



**Presentation « Porous Alpha »
Japanese Glass Recycling Technology**

**Tottori Resource Recycling, Inc.
27th June 2018**

Summary

1. Introduction
2. Our business
3. Issues
4. Business overview

Summary

1. Introduction

1-1. Company profile

1-2. Product introduction

1-3. Glass waste management in Tottori Prefecture

2. Our business

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1-1. Company profile

Tottori Resource Recycling, Inc. is a Japanese SME manufacturing
« Porous Alpha » based on waste glass

Company name :

Tottori Resource Recycling, Inc.

Creation :

December, 2001.

Headquarters :

Tottori, Japan

Capital :

40 Million JPY

Number of employee :

Japon 6

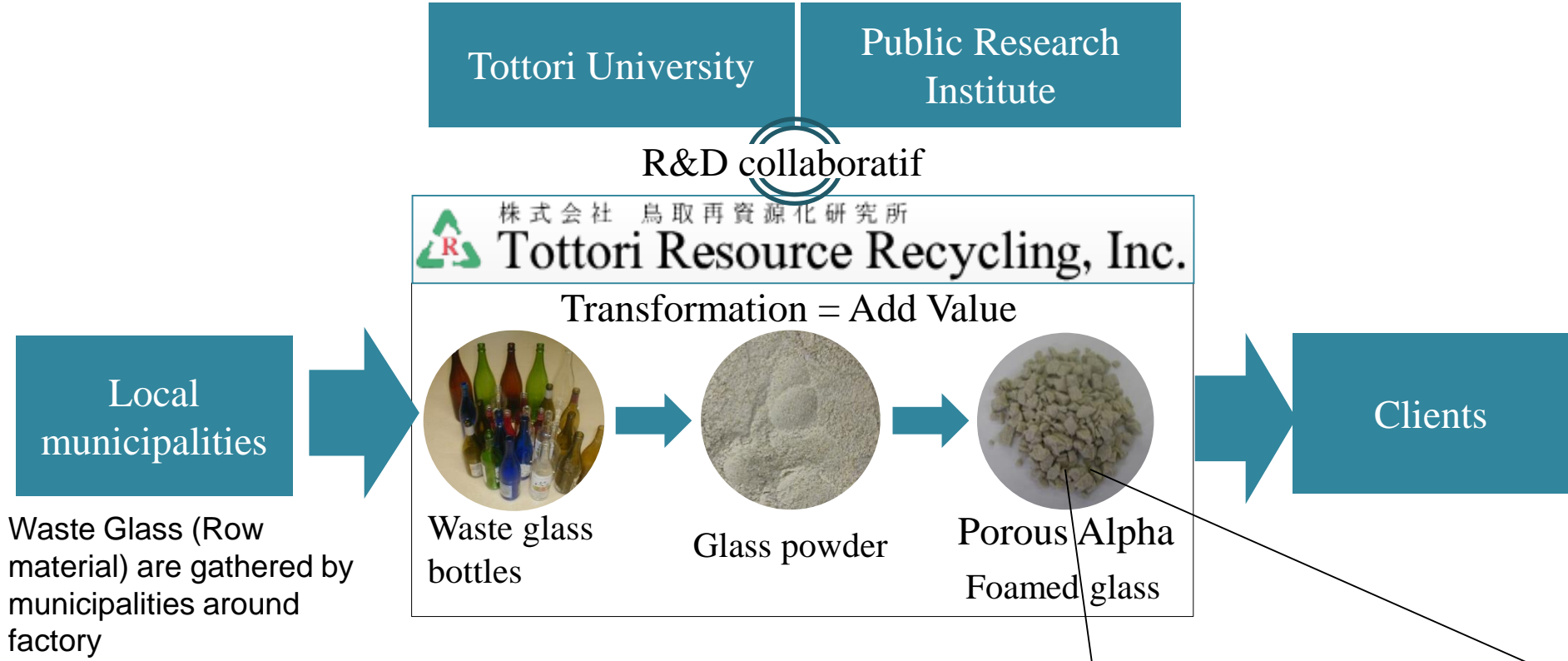
Maroc 2



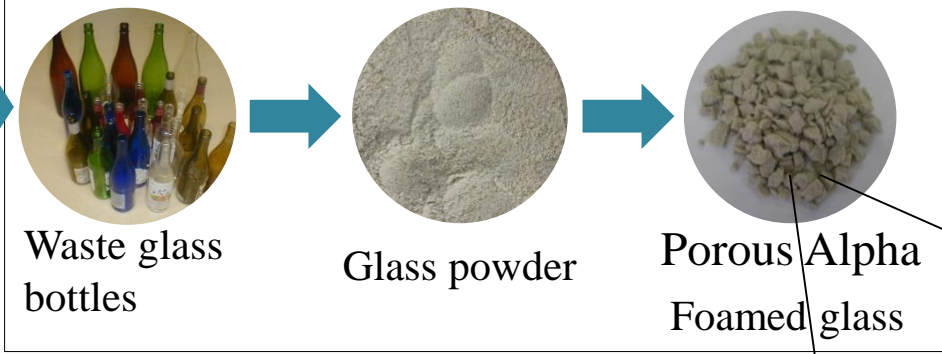
Picture taken in front of our factory

1-2. Product Introduction

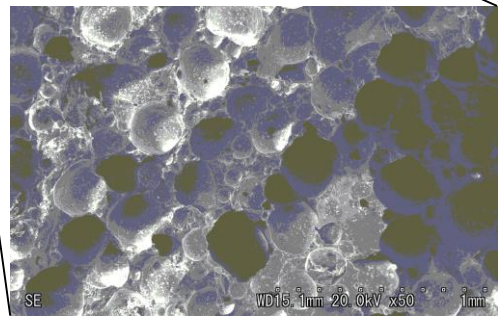
Porous Alpha is granulate of foamed glass, developed through the collaboration with the university and public institutes.



Local municipalities
Waste Glass (Raw material) are gathered by municipalities around factory



Clients



1-3. Glass waste management in Tottori Prefecture

Municipality outsource the waste collection and transformation to private company

Local municipalities

Population : 105 000
Glass waste : 750 ton

< Role >

