

JCIA Activity Report

inc. National Government Policy and its Impact on Chemical Industry

<Sub-topics> Program to Carbon Neutrality

Japan Chemical Industry Association (JCIA)

ICCA E&CC LG Virtual F2F meeting

Wednesday 10th March, 2021



- ✓ June, 2019 : “**Japan’s Long-term strategy**”
 - “Decarbonized Society” as early as possible in the second half of this Century
 - the reduction of GHGs emissions **by 80% by 2050**

- ✓ Sept., 2020: New Prime Minister SUGA Yoshihide

- ✓ **26 Oct., 2020:**
 Prime Minister SUGA
 declared that **by 2050**
 Japan will aim to reduce GHG
 emissions **to net-zero**,
 That is , to realize a carbon-
 neutral, decarbonized society.



“Realizing a green society”

➤ Realization of the “Green Growth Strategy”

✓ 26 Oct. , 2020

- by 2050, to reduce GHG emissions to net-zero
- Key revolutionary innovations:
solar cells and carbon recycling
- Green investment

Source: https://japan.kantei.go.jp/99_suga/statement/202010/_00006.html

✓ 18 January, 2021

- Environmental investment:
 - a fund of two trillion yen
 - tax credit of up to 10%
- Carbon Pricing

Source: https://japan.kantei.go.jp/99_suga/statement/202101/_00013.html



METI formulated **“Green Growth Strategy towards 2050 carbon Neutrality”**
In December 25, 2050



The strategy is an industrial policy.

“Positive cycle of economic growth and environmental protection”

Future actions of **14** priority fields is shown:



Energy (4): offshore wind, ammonia for fuel, hydrogen and nuclear energy

Transport and manufacture (7):
automobile storage battery, semiconductor and IT, marine vessel, logistics and infrastructure, foodstuffs and Agriculture, Forestry and Fisheries industries, aviation industry and **carbon-recycling industry**

Office and home (3)

15 December, 2020

Keidanren
Policy & Action

Toward Realizing Carbon Neutrality by 2050 ("Society 5.0 with Carbon Neutral")

– Determination and Actions of the Business Community –

Challenge Zero

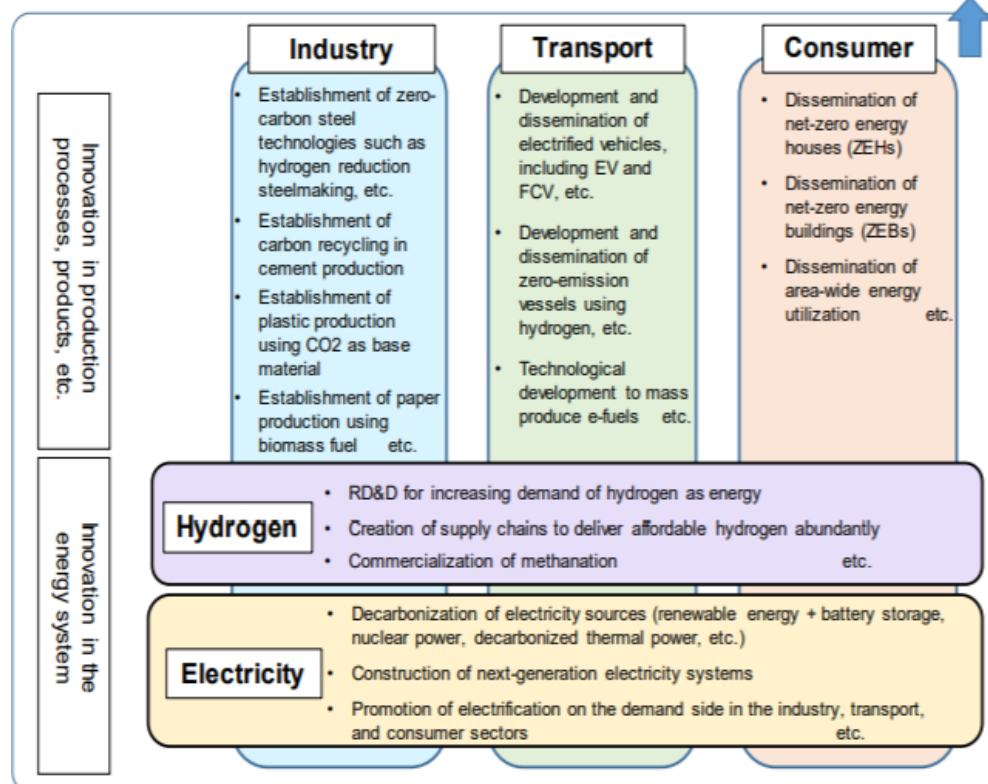
15 December 2020

Global expansion
(Utilization of standard
certificates, emission credit
transactions, etc.)

