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

3. Issues

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

Company name:
Tottori Resource Recycling, Inc.

Creation:

Headquarters:
Tottori, Japan

Capital:
40 Million JPY

Number of employee:
Japon 6
Maroc 2

Picture taken in front of our factory
Porous Alpha is granulate of foamed glass, developed through the collaboration with the university and public institutes.

1-2. Product Introduction

Waste Glass (Row material) are gathered by municipalities around factory. Waste glass bottles are transformed into glass powder, which is then made into Porous Alpha. This process adds value to waste glass.
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

Service fee

Tottori Resource Recycling, Inc.
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

**Water treatment**
- Decomposition organic element
- Absorption of fluorine
- Absorption of phosphorus

**Deodorization**

**Soil amendment**

**Wild weed control**

**Security gravel**

**Light weight sand bac**

Manufacturing foamed glass, named “Porous Alpha”

Providing this technology in Morocco
2-2. Soil amendment business in Morocco

Porous Alpha realizes 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
Summary

1. Introduction
2. Our business
3. Issues
   3-1. Promotional issues
   3-2. Case study
4. Business overview
SME and/or Start-ups suffer from lack of resources for their growth

For growing up,

↑ SME, Start up needs…

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

| JICA (Japanese International Cooperation Agency) | - Market study  
We were selected in SME overseas 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 overseas market |

| JETRO (Japan External Trade Organisation) | - Network  
JETRO introduce locals companies, lawyer, and provides knowledge on local regulations |

| Tottori Prefecture | - 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. |

| Tottori University | - Product R&D  
The product is developed through collaboration with University. |
Summary

1. Introduction
2. Our business
3. Issues
4. Business overview
   4-1. Actual waste management situation in Morocco
   4-2. Our business overview 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

Private company (A)

- **Role**
  - (1) Waste collection
  - (2) Delivery

Private company (B)

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

Garbage collection point

Garbage truck

Already exist

Already exist

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](http://www.t-rrl.jp/fr)

SNS accounts:

Retrouvez-nous sur @TRR.Morocco

@Tottori Resource Recycling, Inc.