

Waste disposal technology boasted by Japan

Convert waste to useful resources



**Hydrothermal treatment equipment
G & T Co.,Ltd.**

Convert organic waste into
useful resources



Creation of new business

Waste treatment

Biogas power generation

Function liquid fertilizer manufacture

Three projects can be created

Hydrothermal treatment as a core (hub) can

Work with

Waste disposal / power generation business/

Liquid fertilizer manufacturing business

① Waste treatment

Sludge



Food residue



Fish waste



Sludge / Food residue/
Raw garbage / Vegetable waste/
Fish waste

② Raw materials for biogas power generation

After solubilized by this treatment, methane Fermentation is carried out.



High efficiency methane fermentation

③ Organic cultivation liquid fertilizer

Professor Motoyoshi Oohaba of former professor of Tokyo University of Agriculture and Technology verified.

Strawberries with a sugar content of 35



Cucumbers with a yield of 1.5 times



Lead organic crop agriculture to success!

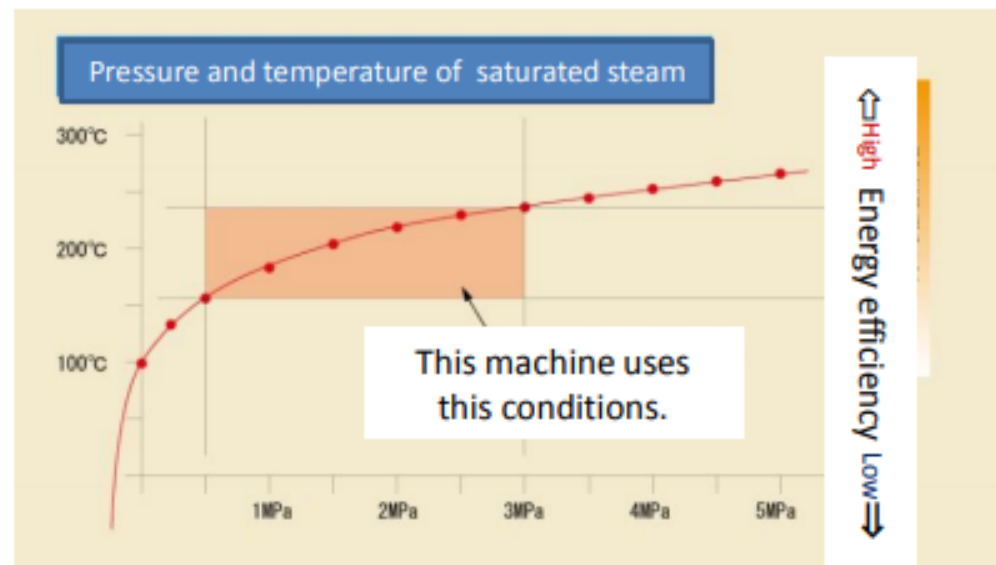
Characteristic

Hydrothermal treatment equipment treats organic matter at Up to 2 Mp and 170 ~ 200 °C.

Hydrothermal steam and high pressure environment make decomposition · synthesis reaction.

Production is possible as a new resource with high functionality from large amounts of agriculture, forestry and fisheries waste.

* As new resources, 80% changed aqueous solution and 20% as solid.