Society 5.0 with Carbon Neutral

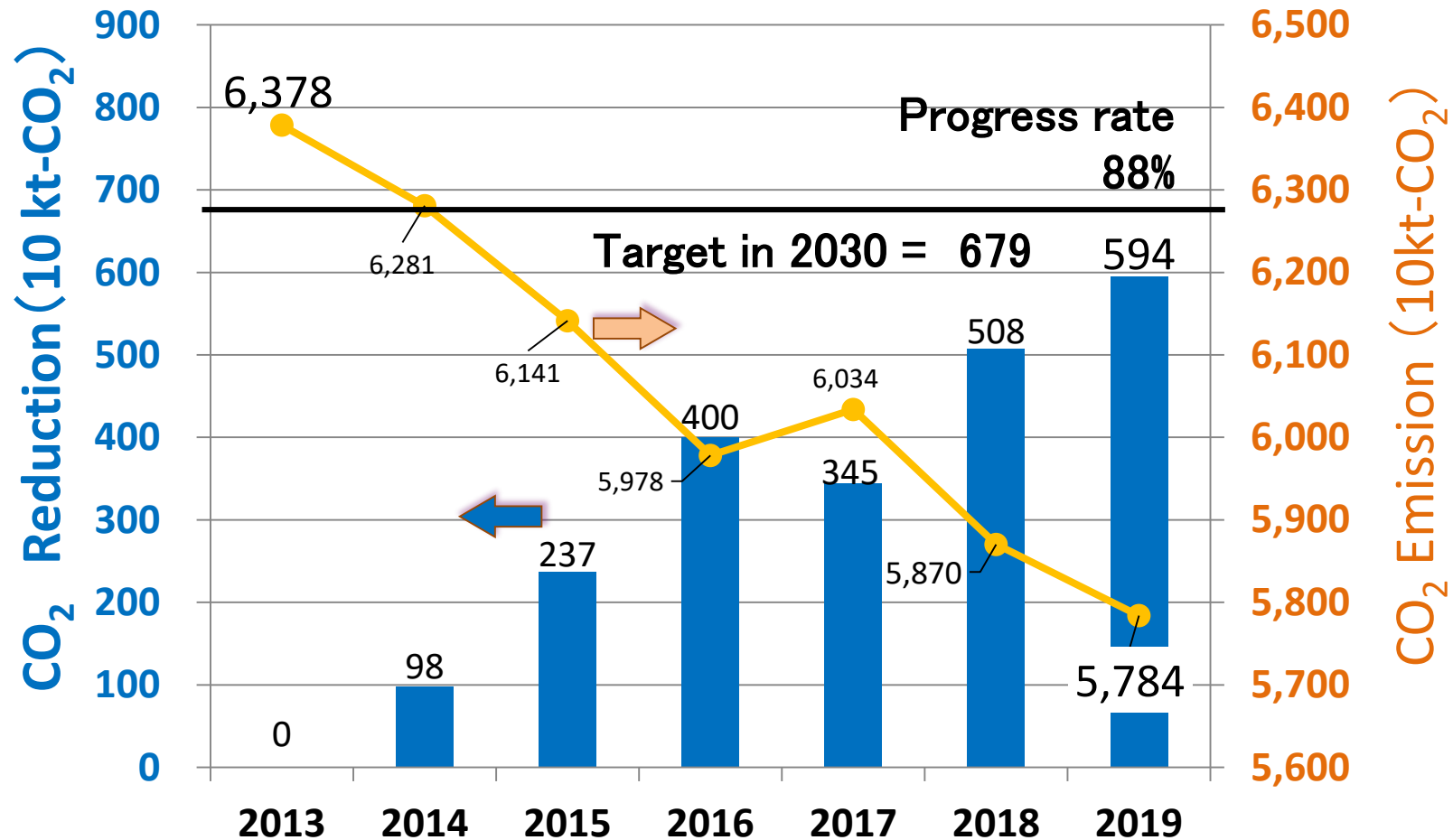
Keidanren **highly appreciates** the decision, that the Prime Minister declared a policy towards “carbon neutrality by 2050”.

Keidanren will approach the challenge of “carbon neutrality by 2050” **with unwavering resolve** in full collaboration with the government.