- (1) Set a garbage collection point
- (2) Selection of operation company



Garbage collection point

Collection company (A)

Waste collection

< Role >

- (1) Waste glass collection
- (2) Delivery to factory



Delivered by garbage truck

Recycle company (B)

Transformation



< Role >

- (1) Waste glass transformation
- (2) Sale of recycled product



Processing waste glass



Summary

1. Introduction

2. Our business

2-1. Various product applications

2-2. Soil amendment business in Morocco

3. Issues

4. Business overview

2-1. Various product application

Tottori Resource Recycling developed various applications for the recycle product



Tottori Resource Recycling Inc.
株式会社 鳥取再資源化研究所



Manufacturing foamed glass,
named "Porous Alpha"

Water treatment

- Decomposition organic element
- Absorption of fluorine
- Absorption of phosphorus

Deodorization

Soil amendment

Providing this
technology in
Morocco

Wild weed control

Security gravel

Light weight sand bac

Porous Alpha realize 50% water and fertilizer saving and yield increase in agriculture

No. 1 Water Saving

- Porous Alpha contributes to reduce irrigation consumption, which helps farmer to reduce the farming cost and enhances their resilience against climate change

No.2 Fertilizer Saving

- Porous Alpha realizes fertilizer saving, which helps to reduce the farming cost