Hydrothermal treatment equipment

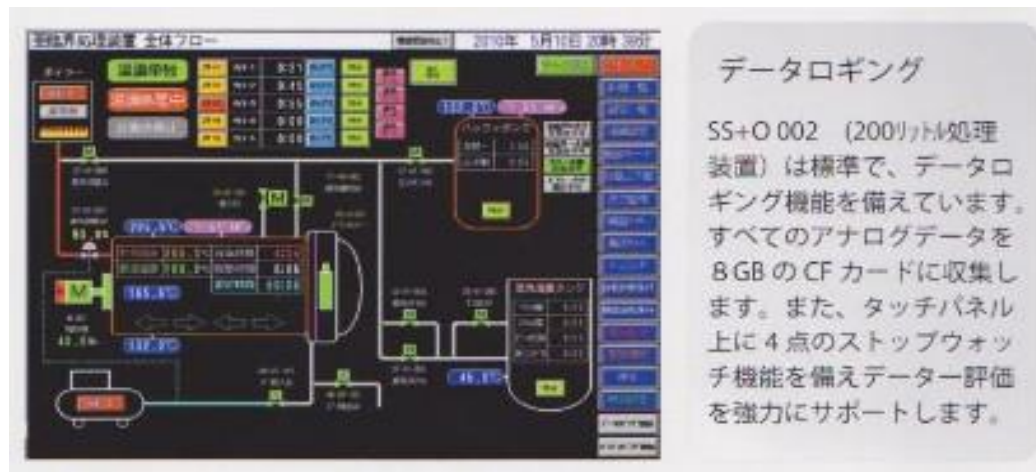
Improve the environment

Reduces stench.

Does not generate dioxin.

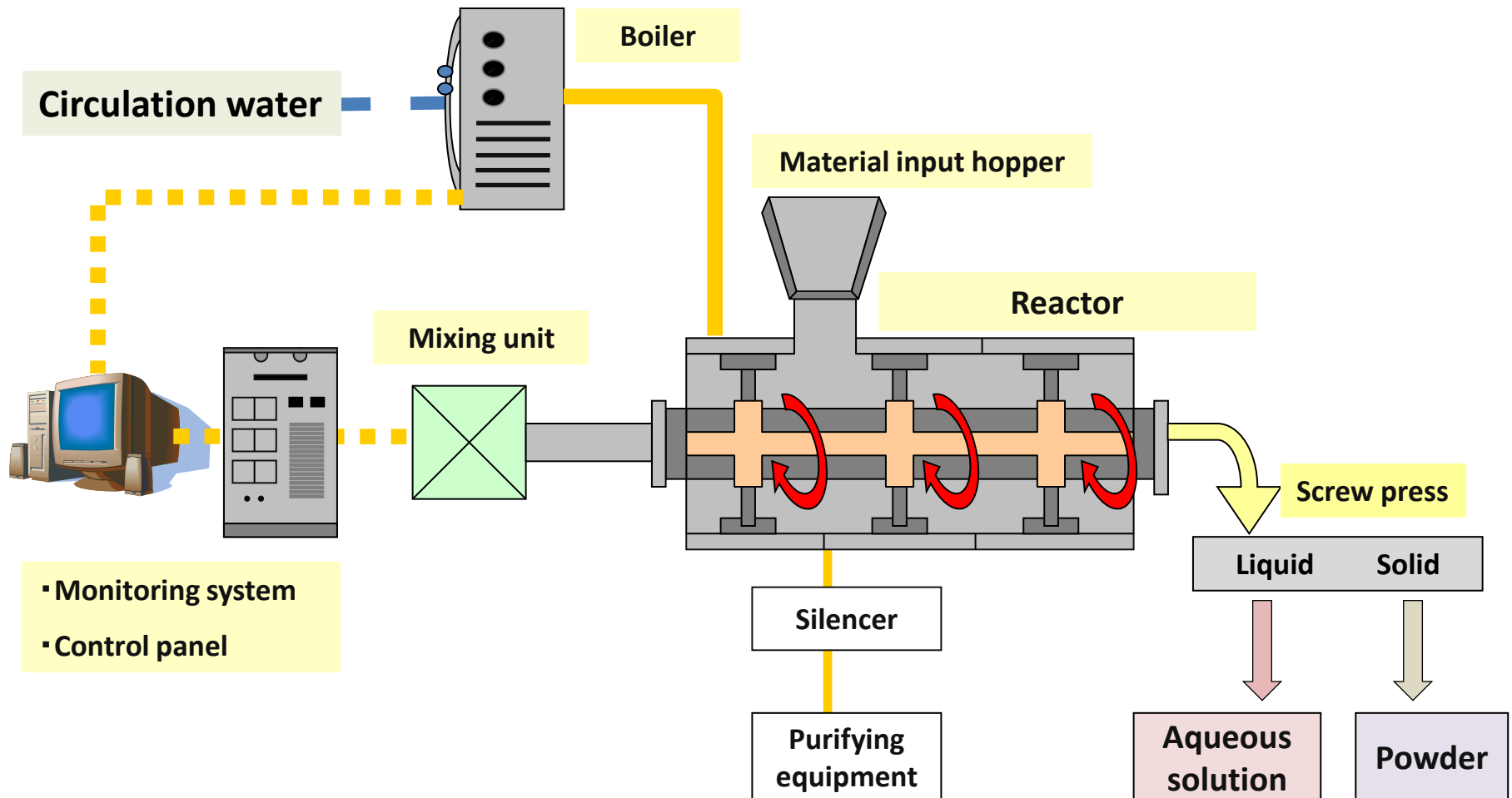
**Separate difficult-to-isolate
substances.**

