



*Ministry of Economy, Trade and Industry*

# **Issues and Actions Concerning Marine Plastic Litters**

October 7<sup>th</sup>, 2019

Ministry of Economy, Trade and Industry  
JAPAN

# Marine Plastic Litter: Overview

## ◆ Impacts of Marine Plastics on Marine Ecosystems

Adverse Impacts on:

- Marine Fauna and Flora
- Tourism
- Fishery
- Ships (Obstacles to Navigation)
- Living Environment of Coastal Areas



In recent years, microplastics (fine plastic particles scattered into sea water) have become an acute concern to cause adverse impacts on animals, plants, and human health through the food chain.

### Examples of Marine Plastic Litter



### Impacts on Marine Organisms



Sources of Photos: Ministry of Environment

**Measures to marine plastic waste must be required immediately**

# CLOMA: CLEAN OCEAN MATERIAL ALLIANCE



- In order to reduce marine litter, it is important to enhance usage of more sustainable plastic products and at the same time to enhance development and diffusion of alternative materials such as bioplastics and paper with better biodegradability.
- CLOMA, the Clean Ocean Material Alliance, was founded to provide opportunities to accelerate innovation through reinforced cooperation among relevant business operators (materials manufacturers for containers and packages, process operators, and consumer business operators) which form a supply chain to actively tackle the marine plastic litter problem. (CLOMA Secretariat is undertaken by JEMAI(Japan Environmental Management Association for Industry))
- CLOMA will progress its member activities starting with promoting development of alternative materials and international cooperation.



**CLOMA Members: 258 Companies and Organizations / Chairperson: Kao Corporation (As of 3<sup>rd</sup> Sept., 2019)**

## <Main Activities>

Share Information on Technologies in Purpose of Aiding Selection of Optimum Alternative Materials to Fit the Use

- Matching Technologies and Business Opportunities
- Dispatching Information Based on a Prior Case Example, and Holding Exhibitions
- Assessment of Measures to Promote Diffusion of Sustainable Alternative Materials

CLOMA Vision Formulated and Released on May 21, 2019

## Dissemination & Promotion WG

Technology holders of 3Rs and alternative materials (Chemical, paper companies, and recyclers...)



Share and Match Information

User companies interested in new technologies (Distribution, food & beverage, consumption materials companies)



Cast & processing companies interested in new technologies



Raise Issues / Deliver Information

## Technology WG

Mitsubishi Chemical Holdings

Exchanging technologies and holding technology seminars on current development outcome

Technology holders of 3Rs and of developing raw materials



## International Cooperation WG

Collect information in collaboration with international Organizations and institutions, and dispatch of information and technical consulting for developing countries

Collect Information



Dispatch Information



Advanced Countries

SUNTORY

UNEP/UNEA\* G7/G20

Released at G20 Energy and Environment Ministerial Meeting in Karuizawa on June 15 and 16

Emerging/Developing Countries

United Nations Environment Programme  
United Nations Environment Assembly

Raise Issues / Deliver Information

Technology Exchange and Collaboration



Research & Development Institutions Representative Associations for Each Industry

# CLOMA's Efforts and Progress

- CLOMA supports share of seeds and needs and dispatch of information about its efforts and activities of the members. Moreover, CLOMA formulated and released "CLOMA Vision", in which efforts including 3Rs are evaluated and organized, then principles for future actions and five (5) key actions to be specially enhanced are compiled. CLOMA Vision will be continuously released overseas as a vector of the Japanese industry while being used as a matching base.

## Share Seeds and Needs: Best Practice Introduction Seminar



The Seminar was held in March 2019 to share best practices among CLOMA members and to lead to successful business matchings (200 people from 33 member companies participated)

