



Disposal technology, low-cost pollution-free



Next generation waste treatment equipment
ERCM

ERCM : Earth – Resource - Ceramic - Machine

ERCM Ltd.

Features ERCM

● Supervision by Prof. Kunio Yoshikawa, Tokyo Institute of Technology

“As long as we human beings live, we will continue producing garbage. When I confirmed operation situation of ERCM for the first time, I was shocked because pyrolysis furnace was not hot. ERCM is utilizing patented technology, an organic waste treatment by thermal decomposition. It is an innovative and remarkable solution which can contribute to environmental problems of the world.”

● Low cost

- ▶ Furnace manufactured in ordinary steel, then no need to use fire-resistant material
- ▶ The amount of exhaust gas is small, no need to use denitrification devices
- ▶ Cooling water is unnecessary
- ▶ Ultra low power (about ¥ 40,000 / month (In the case of 5 t/day))
- ▶ 24-hour, 365 days continuous operation
- ▶ Generation of hydrogen chloride is small, such as maintenance of corrosion protection is not required

● The reduction of waste volumes

- ▶ Conversion all combustible waste to ceramic-like ash
- ▶ Segregation or Pre-processing are unnecessary
- ▶ By thermal decomposition, up to 1/100 to 1/500 volume reduction

● No pollutions

- ▶ Dust of NO_x such as dioxins will not come out by pyrolysis process.
- ▶ Carbon residual amount is very little ash to be discharged, post-processing unnecessary
- ▶ Exhaust heat does not appear by low temperature processing

● Patents

- ▶ No. 4580388 discloses domestic patented
- ▶ No. 7648615 B2 US patented United States Patent
- ▶ Other international patents (secondary) are under processing.