JCIA Actions: CO₂ Emission Reduction

Current status and the target in 2030
(Absolute CO₂ Emission from chemical industry)



JCIA's continued efforts: CO₂ remission is steadily decreasing.
Progress rate is also increasing steadily.

The intensive discussion on **Carbon Neutral (CN) Strategy** started.

< Objectives >

to present the chemical industry's role and position on CN and to advocate to national policy

< Key issues >

1/ the role and scope of responsibility

2/ measures and premises to realize CN in 2050

Major emission sources and key measurements

<Source of CO₂ Emission during production processes>

- 1/ from the process by using fossil fuel
- 2/ from on-site power plant by using fossil fuel
- 3/ indirect emission from purchased electricity and vapor

< Efforts to emission reduction >

- 1/ promote rationalization and efficiency of processes
- 2/ introduce innovative technologies
- 3/ change fuel for on-site power plant
- 4/ shift to purchase electricity
- 5/ use renewable energy
- 6/ use CO₂ as feedstock
- 7/ use carbon credit

< Necessary requirement for accomplishment of CN >

- 1/ Zero-emission electricity to be supplied more and stable
 - Zero-emission electricity by energy sector by 2050
 - Stable and affordable green hydrogen
- 2/ Policy support by government and infrastructure development of ESG investment by using private funding
 - <Transition>
 - <More green energy>
 - <Tech. innovation>
- 3/ Establish the structure of society to share the huge increasing investment costs for R&D and facilities by whole society

Published “The Chemical Industry’s Future Vision on the Chemical Recycling of Plastic Waste”

(18 December, 2020)

Full text is available from https://www.nikkakyo.org/whatsnew_en/8757

< Objectives >

- ✓ to present the chemical industry’s position toward circular society and to promote the technologies and market on chemical recycling
- ✓ to advocate to National Council discussion around “Resource Circulation Strategy for Plastics” policies and measurements ➡ The report was published in Jan. 2021.

<http://www.env.go.jp/press/109028.html> (Japanese)

Reference: <https://www.env.go.jp/en/focus/jeq/issue/pdf/Volume20January2018.pdf>

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

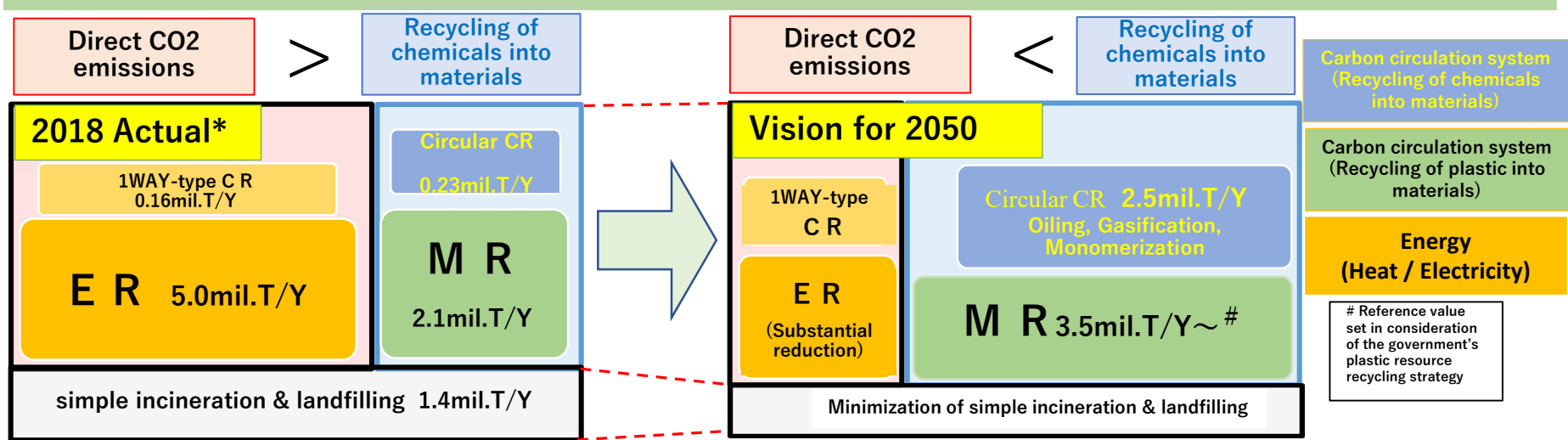
(4) Expansion to overseas

- 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

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



*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.

