



Go to 2030 The acts of each one of us will lead to the future

Plastic innovation for tomorrow

2021.02.17



Rice Resin®

Japanese biomass plastic  
derived from rice (Non-edible rice)

Introducing “Rice Resin”



Biomass Resin  
Minami Uonuma

## 01. What is Rice Resin



“Rice Resin” is Japanese biomass plastic derived from rice (Non-edible rice)

Our new technology uses those Old Rice, Crushed Rice, Omitted Rice, and Rice that is not treated as Feed, and Discarded Rice to upcycled to produce “Rice Resin”



Non-edible Rice

Plasticization with original technology



Rice Resin

It is possible to mix rice upto 70%, which can significantly reduce the content of petroleum-based plastics

## 02. World Market of Biomass Plastic



Corn and sugar cane are their National Strategic Crops, which are extracted from Bioethanol and used as a substitute for Gasoline. Recently, due to the increase in demand on a global scale, only a little less than 50,000 tons have entering Japan annually.

Rice is a symbol of Japan , and if we consider Rice as a New Resource, the possibilities will expand limitlessly.

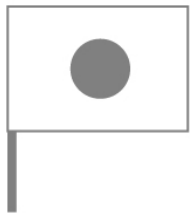
Rice will lead to solutions of Japan's Environmental and Industrial Problems.

## 03. Types of Biomass Plastic

Type	Definition	Categories & Remarks
Biodegradable	Plastic that is finally decomposed to CO <sub>2</sub> and water by the action of microorganisms existing in nature	<ul style="list-style-type: none"> <li>● <b>Products that have leaked into the natural environment</b>  <b>Non-durable goods that cannot be collected after use.</b>                      (Ex: fishing line, fishing net, etc.)</li> <li>● <b>Those that have been recovered but have the merit of biodegradability</b>                      (Ex: Various types of agricultural films)</li> </ul> <p>※The development and commercialization of ocean analysis is progressing in Japan and around the world. Future issues are the formulation of evaluation criteria, the securing of raw materials, and the enhancement of production facilities.</p>
Non-Biodegradable	Plastics obtained by scientifically or biologically synthesizing renewable biomass resources as raw materials	<ul style="list-style-type: none"> <li>● <b>Recycled products</b>                      It is not desirable for plastics to be decomposed as durable goods, and those that are currently being collected by PC and Home-appliances.</li> <li>● <b>One-way products (reduction is strongly required)</b>  <b>Non-durable goods that can be recovered but emit CO<sub>2</sub> because they are incinerated.</b>                      (Ex: Garbage bags, plastic shopping bags, straws, food containers, etc)</li> </ul>

**Rice Resin contributes to the Japanese Government's Petroleum-based plastic Reduction Target and CO<sub>2</sub> Emission Reduction during incineration**

## 04. 4 features of Rice Resin



### **100%** **Made in Japan**

Biomass plastic  
using Japanese Rice  
(non-edible)



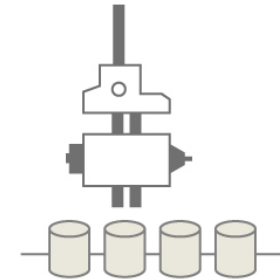
### **High & Top** **Quality**

The quality of the resin is  
almost the same as  
petroleum-based plastics



### **Stable Supply**

Since it is made in Japan,  
it can be stably supplied  
regardless of the oil market  
and world conditions.



### **High** **Correspondence**

We can handle  
small lots according to  
customer needs

## 05. Rice Resin will make you contribute with UN's SDGs



### Why not Contribute to solve Social Issues & Problems by using Rice Resin?

The use or manufacture of Rice Resin products will be directly with SDGs as corporate activities. It is possible to show the concrete measures and attitudes of a company internally and externally toward the realization of a sustainable society.



