

PTL (Plastic to Liquid) Recycling of Medical Wastes



Altis Co., Ltd.

June 15, 2009

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1. Outline of Altis
2. Changes in the Medical Wastes Environment
3. Our Recycling Business of Medical Wastes
4. Development of Our Environmental Solution Business

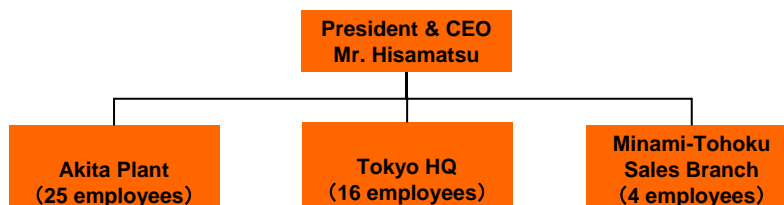
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Outline of Altis



Corporate name: Altis Co., Ltd.

Tokyo HQ: 1-11-9 Azabudai, Minato-ku, Tokyo Japan

Akita Plant: 20-2 hanawa-aza-machibata, Kazuno-City, Akita Pref.

Sales Branch: Kita-Tohoku (Kazuno-City), Minami-Tohoku (Sendai-City)

Establishment: Oct., 2005

Capital: JPY487.93 million (Olympus has 96% stake)

Business : Recycling of Medical Wastes by PTL* method and

Environmental Solutions with CO₂ Emission Reduction

Plastic to Liquid

Background & Purpose of Establishment

- Producer Responsibility was extended to used products due to development of Packaging Recycling Act in 1995, etc..
- But Medical wastes were not recycled.
- As a Manufacturer of Medical devices, Olympus established Altis and promoted recycling of medical wastes with CO₂ emission reduction



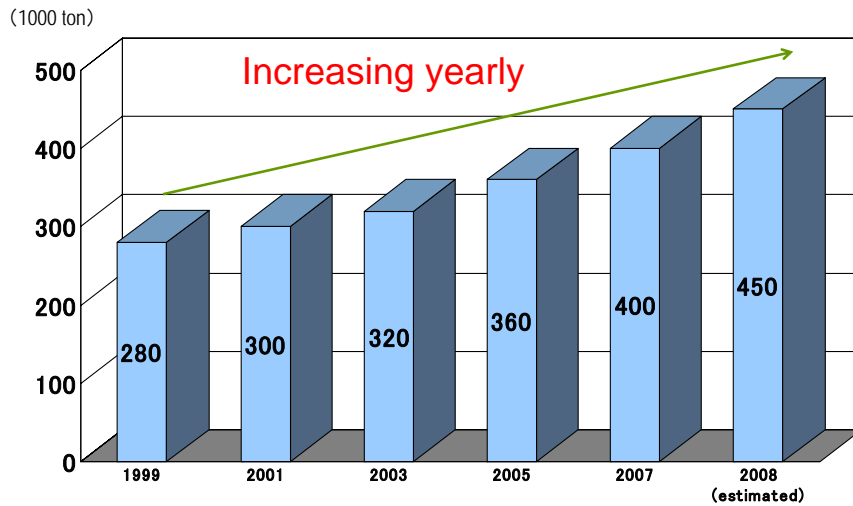
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Trends in Medical Waste

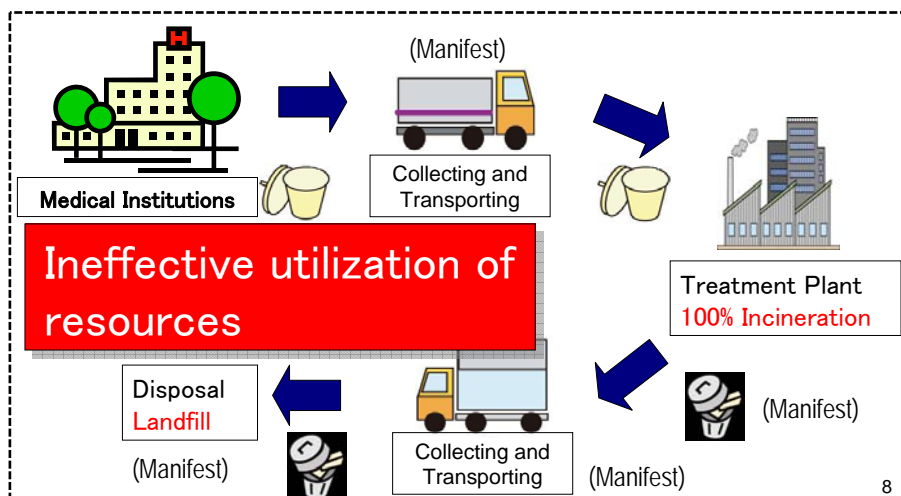


Source: Yano Research Institute

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Traditional Medical Waste Treatment