## Dissemination to Overseas: Exhibition at G20 (Karuizawa, Nagano, Japan)

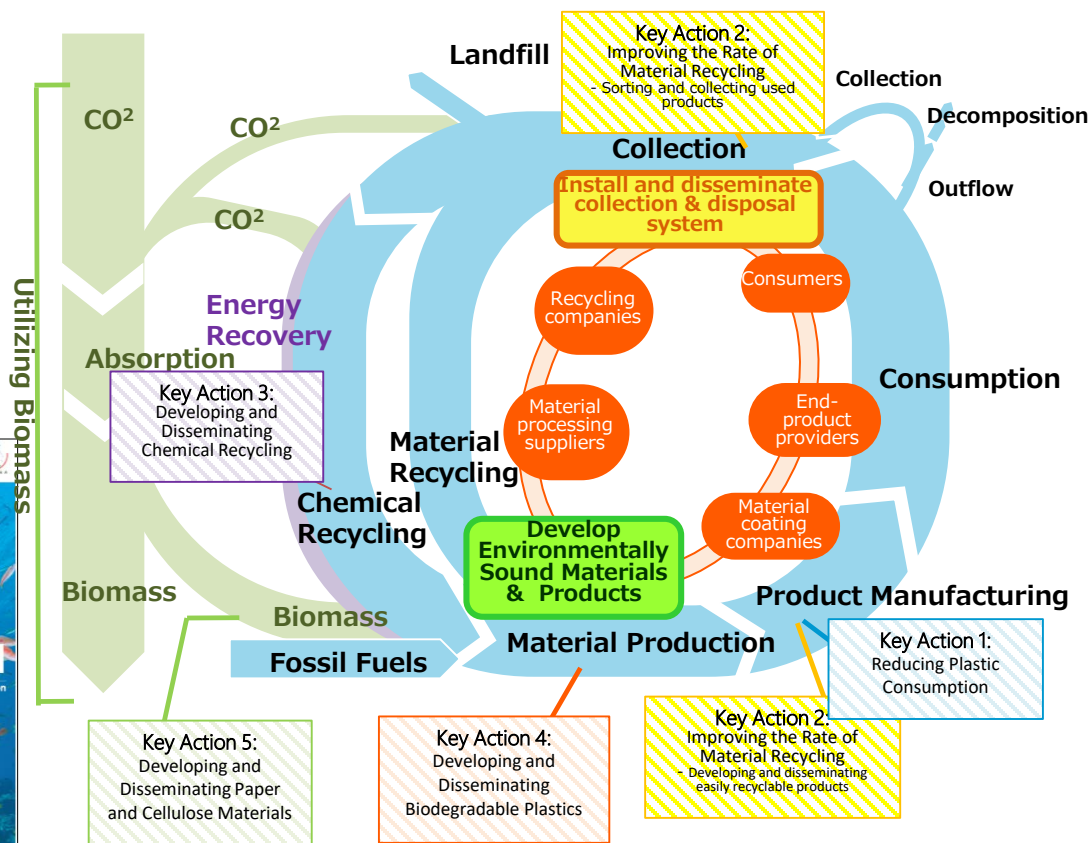
CLOMA VISION Brochure



CLOMA VISION Brochures were distributed in the G20 Energy and Environmental Ministerial Meeting to introduce products and efforts by CLOMA member companies. (Exhibitor Companies)  
 Kao Corporation  
 Efforts to Reduce (3Rs) Plastics in Toiletries Seven & i Holdings Co., Ltd.  
 F to P (Flake to Preform) Direct Recycle Technologies for Beverage PET Bottles

## 5 Key Actions Formulated in CLOMA Vision

Relationship between the Five Key Actions and the Lifecycle of Plastic Products



# CLOMA's 5 Key Actions

## Key Action 1 Reducing Use of Plastics

Efforts have been implemented to make thinned and light-weighted plastic products and to diffuse refillable products. Future efforts will be implemented at a new, innovative point of view.

Easily refilled design

Condensing the content

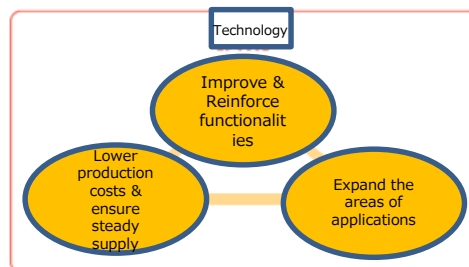


## Key Action 4 Developing and Disseminating Biodegradable Plastics

Biodegradable materials should be adequately applied to respective characteristics and degrading conditions based on the Roadmap (\*), while aiming for optimizing existing recycling system.

(\*) Roadmap for Popularizing Development and Introduction of Marine Biodegradable Plastics (Formulated by METI in May 2019)

Products Using PHBH



PHBH is a biodegradable plastic in which microorganisms are produced using vegetable oil as raw material.

Displays superior biodegradability in natural environments such as oceans and soil grounds.

## Key action 2 Improving the Rate of Material Recycling

Efforts have been implemented to develop and diffuse easily recyclable products.

“Monomaterialization”, that is, to manufacture a product, made of multiple plastics materials, with one -mono- plastic material, is one example.

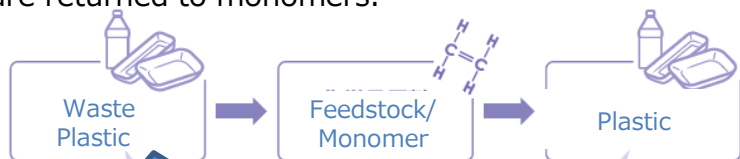
Improve sorting and collection systems for waste plastics throughout cooperation among stakeholders.

PET bottles manufactured with recycled PET resins



## Key Action 3 Developing and Disseminating Chemical Recycling

Technology development and social implementation of higher value-added chemical recycling will be progressed, with which waste plastics are returned to monomers.



Recyclable even if different types of plastics are mixed, or contaminated to a certain degree.

By ensuring equivalent quality as the products made from virgin materials, it is highly likely that areas of applications for renewed plastics can be expanded.

## Key Action 5 Developing and Disseminating Paper and Cellulose Materials

Coating technologies and materials to be applied to paper having been developed enable reduction of plastics use. Development as well as introduction and diffusion of cellulose materials including cellophane and cellulose microbeads will be promoted.



Samples of fragrances using cellulose microbeads ▶



◀ Picture on the right shows the separate packages for medicines (milky-color cellophane, partially-printed items, and transparent items)

# METI's Initiative

## Strengthen Assistance for Development and Diffusion of New Materials

### ○ Technology Roadmap for Popularizing Development and Introduction of Marine Biodegradable Plastics Formulated (May 7, 2019)

...In order to promote development, introduction, and diffusion of marine biodegradable plastics, METI has formulated the roadmap in which major challenges and measures to tackle are compiled corresponding to development stages of new technologies and materials related to marine biodegradable capabilities.

#### <Key Technological Issues>

- ...Social Implementation of Practical Technologies
- ...Multipurpose Uses of Composite Materials through Technology Development
- ...Research and Development of Innovative Materials ... and So Forth

#### <Main Political Measures to Assist R&D and Diffusion>

【NEDO】 Research Program to Lead New Technologies Contributing to Overcoming Medium and Long Term Issues on Energy and Environment (Allocated Budget to be Included in the Proposed Budget 3.74 billion yen for the Next Fiscal Year)

【NEDO】 R&D Startup Support Project (Allocated Budget to be Included in the Proposed Budget 1.72 billion yen for the Next Fiscal Year) ... and Others

【AIST】 Support for International Standardization (Progressing Public-Private Collaborative ISO Formulation to Evaluate Biodegradability of Plastic Products)