High productivity by computer monitoring



Completed processing of 7.5tons of
Waste in 2.5 hours or less.
(From input to discharge)

Hydrothermal system flow



Hub effect of Hydrothermal treatment

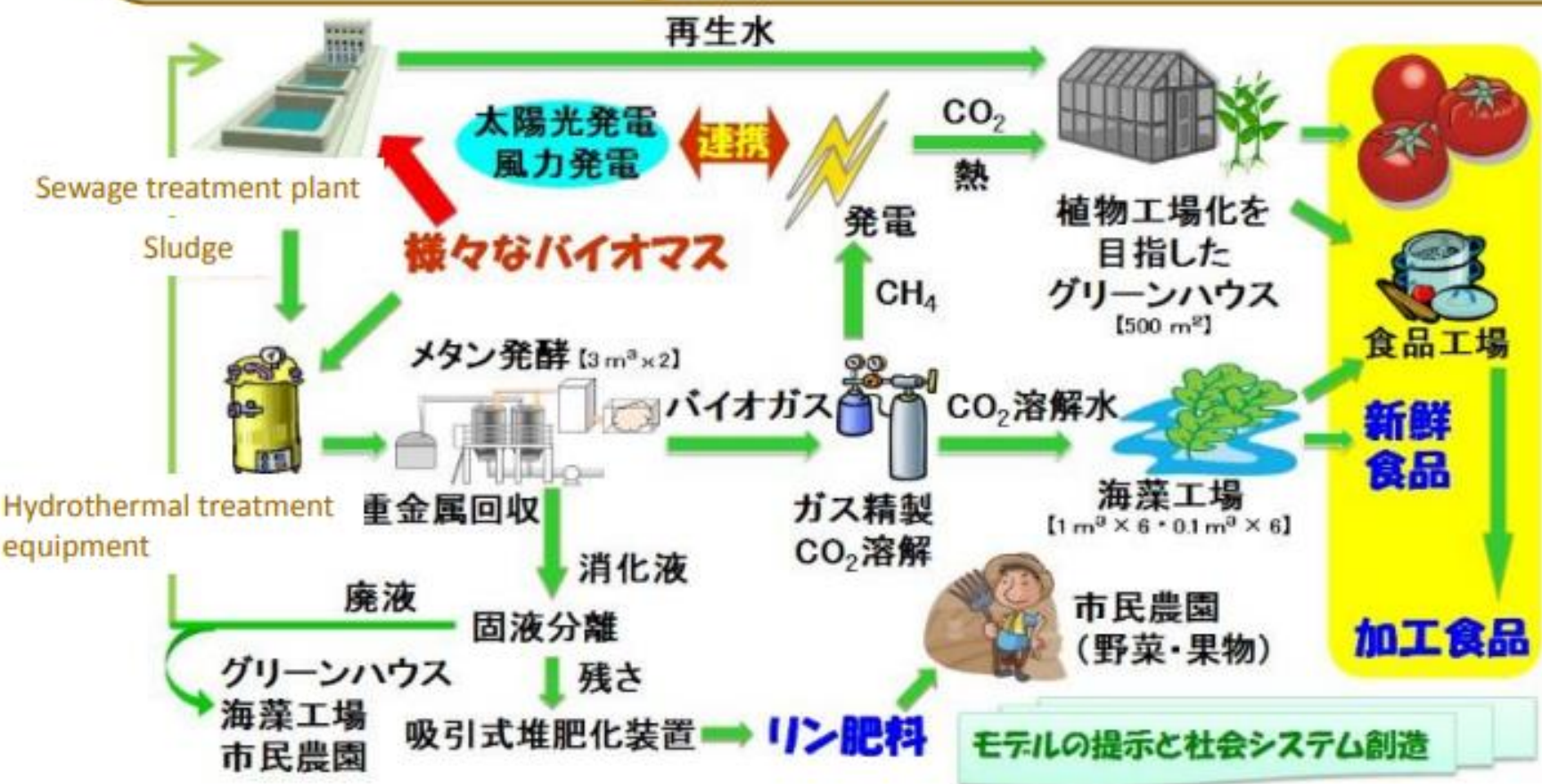
Verification by university started
Practical application!
(Subsidy business
Of Ministry of education)