Contributes to a comfortable living environment by reducing CO2 emissions



Contributes to reduction and regeneration of food waste by reusing waste rice



Contributing to climate change countermeasures by reducing CO2 emissions



Contributes to suppressing ocean acidification by reducing CO2 from greenhouse gases

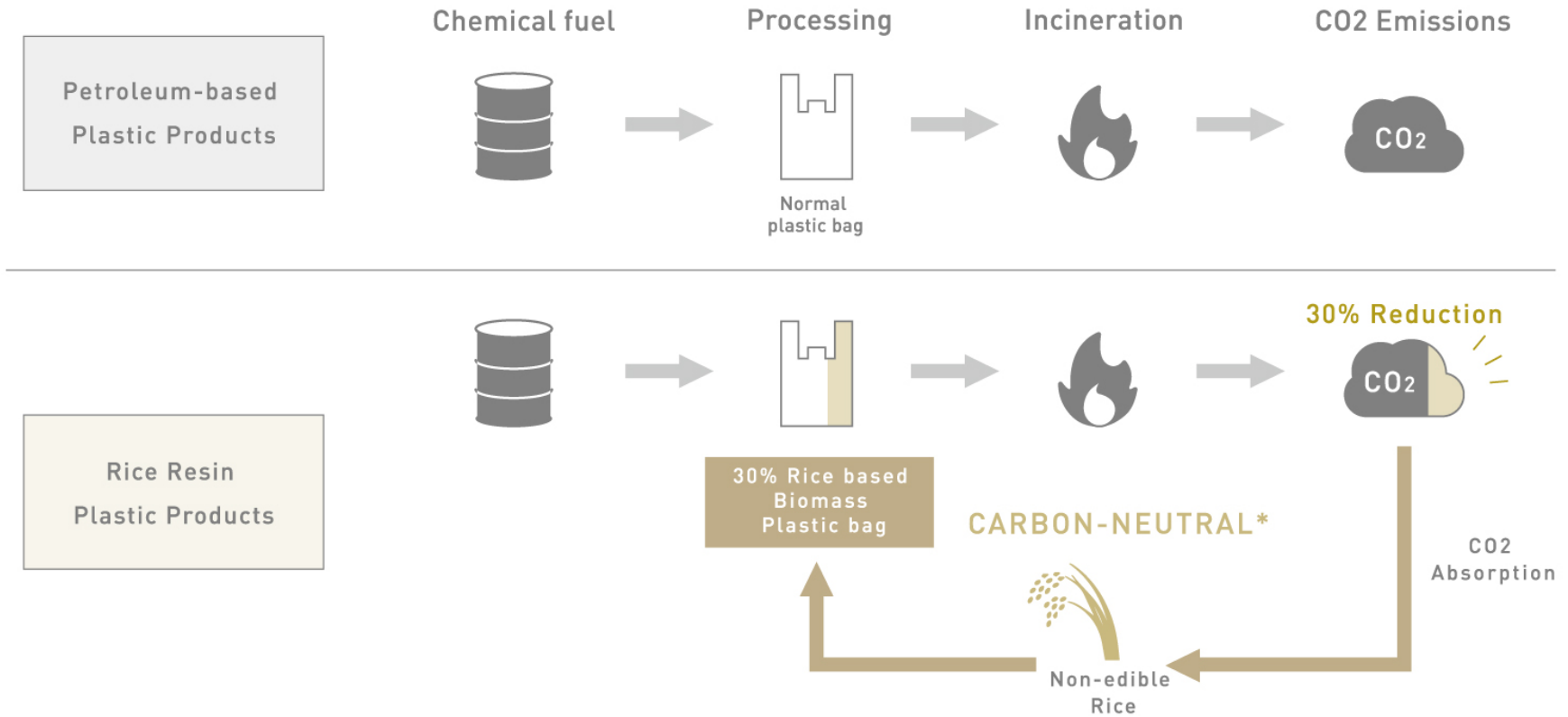


Biomass plastic reduces paper use and contributes to the protection of forest resources



Contributing to a recycling-oriented society through partnerships with local companies and local governments

