

Sustainability

# Promoting a Circular Economy

In 2022, Mitsubishi Chemical Group Corporation expanded the mission of the Circular Economy Promotion Committee, established in 2019, to create the Green Transformation Promotion Committee. The committee promotes the circular economy on a Group-wide basis through a fusion of social and economic value. The main strands of this initiative are the cyclical use of carbon (CO<sub>2</sub>), plastics and water resources, and the evolution of LCA tools.

## Action rollout through alliances

One of Mitsubishi Chemical Corporation (MCC)'s activities to reduce pollution, waste emissions, and resource consumption throughout the supply chain is its participation in the Japan Clean Ocean Material Alliance (CLOMA\*4).

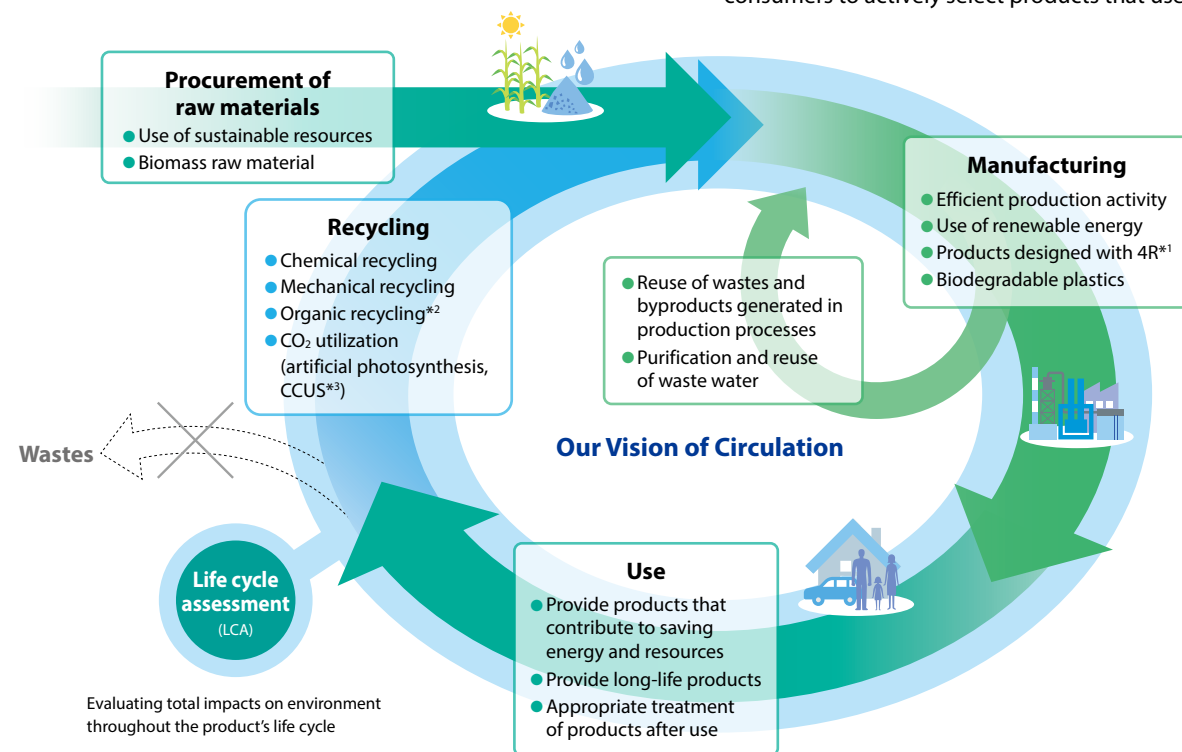
At the CLOMA Forum 2021, we gave a presentation on the development and utilization of biodegradable plastics such as biodegradable barrier packaging. We will continue working to promote the adoption of biodegradable plastics that contribute to environmental impact reduction and to expand their applications. We will also create an environment that encourages consumers to actively select products that use these materials.

## Realizing sustainability throughout the life cycle: Utilization of biomass materials

MCC is working with Toyota Tsusho Corporation on a commercialization project with the aim of launching production and sales in fiscal 2025 of plant-based ethylene, propylene, and derivative products produced from bioethanol made with sugarcane or other source materials. We envisage their use across a wide range of sectors, including in products that are normally difficult to collect and recycle. The use of plant-based raw materials will enable us to contribute to realizing a sustainable life cycle.

## Design of pilot plant for MMA monomers using plant-derived materials has begun

MMA is a raw material for acrylic resins, which are used in a wide range of products from automotive lamp covers, signs, and aquarium tanks to paint and construction materials. Global demand is expected to show solid growth. MCC has developed a manufacturing technology to produce MMA monomers from plant-derived materials and begun designing a pilot plant. The plant is due to begin operations in fiscal 2023. After demonstrating the technology's viability, we aim to apply it to a commercial-scale plant in 2026. We are also looking into the possibility of molecular recycling to reutilize acrylic resins through processing back into MMA monomer. In this way, we will continue working for environmental impact reduction across the supply chain (▶ Page 91).



\*1 4R: Reuse, Reduce, Recycle, Renewable  
 \*2 Technology to produce valuable products through composting and methane fermentation  
 \*3 Carbon capture, utilization, and storage, a technology for capturing CO<sub>2</sub> and using or storing it to prevent its release into the atmosphere  
 \*4 An organization set up within the Japan Environmental Management Association for Industry in 2019 to accelerate innovation to resolve the issue of marine plastic waste through cross-industry collaboration