Tokyo Institute of Technology
Professor

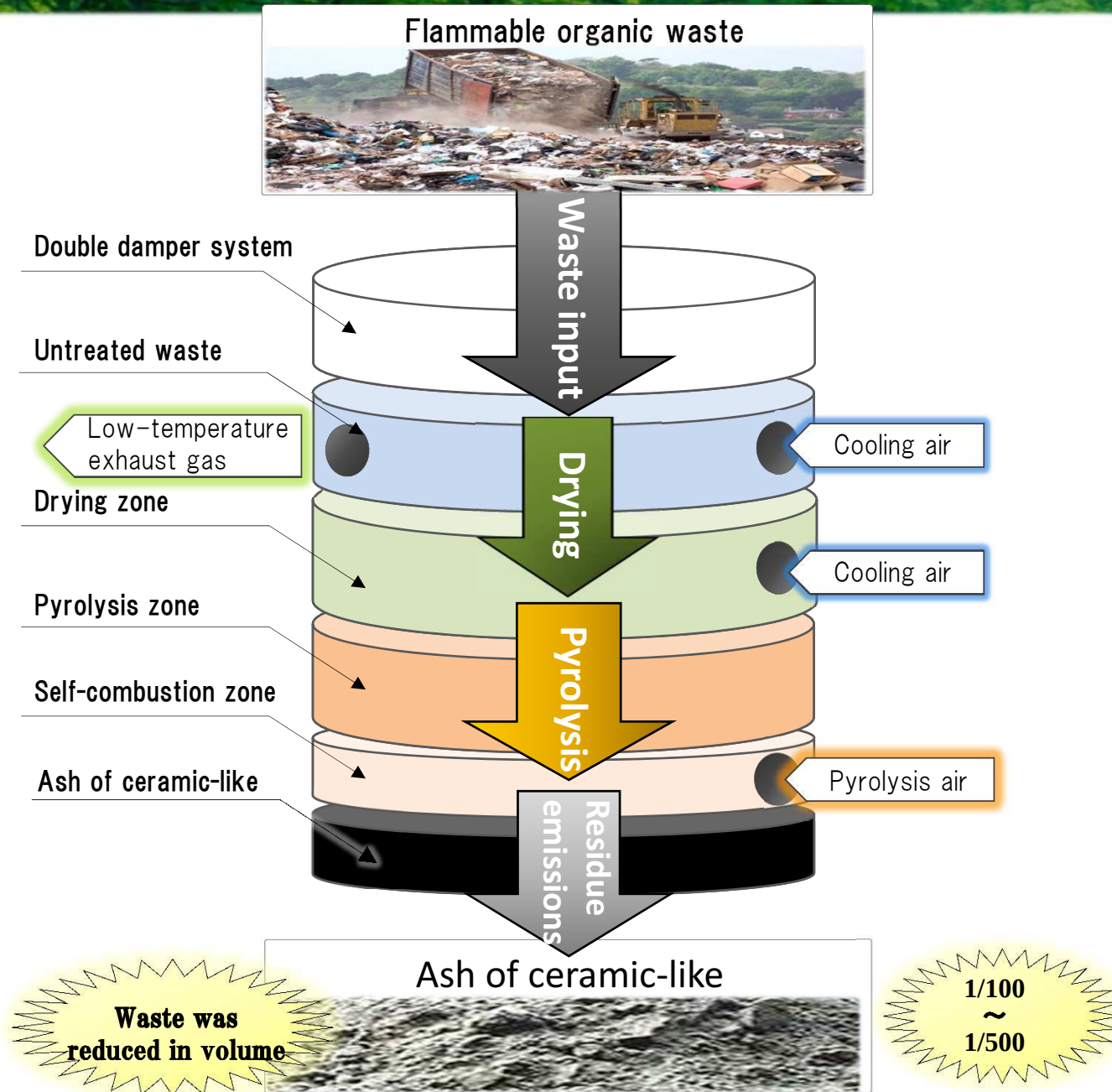
Dr. Kunio Yoshikawa

Interdisciplinary Graduate School
of Science and Engineering
Department of Environmental
Science and Technology
ERCM Ltd. co-developer

※ pyrolysis: Decomposition is carried out by heating in the absence of oxygen and the organic compound. Major difference from combustion can not chemical reaction with oxygen, it is a decomposition reaction is thermally disrupted by the molecular structure of the material to fall apart.
(pyrolysis, thermolysis; thermal decomposition; thermal cracking)

Mechanism of ERCM

**And execute without heat,
toxic exhaust gas, noise and vibration**



**Can be reduced in volume dramatically
combustible wastes without fuel**

Implementation

Commercial plant of 15^m (installed in Kashima health center)



Exhaust gas measurement data

(12% oxygen concentration (converted value))

Item	Measured value	Reference value
Nitrogen oxide (ppm)	45-65	300
Hydrogen chloride (mg/Nm ³)	32	700
Soot and dust (mg/Nm ³)	4.4	150
Dioxins (ng-TEQ/Nm ³)	2.6	5

plant of 15^m (Demonstration at the hospital TOWAMU KOEDO of Kawagoe, Saitama Prefecture)



Practical machine in Kashima City, Ibaraki Prefecture

We demonstrate the ability of non-stop operation of 365 days at Kashima without the use of fuel.



月刊廃棄物 4月号
Monthly the Waste April 2012

特別を極める!
一歩進んでリサイクルの最先端を体験しよう

環境省の「リサイクル推進計画」に基づき、全国の自治体で実施されている「資源物回収」の現状と今後の展望について、最新の調査結果を掲載しています。

環境省の「リサイクル推進計画」に基づき、全国の自治体で実施されている「資源物回収」の現状と今後の展望について、最新の調査結果を掲載しています。

月刊廃棄物 9月号
Monthly the Waste September 2012

古紙リサイクル最前線

環境省の「古紙リサイクル推進計画」に基づき、全国の自治体で実施されている「古紙回収」の現状と今後の展望について、最新の調査結果を掲載しています。

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CLOSE UP!
クローズアップ

**自治体初! 燃料を用いない熱分解装置が
実機で試験稼働開始**

(株)グリーンアクトリー(茨城県鹿嶋市)

本誌が先月号に紹介した、燃料を用いない熱分解装置が、茨城県鹿嶋市の「鹿嶋市環境センター」で、10月1日より試験稼働を開始しました。

この装置は、廃棄物を熱分解して、ガスと残渣を生成するもので、燃料を用いないため、環境に優しいとされています。

CLOSE UP!
クローズアップ

**熱分解セラムミック生成装置が
実機で1年間の連続運転達成**

(茨城県鹿嶋市内の企業)