National Toyohashi University of Technology

Methane gas · Electricity · Fertilizer generation



Toyokawa Biomass Park concept
 National Toyohashi University of Technology
**Methane gas · Electricity · Fertilizer
 generation**



Meiji University

Liquid fertilization / cultivation test

Tomato residue



Cabbage residue



Stems, leaves residue



Hydrothermal treatment equipment



<高温高圧水熱処理>

<高温高圧水熱処理後>

Liquid fertilizer



Cultivation test



愛知県の補助金事業で、害獣対策（液体肥料化）にご協力を頂きました。

15 tons equipment



Introduction cost of hydrothermal equipment

Equipment: 15 tons volumes /
Processing amount 7.5 tons

(Assuming that the 9 batches a day, operate 24 hours, 2.5 hours/process)

Processing capability 24,638tons/year

Hydrothermal treatment basic equipment
For price, please contact us.

Synergy benefit in business integration

Waste treatment business

Power generation business

Liquid fertilizer manufacture

① Waste treatment business

(Operate 24 hours 7.5 tons / 2.5hours / batch)

Capability 24,638tons/year

(Waste treatment fee : ¥3,000 / ton)

Gross profit ¥7.4 million / year

② Biomass power generation

$2\text{Mw} \times 24\text{h} \times 365 \text{ days} \times \text{¥}39$ (Selling unit price / Japan)

Power sale amount

Gross profit **¥700million/year**

③ Liquid fertilizer

Liquid fertilizer remaining
After methane fermentation !

Wholesale price ¥5,000/ton

(7.5ton x 1.2 times x 9batches x 365days x ¥5,000)

※By adding steam to the input amount, the discharge amount will be 1.4 times from the input amount 1.2 times.

