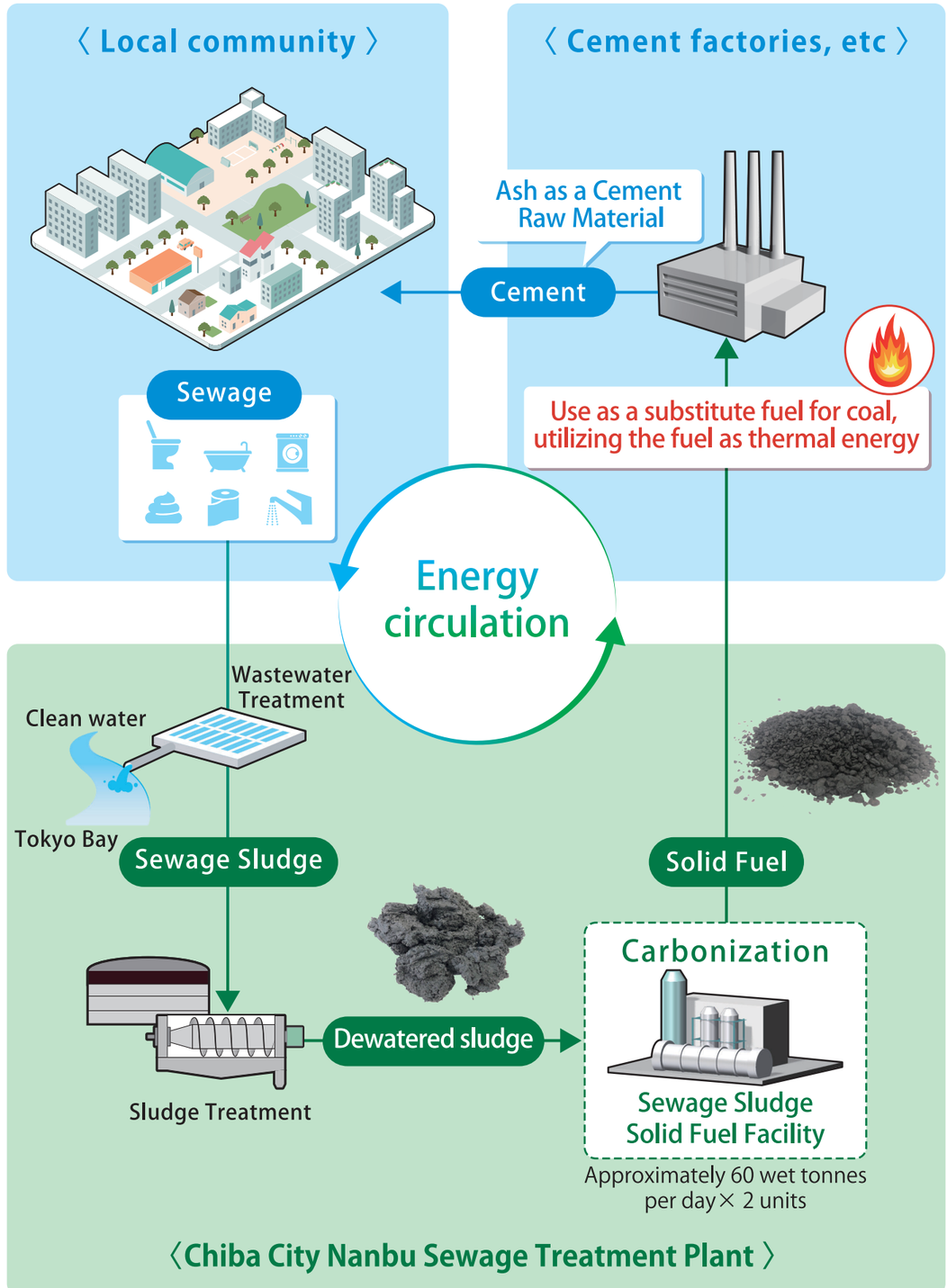


Clean(Mom)



Kawa-chan(Girl)

It contributes to building a recycling-oriented society that makes efficient use of resources.



