



## An Overview of Ooki Town

- An agricultural community located next to Yanagawa in the central part of the Chikugo Plain of southern Fukuoka Prefecture.
- Population: about 14,500;  
Area: 18.43 square kilometers
- Canals make up 14% of the town's area.
- Specialty products include strawberries, *Shimeji* and *Enoki* mushrooms and *Hanagoza* (traditional grass mats).
- Community activities, such as environmental clubs, are very popular.

## Initiatives for Creating a Recycling-Based Community

- Creation of a waste-free community
- Utilization of biomass
  - In February 2005 the town was recognized as a 'biomass town'.
    - Kitchen waste, raw sewage and septic tank sludge are used as organic fertilizer  
→ Ooki Town Organic Resource Recycling Project
    - Used cooking oil is utilized as an alternative fuel (bio diesel fuel)  
→ The Rape Blossom Project
- The spread of renewable energy
  - The proliferation of solar power
    - Establishment of the **Aqus And Kururun Regional Cooperative Power Plant**
    - Installation of solar power equipment in all of the town's elementary schools
    - More than 4% of private households have solar power equipment installed.
  - Energy conservation, solar heat utilization.

## Ookimachi Mottainai Declaration (Zero Waste Declaration)

The future of our children is endangered. The increasingly serious climate change due to global warming is now threatening the very existence of mankind in the 22nd century. There is no doubt that human activities and our resource consuming society are behind the problem. We reviewed our wasteful lifestyle and decided that our town will not let our children shoulder the debts. We hereby announce the Ookimachi Mottainai Declaration as follows:

1. We shall learn from the wisdom of our predecessors, nurture the Mottainai mind, and create a town without waste.
2. We shall promote the recycling of waste, a precious resource, and become a town that does not dispose of waste by incineration or landfills by FY 2016.
3. Ookimachi, though merely a tiny town on this planet, shall have a cosmopolitan view and create a sustainable community hand in hand with similarly motivated people throughout the world.

### Ooki Town's waste disposal volume and numerical targets

Waste disposal volume and numerical targets	Combustible waste			Non combustible waste		Total waste
	Households	Businesses	Large waste	Households	Businesses	
FY2005 disposal volume (Base year)	2241t	710t	54t	93t	3t	310t
FY2007 disposal volume	▼44%	▼51%	▼35%	▼37%	▼67%	▼44%
FY2008 disposal volume	▼44%	▼42%	▼20%	▼88%	▼67%	▼45%
(Reference) FY2007 target	1500t	360t	52t	70t	3t	1985t
(Reference) FY2009 target	▼33%	▼49%	▼4%	▼25%	0%	▼36%
(Reference) FY2009 target	730t	100t	38t	60t	2t	930t
(Reference) FY2009 target	▼67%	▼86%	▼30%	▼35%	▼33%	▼70%

※The numerical targets for FY2007 and FY2009 were set in FY2006. The percentage is a comparison to FY2005.



### Kitchen Waste Separation Commenced Over the Entire Area as of November of 2008

- Waste collection carried out with the use of bucket containers
  - Rainbow Plan Method (Nagai City, Yamagata Prefecture)
- Collection takes place twice a week (three zones within the town)
  - Collection buckets are placed out the day before collection
  - Collection also takes place on national holidays
  - No fee for processing kitchen waste
- Burnable waste collected once a week as of April 2007
- Project involved treatment costs of 30 yen per 10 kg. of waste

