

# The Chemical Industry's Future Vision on the Chemical Recycling of Plastic Waste

## Introduction

- ✓ It is the urgent challenge to achieve the efficient and circular use of plastic waste in response to world issues, such as resource limitations due to global increased population, plastic litter and climate change.
- ✓ All kinds of plastic waste are important domestic resources, the effective use of which helps mitigate global warming through carbon circulation, etc., and chemical recycling (CR) is a key to achieving this.
- ✓ The chemical industry plays a central role to foster innovation to solve global issues based on the possibilities provided by chemistry.

## Future Vision: Become a coordinator for the entire CR value chain to realize a “True Circular Society”

### [Premises] State of society in 2050

- ✓ Shift from linear economy to circular economy
- ✓ Continued use of chemical products as basic materials in post-coronavirus society
- ✓ Progress with breakaway from the use of fossil resources as carbon source

### (1) State of CR technologies

- ✓ Achievement of “cradle to cradle”
- ✓ Circular CR into oil, gases and monomers of equal quality

### (2) State of society after the introduction of CR

- ✓ Expanded recycling of plastic waste  
CR 2.5 mil. tons/year (1.5 mil. tons/year in 2030)
- ✓ Acceptance of recycled materials by the public

## Toward the achievement of the vision (Full-scale expansion of CR in society)

### (1) Establishment of a feasible business size

- ✓ Plastic waste collection and treatment system  
Establishment of a large-scale collection and treatment system  
Rational and highly efficient collection system  
Building of a collection & management data platform

### (2) Establishment of CR technologies

- ✓ Matching of different types of plastic waste to CR technologies
- ✓ Enhancement of plastic waste sorting & treatment technologies
- ✓ Building of a support system  
Public finance & industry-government-academia collaboration, etc.

### (3) Establishment of economic feasibility and market

- ✓ Nurturing of values among consumers and brand manufacturers
- ✓ Comparison of LCA results between various recycling methods
- ✓ Clarification of recycled products through certification systems
- ✓ Building of a sustainable business model

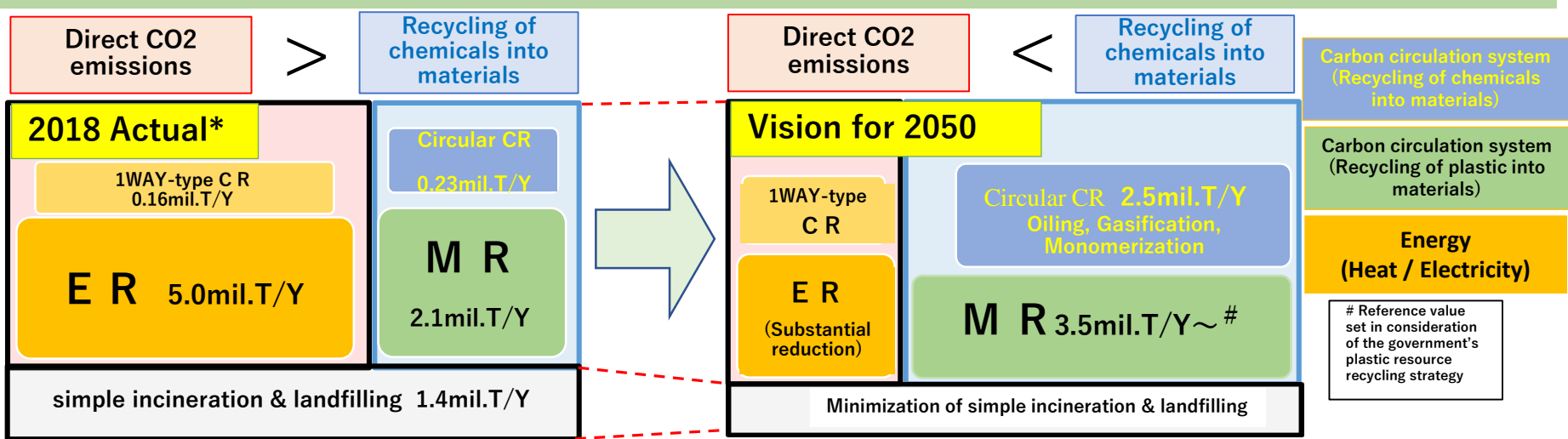
### (4) Expansion to overseas

- Deployment as business in emerging market countries
- Utilization of bilateral talks and international organizations

Build collaboration and social systems to foster social innovations across the value chain

Propose an international certification system, etc. to globally foster CR with economic rationality

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\*Source: Results in 2018 (annual treatment amount) by Plastic Waste Management Institute

Important points for the realization of the vision for 2050

- (1) Ensure a feasible size: Build a rational & large and highly efficient collection system and plastic waste collection data platform, and product design (for recycling into mono-materials)
- (2) Market creation: Promote value of recycled products (by Eco Mark, international certification system, LCA) and build a business model.