Gross profit **¥140million/year**

Total Gross Profit

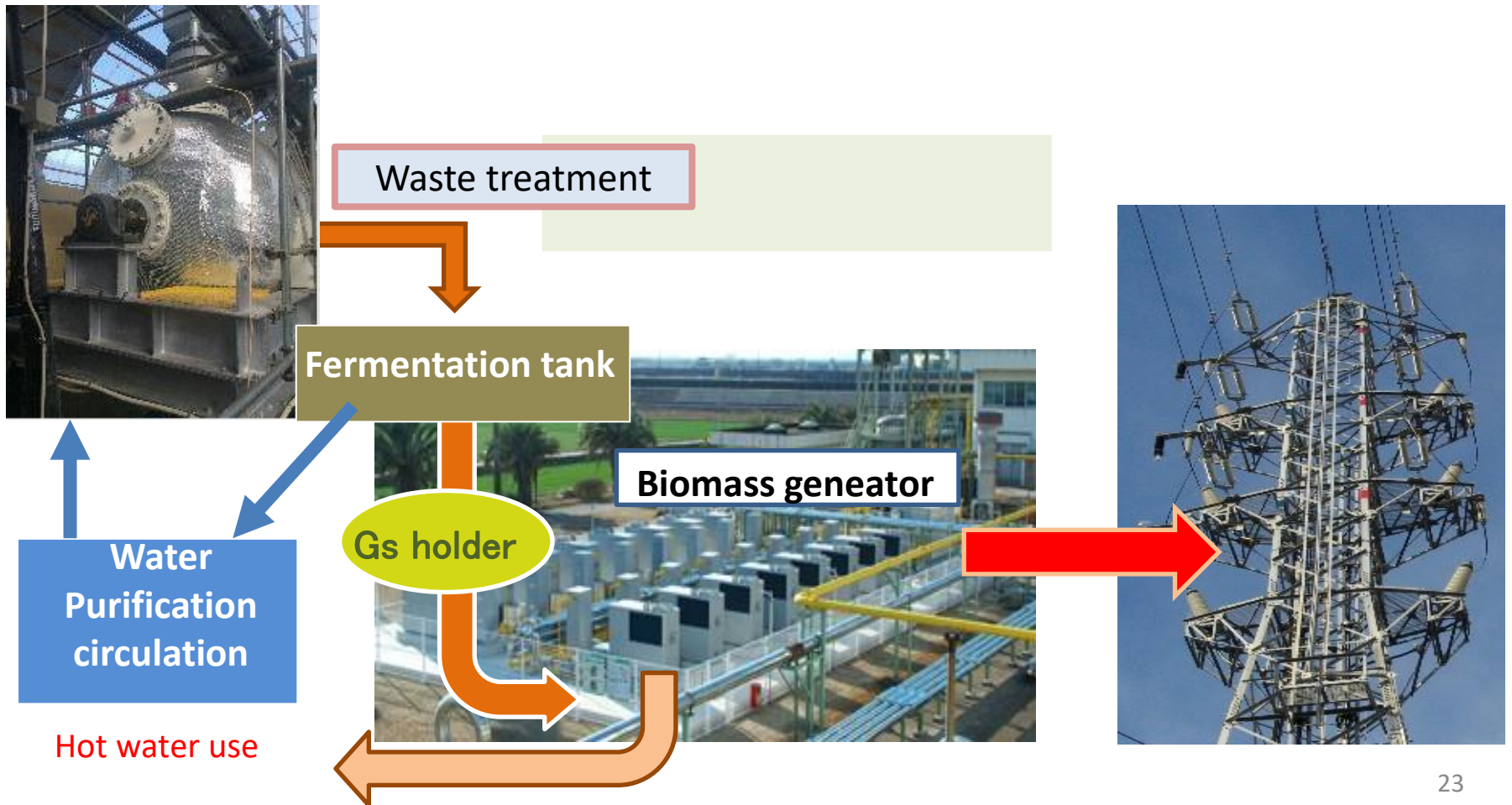
Waste treatment + Power + Liquid fertilizer
Gross profit **900million/year**

Biogas power generation

Power generation amount 2000Kw/h

	Fermenter size	
	210tons (21tons × 10 tanks)	
	Amount of gas m3	Bio fluid volume
One hour	715	4.8
One day	17,160	114.4
One year	6, 263, 400	41, 756

Power generation flow



Organic cultivated liquid Fertilizer products



Liquid fertilizer is diluted 1,000 times.

A high effect is brought.

An example Price of liquid fertilizer treated
Chicken feces in Japan is ¥4,860 / L