本誌が先月号に紹介した、熱分解セラムミック生成装置が、茨城県鹿嶋市の「鹿嶋市環境センター」で、1年間の連続運転を達成しました。

この装置は、廃棄物を熱分解して、セラムミックを生成するもので、燃料を用いないため、環境に優しいとされています。

NHK interview and demonstration experiment in Fukushima Prefecture Hirono-machi

New debris processing equipment is introduced for trial

November 27, 2013 Good Morning Japan NHK

News



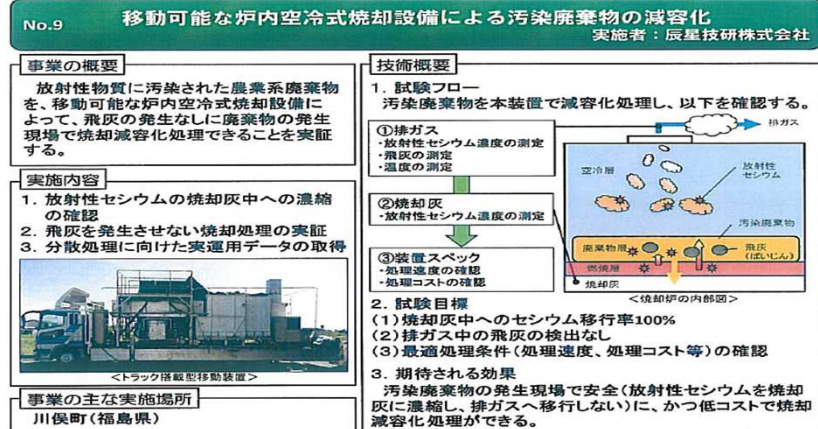
New waste treatment equipment was developed and will be used at Hirono Town in Fukushima Prefecture from next month. What is significant with this new equipment is, this equipment can treat radio active wastes by heat in oxygen-free state, then wastes will be decompose into ceramics, and can reduce the significant amount of waste. Not only reducing the amount of waste, ash containing radioactive substances will not come out. This new equipment developed by environmental equipment manufacturers of Tokyo, decompose wastes into inorganic compound ceramic powder by heat treatment without flame in a furnace with oxygen-free state. According to the maker, new equipment can reduce the amount of waste up to 1/300 average, and as ceramic adsorbe radioactive substance, this new equipment will NOT produce ash contains radio active matters.

According to the last trial test at Hirono Town in Fukushima Prefecture, debris was decomposed up to 1/268, and more, most of radioactive was adsorbed on the ceramic. Based on this results, Hirono town has decided to use this new equipment as trial from next month.

Other local governments are also interested in this equipment, especially local governments where faces difficulties on management of huge amounts of debris. Hirono-cho have decided to continue the trial to confirm the further effect, to decide production use of this equipment. Mr. Kuroda Kouki, vice mayor said, "reducing the amount of debris is that very important topic need to be solved, then we expect on the result of this new equipment. We will continue the verification of this equipment and soon after we confirm the effectiveness of this equipment, we will use it on production.



24 fiscal decontamination technology demonstration project selection technology Heisei Ministry of the Environment

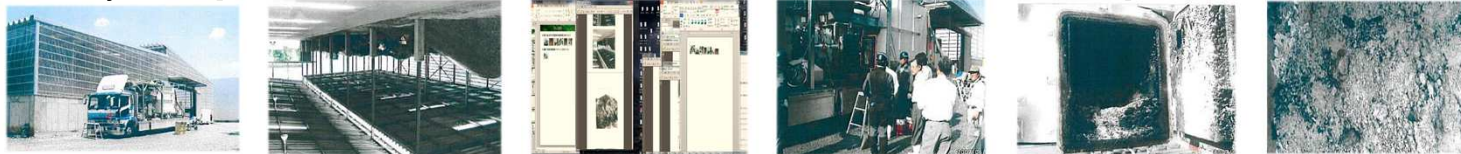


Introduction / demonstration example

© Vegetable waste, waste plastics, PVC, etc. [Kagoshima Central Wholesale Market] 2007



© Poultry manure, etc. [Ibaraki Prefecture Ibaraki ultramarine Sato-machi Ise farm] 2007



© Garbage, diapers, etc. [Kanagawa Ayase social welfare corporation Comrades Association Nursing Home] 2007



© Cut vegetable scraps [Koriyama, Fukushima Prefecture Tanaka-cho, Ltd. Ito food] 2007



© Sludge [Ashigarakami sanitation union] 2008



© medical-industrial waste nursing home diapers [ASK Shokai Shiroyama Institute] 2011