Mostly Incineration



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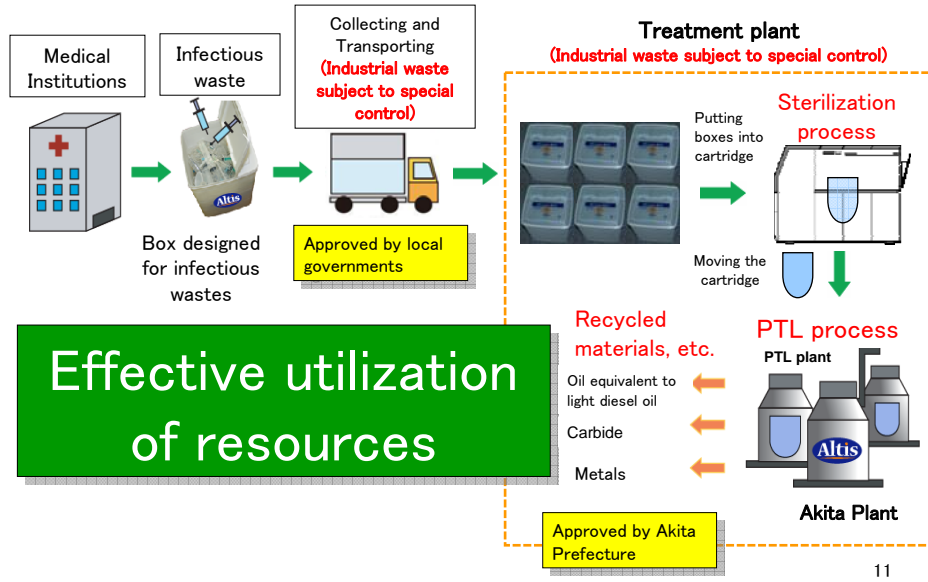
Changes in the Medical Institutions Environment

- **Strengthening the regulation for incineration**
 - Development of Act on Special Measures concerning Countermeasures against Dioxins
 - Shifting from in-hospital treatment to outside treatment
- **Rising cost of medical wastes treatment**
 - Increase in the cost of medical waste treatment
e.g., a university hospital (800t/y): JPY70 to 100 million
- **Strengthening supervision on waste reduction by the administration**
 - Residual time of disposal site is 7.7 years
(White Paper on Environment FY2008)
 - Mandatory submission of treatment plan
(Waste-Discharging Enterprise in large amount)
 - Waste reduction comes to among the standards
(Evaluating Hospital Function)
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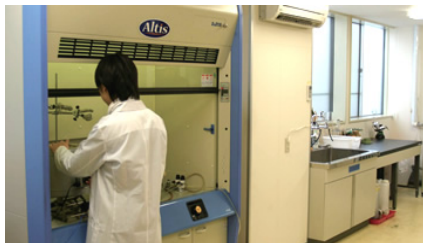
Medical Waste Recycling Model by Altis



Altis Akita Plant



Akita Plant



Laboratory (analysis of samples)



