

Introduction

- Chemical industry supports the foundation and innovation of all industries through providing materials. The industry sees the pursuit of carbon neutrality (CN) and the creation of a sound material-cycle society as strategic growth opportunities.
- The Plan for Global Warming Countermeasures, the GX2040 Vision, and the Seventh Strategic Energy Plan, which were all set in 2025 positioned “decarbonization” as a “growth strategy.” We have reorganized the targets, challenges and direction of measures to be achieved by the chemical industry for carbon neutrality.

Our Three Targets

Autonomous innovator:

- Establish a production system with net zero-emissions and recycling of resources (energy and raw material switching, high efficiency)

Solution provider:

- Support the decarbonization of the entire society (through the supply of highly functional materials and provision of resource recycling technologies such as chemical recycling)

Co-creator:

- Promote domestic and international collaboration and innovation (industry-academia-government collaboration, collaboration across the entire supply chain)

Four challenges to overcome

Technological challenges

- Availability of decarbonized energy at reasonable cost
- Practical and extensive use of innovative technologies for materials switching
- Development of highly functional materials that are indispensable for a decarbonized society

Economic challenges

- Huge investment in R&D and facilities
- Rise in product costs (risk of declining international competitiveness)

Social and institutional challenges

- Consistent support by governmental policies
- Establishment of a resource recycling system
- Sharing of costs by entire society and spread of life-cycle evaluation

Challenges concerning human resources and intergenerational transfer of technologies

- Development and retention of specialists in decarbonization and recycling technologies

Direction of measures for achieving the goals

- The development of new technologies and the practical use of these technologies in society have been successfully underway in line with the roadmap for transition finance in the chemical sector formulated by the Ministry of Economy, Trade and Industry in 2021 and the **Sector-Specific Investment Strategies** set by the Ministry in 2023. (For chemical recycling, a project to chemically recycle several hundred thousand tons of materials per year in FY2030 has been announced.)
- On the other hand, as indicated in the roadmap, there are a range of technological challenges, and the practical use of new technologies in society will start on a full scale only in or after 2030. JCIA will proactively participate in the review of this roadmap for the acceleration of a range of related measures.

Chemical industry will transform itself from “a consumer of resources” to “a creator and circulator of resources”. The industry will establish its own sustainable production system and support the decarbonization of the entire society through its technologies and products.