### Garbage to burn by classification of the kitchen waste decreased by 44%

Year	Month	Household kitchen waste	Kitchen waste produced by businesses	Total kitchen waste	Amount of burnable waste	Burnable waste from same period of previous year	Percentage of waste compared to same period of previous year
		Tons	Tons	Tons	Tons	Tons	%
2008	Apr.	58.5	41.1	99.6	154.7	264.2	58.8
	May	80.6	50.3	110.9	154.9	282.3	59.1
	June	56.9	40.6	97.5	133.4	247.9	53.8
	July	63.3	40.5	103.8	154.8	252.0	61.4
	Aug.	69.2	40.6	109.8	133.0	278.3	48.1
	Sep.	58.2	48.1	104.3	137.0	254.7	53.8
	Oct.	59.9	48.7	106.6	148.8	240.9	60.9
	Nov.	55.1	42.1	97.2	123.5	239.4	51.6
	Dec.	63.7	43.2	106.9	151.9	258.7	58.7
	Jan.	61.8	38.9	100.7	140.4	248.1	56.6
	Feb.	54.8	35.8	90.6	118.3	215	54.1
	Mar.	59.4	35.3	94.7	141.9	245.5	57.8
<b>Total</b>		<b>721.4</b>	<b>501.2</b>	<b>1222.6</b>	<b>1688.6</b>	<b>3005.0</b>	<b>56.2</b>

Put out to the collection bucket twice a week



Collection situation of kitchen waste



Kitchen waste is carried into 「kururu」

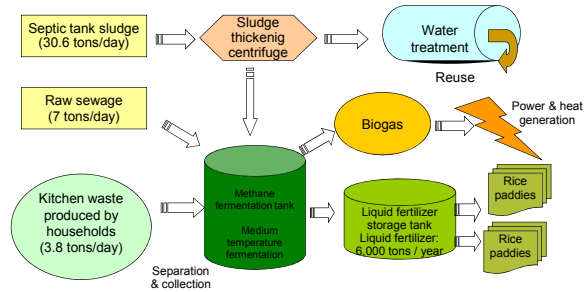


Methane fermentation tank

メタン発酵 Gas holder



## Biogas System Flowchart



## Features of the Biogas Plant

- No unpleasant odors are leaked during the fermentation process.
- Because methane gas is collected and used as energy for the plant, running costs are low.
- There is a double benefit because the plant's digestive fluids are used as a liquid fertilizer.
  - The initial and running costs of water treatment are drastically cut.
  - The liquid fertilizer may be utilized as a resource.

A big benefit of the plant is the fact that its digestive fluids are utilized as fertilizer, with initial and running costs experiencing considerable decreases. This type of facility is likely to become more widespread in the future.

## Utilizing Liquid Biogas Fertilizer (Kuruppi Fertilizer)

- Production of about 6,000 tons of liquid fertilizer per year is planned
  - To be used for farm land crops such as wet-land rice and wheat
    - Wet-land rice and wheat: 5-7 tons / 1000㎡
    - Area of application: about 50 hectares each
    - Cost of application: 1,000 Yen / 1000㎡
 via liquid fertilizer application vehicles and the flushing of the fertilizer over the cropland
  - Price of liquid fertilizer
    - Free of charge for Residents of Oki Town
- Approved as a registered general fertilizer as per the Fertilizer Control Law
- The subject of liquid fertilizer usage
  - Studies to be made regarding methods for storing and transporting liquid fertilizers
  - Compositional modifications and cultivation techniques (fertilization standards) to be established
  - Odors are to be unnoticeable

分析項目	含有量
リン酸	0.12%
カリ含量	0.11%
全窒素	0.25%
アンモニア態窒素	0.13%

A liquid fertilizer scatter car



## The 'Wa no Megumi' Kururun Rice Has Finally Been Harvested

- Cultivated as per reduced agricultural chemical / chemical fertilizer exposure standards using Kuru Fertilizer.
- Townspeople given preferential low-price purchase opportunities of this specially cultivated and environmentally sustainable rice.



## Ooki Recycling Center 「kururun」



## Features of the Ooki Recycling Center

- Facility converts kitchen waste, raw sewage and septic tank sludge into a biomass resource.
  - ▶ **The Center is not a disposal facility.**
- Located in the heart of the town.
  - Serves as a base for recycling studies and the promotion of, and exchanges regarding 'Local Production for Local Consumption.'
  - ▶ **The Center serves as a base for community development**
  - Provides education and edification regarding a recycling-oriented society and the natural environment.
  - Provides hands-on study of natural energy alternatives
  - Serves as a base for the promotion of consumption of safe and reliable agricultural produce grown with organic fertilizers and related materials.
  - Provides a place for local residents to rest and gather.
  - Provides a venue for exchanges between urban and rural residents.



Ooki Recycling Center

**Kururun**

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