## 06. Reduction of Carbon Dioxide (non-Energy Origin)



\* **Carbon-neutral**

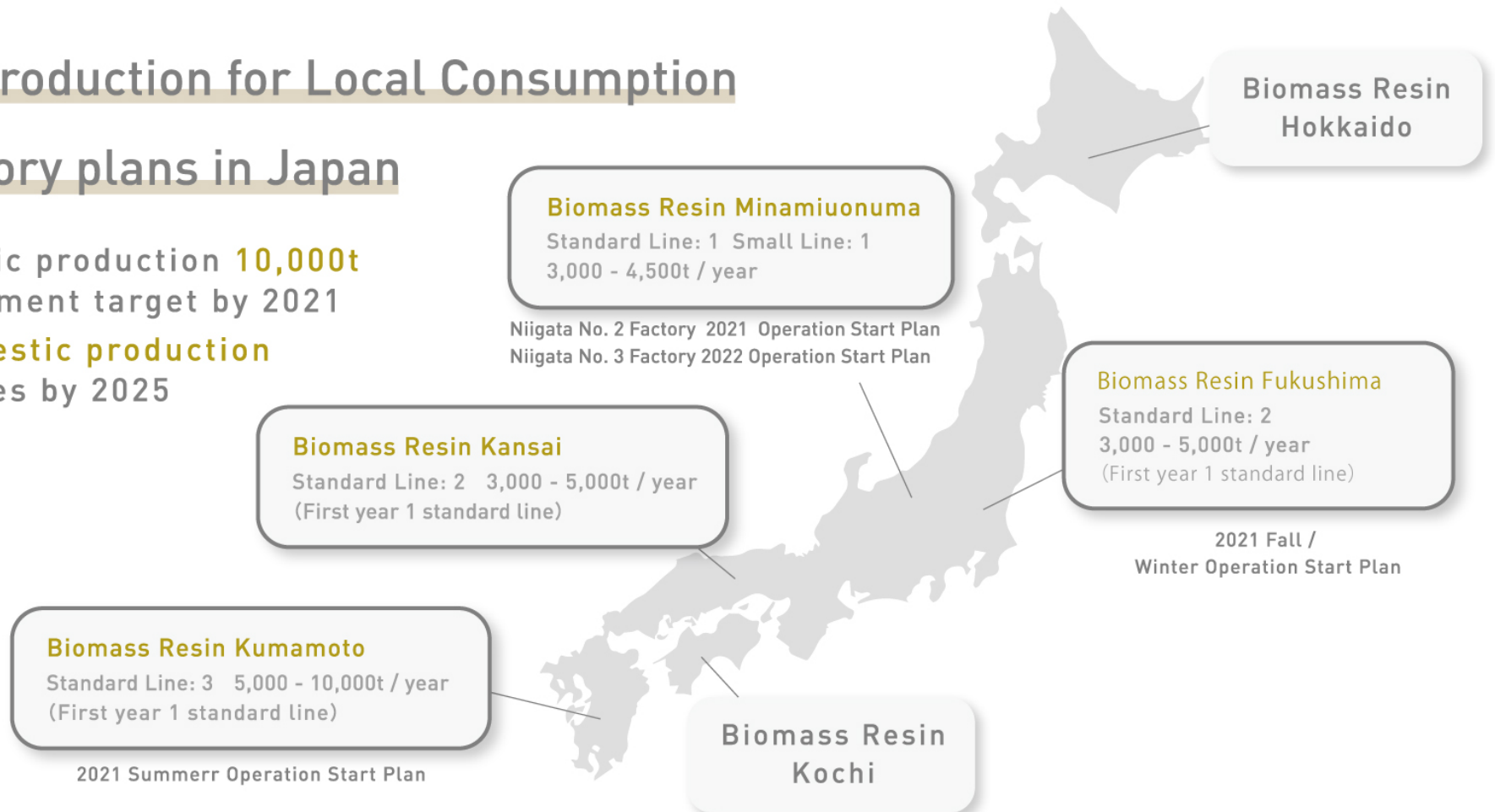
refers to achieving net zero carbon dioxide emissions by balancing carbon dioxide emissions with removal or simply eliminating carbon dioxide emissions altogether

## 07. Future business Expansion in Japan

### Local Production for Local Consumption

### 10 Factory plans in Japan

- Domestic production **10,000t** achievement target by 2021
- **10 domestic production** Factories by 2025





## 08. Utilization of Fallow-Land and Abandoned-Cultivated-Land

Utilization of  
Abandoned  
Cultivated Land



Agricultural Support



Regional Activation

Spring of  
2020

Started making Resource Rice in Abandoned-Cultivated-Land by utilizing the rice system for New Market Development.