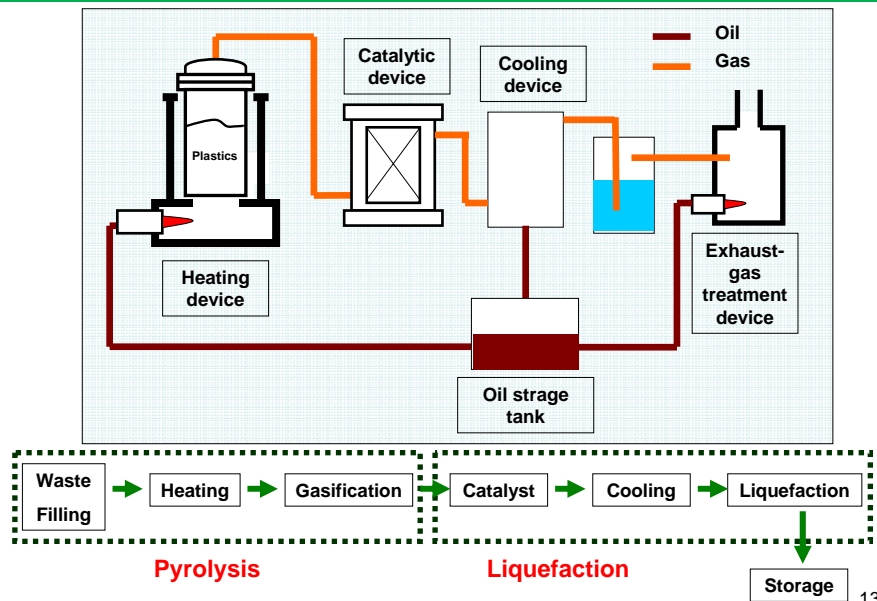
PTL* plant

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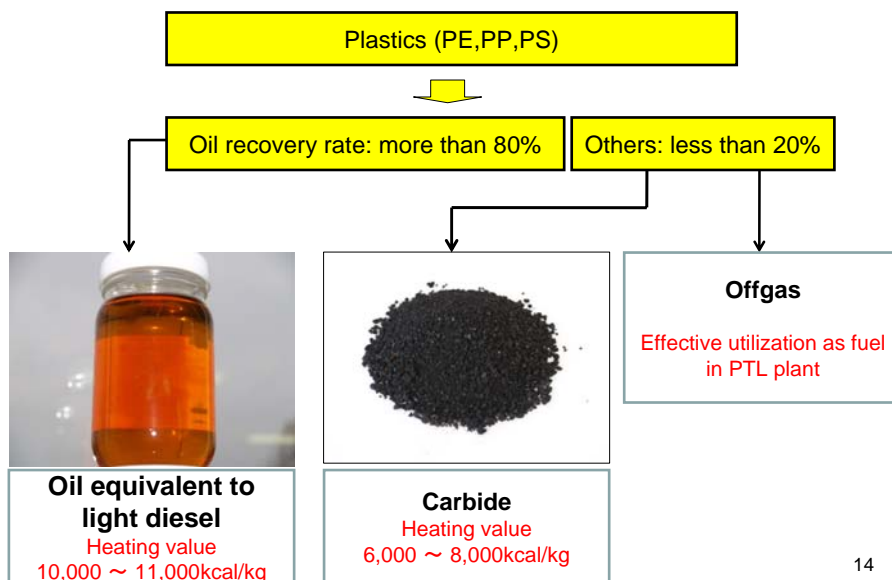
*Plastic to Liquid

Flow Diagram of PTL



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PTL Advantages 1 “High efficient energy recovery”

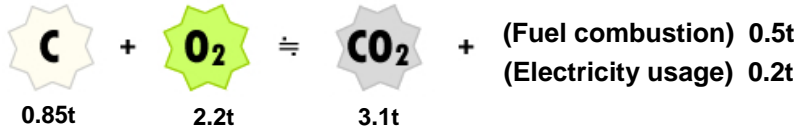


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PTL Advantages 2 “CO₂ emission reduction”

Incineration

If 1t plastics are incinerated,



$$= 3.8 \text{ t-CO}_2$$

PTL

If 1t plastics are pyrolysed and liquefied,*

$$= 0.9 \text{ t-CO}_2$$

**2.9 t-CO₂
emission
reduction**

*(Pyrolysis and Liquefaction) 0t
(Fuel combustion) 0.887t
(Electricity usage) 0.067t