Project Overview

[Project name] Chiba City Nanbu Sewage Treatment Plant Sewage Sludge Solid Fuel Project

[Project term] Design & Construction: April 2023～March 2029
Management & Operation: April 2026～March 2049(23years)

[Project method] DBO(Design-Build-Operate)

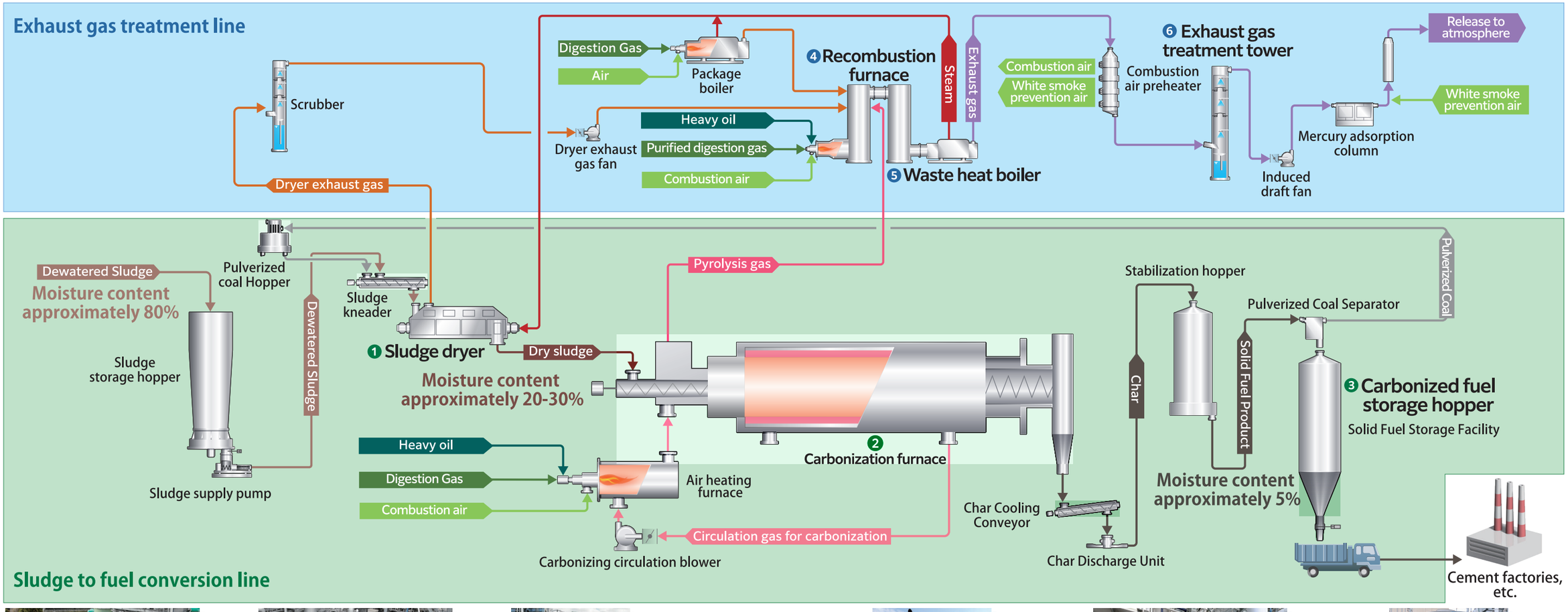
Facility Overview

[Fuel production method] Low-temperature carbonaization process(300~400℃)

[Facility capacity] Dewatered sludge 60wet-t/day × 2furnace

(No. 5 carbonization furnace: operation starts in FY2026;
No. 6 carbonization furnace: scheduled to start operation in FY2029)

[Planned treatment capacity] Dewatered sludge: 37,000wet-t/year (under dual-furnace operation)





1 Sludge dryer

Dewatered sludge is indirectly heated with steam to reduce its moisture content from about 80% to 20–30%.



2 Carbonization furnace

Dried sludge is carbonized by heating it at 300–400℃ under low-oxygen conditions.



3 Carbonized fuel storage hopper

The fuel product is temporarily stored and then loaded onto transport vehicles for delivery to facilities where it can be effectively utilized.Its temperature and oxygen levels are carefully monitored to ensure safe management.



4 Recombustion furnace

Pyrolysis gas from the carbonization furnace, exhaust gas from the sludge dryer, and odors from the facility are treated by combustion.



5 Waste heat boiler

Heat is recovered from the exhaust gas to produce steam, improving the facility's thermal efficiency.



6 Exhaust gas treatment tower

Dust, sulfur oxides (SOx), and hydrogen chloride (HCl) are removed from the exhaust gas.