As the first project, cultivate high-yielding varieties in Minamiuonuma City

Harvested rice was used as a raw material to produce Toys made by Rice Resin

2021

Large-scale field maintenance started in Namie Town, Fukushima Prefecture (about 1ha)



"Large factory model for ASEAN" that cooperates as Biomass Resin Fukushima Factory (rice resin production) and consistently performs from rice cultivation to Rice Resin raw material production

In the future, we are aiming for "Resource Rice Production project with no man-power" using AI to cultivate Resource-Rice in the abandoned cultivated land using robots & AI technology.

## 09. Rice Resin products in the Market



**People**

Rice Resin  
Block toys

Famous for Safe and  
Secure toys in the  
major retailers in  
all over Japan



**JP** 日本郵便  
POST

Rice Resin  
Shopping Bags

Expanding at  
convenience stores,  
supermarkets, and  
specialty stores  
nationwide



南魚沼市

Rice Resin  
Municipal  
Garbage Bags

Already testing in Niigata  
city. Also city of  
Kumamoto, Kyoto,  
Yokohama and others  
are under discussion of  
using Rice Resin bags



Rice Resin  
Chopsticks

Popular chopsticks  
that can be used  
for meals without  
spoilng the original  
flavor of rice



Rice Resin  
Clear Files &  
Stationery

Rice Resin Files were  
used for tourism  
promotion in Niigata

## 10. Third-Party Evaluation “Rice Resin”



Rewarded for "Construting and Demonstrating the Plastic Resource Circular System Project to support a Carbon-free Society in the first and second years of Reiwa"  
by Japanese Ministry of Environment



Adopted "Independence / Return Support  
Employment Creation Company Location Subsidy" by  
Japanese Ministry of Economy, Trade and Industry



Japanese Ministry of Agriculture, Forestry and Fisheries also paid attention to our efforts to promote the expansion of Biomass utilization, and was introduced on the social media of the Food Industry Bureau.



Our Rice Resin has been certified by the  
Japan Organic Resources Association, and obtained  
Biomass Mark on our products

RiceResin

RiceFilm25

RiceFilm10

RiceFilm30

WoodResin

## 11. Excellent Media Coverage and Great Awards History

日本経済新聞

Japan Economics Newspaper

朝日新聞

Asahi Newspaper

Tokyofm  
Life time audio 80.0



## 12. Group Company Information



**Biomass Resin**  
HOLDINGS

**Biomass Resin Holdings Co., Ltd.**

### Business content

Manufacture, Sales and Research and Development of Biomass Plastics and Raw Materials  
Support for Group Companies, and Entrusted Research on Resinification of Organic Resources

Address : EGG JAPAN, Shinmarunouchi building  
1-5-1 Marunouchi Chiyoda-ku, Tokyo Japan

Foundation date : 2020.3.10



[www.biomass-resin.com](http://www.biomass-resin.com)



**Biomass Resin Minamiuonuma Co., Ltd.**

**Business Content** Manufacture and Sales of Biomass Plastics

Address : 1300 Terao Minamiuonuma City, Niigata Prefecture Japan



**Biomass Resin Engineering Co., Ltd.**

**Business Content** Design, Development and Sales of Biomass Plastic Manufacturing Equipment

Address : 1300 Terao Minamiuonuma City, Niigata Prefecture Japan



**Biomass Resin Marketing Co., Ltd.**

**Business Content** Planning, Product Planning Sales and Public Relations utilizing Biomass Plastic

Address : 1300 Terao Minamiuonuma City, Niigata Prefecture Japan



**Biomass Resin Film Co., Ltd.**

**Business Content** Inflation molding of Biomass Plastic in general

Address : 3F 3-2-4 Higashi Nihonbashi Chuo-ku, Tokyo Japan



**Biomass Resin Kumamoto Co., Ltd.**

**Business Content** Manufacture and Sales of Biomass Plastics

Address : 54-110 Tsukiura Minamata city, Kumamoto Prefecture Japan



**Smart Agri Relations Co., Ltd.**

**Business Content** Production of resource rice for Rice Resin using Abandoned Cultivated Land

Address : 403 18-1 Gongendoukamituzukimachi Namie Machi, Fukushima Prefecture Japan