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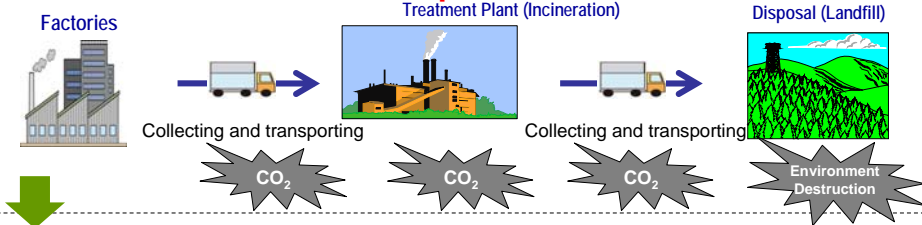
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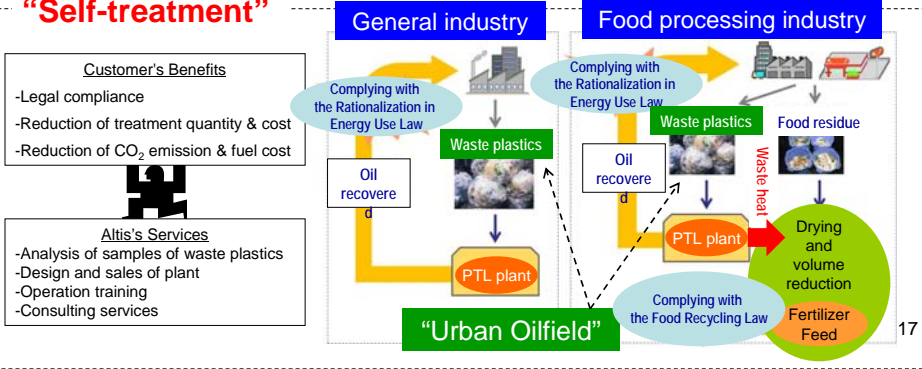
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“Self-treatment” of Waste Plastics

Present treatment of Waste plastics



“Self-treatment”



Sample Case: Prepared food manufacture

Waste generation

- Waste plastics: approx. 500t/y
- Food residue: approx. 1,500t/y
- Others: waste oil

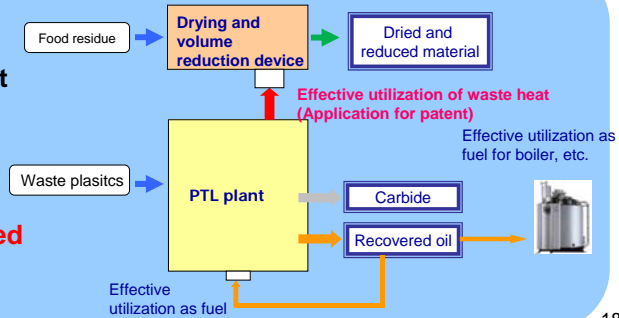
Business challenges

- Complying with the Revised Rationalization in Energy Use Law (Reduction of fossil fuel)
- Cost reduction of waste treatment (JPY60 million)
- Effective utilization of resources as CSR (Shifting from incineration to recycling)

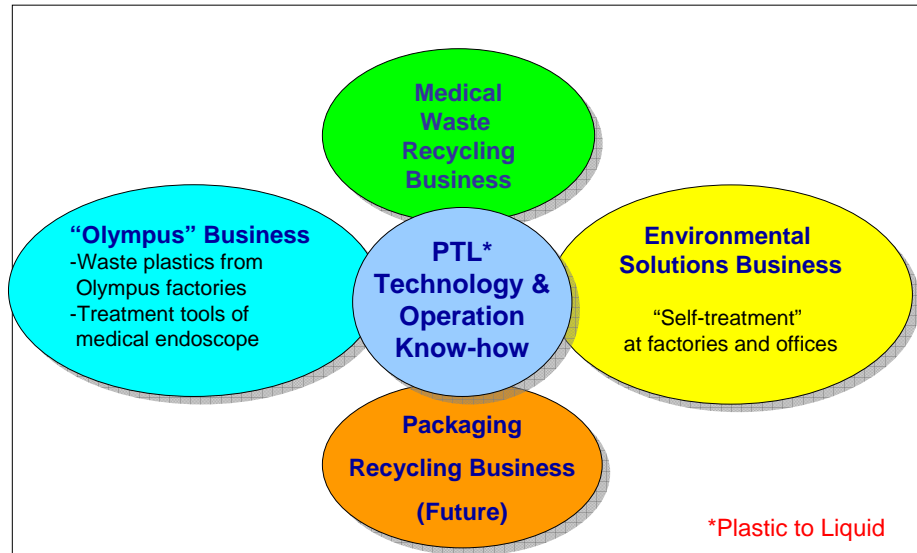
Solutions

Altis system “Waste plastics and food residue treatment at the same time”

Government-subsidized Project (2008)



Altis Business Perspective



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Thank you for your attention

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