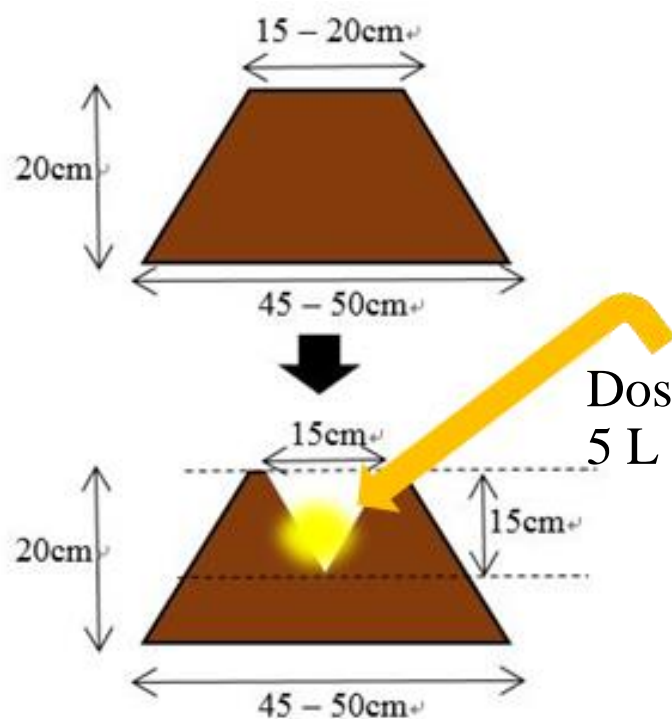
No.3 Yield increase

- Porous Alpha realizes yield increase, realizing higher income for farmer

2-2. Soil amendment business in Morocco

Farmer applies Porous Alpha easily thanks to its simple installation method

Mix 5 L (1.65 kg) Porous Alpha into soil per 1m before mulching.



Dosage of product:
5 L (1,65kg)/ m



Once installed, Porous Alpha works for 10 years

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3-1. Promotional issues

3-2. Case study

4. Business overview

3-1. Promotional issues

SME and/or Start-ups suffer from lack of resources for their growth

For growing up,

↑ SME, Start up needs...

- 1. Product R&D**
- 2. Market Study**
- 3. Publicity**
- 4. Human Resource**
- 5. Network etc.**

3-2. Case study

We are supported by Japanese public organization to progress our business in Morocco

<p>JICA (Japanese International Cooperation Agency)</p>	<ul style="list-style-type: none">- Market study We were selected in SME oversea development assistance program. It's allowed us to progress market study and business development- Human Resource We have already employed two ex-Japanese volunteer who have already trained local language and adopted local condition especially for oversea market
<p>JETRO (Japan External Trade Organisation)</p>	<ul style="list-style-type: none">- Network JETRO introduce locals companies, lawyer, and provides knowledge on local regulations
<p>Tottori Prefecture</p>	<ul style="list-style-type: none">- Product R&D We collaborated with public institute in Tottori Prefecture for product development.- Publicity Tottori Prefecture provides the space and subvention for the agriculture and environmental trade fair for us.
<p>Tottori University</p>	<ul style="list-style-type: none">- Product R&D The product is developed through collaboration with University.

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4-1. Actual waste management situation in morocco

4-2. Our business overview in Morocco

4-1. Actual waste management situation in Morocco

In Morocco, private sector is working for the garbage collection, but not well for transformation

Local municipalities

< Role >

- (1) Set a garbage collection point
- (2) Selection of operation company



Garbage collection point

Already exist

Private company (A)

Waste collection

< Role >

- (1) Waste collection
- (2) Delivery



Garbage truck

Already exist

Private company (B)

Transformation

< Role >

- (1) Transformation
- (2) Sale of recycle product

Exist ?

4-2. Our business overview in Morocco

Tottori Resource Recycling aims to be a waste glass transformation company in Morocco, but still has issues.

- **Product Promotion**

(1) VAT Reduction + Subvention

Our Product, Porous Alpha, is not yet on the level playing field with other agriculture and water-saving product

- **Plant installation**

(1) Initial investment

We have already discussed with some investors, but the initial cost prevented their decision. It's also crucial how we save the initial cost.

(2) Operating partner

To operate the plant, it's required to collaborate with local company which already has experience to operate manufacturing plant by facilitating Moroccan employee.

Thank you for your attention

For more detail, please check our web site and following SNS accounts ;

Web Site : www.t-rrl.jp/fr

SNS accounts :

Retrouvez-nous sur



@TRR.Morocco



@Tottori Resource Recycling, Inc.