

Contribute to Recycling Resources

For sustainable use of resources, it is essential to reduce resource consumption and create a system to efficiently recycle currently available resources. In addition to waste management and effective use of resources at our offices and Works, Sumitomo Chemical is working on the development and social implementation of recycling technologies for carbon resources such as plastics.

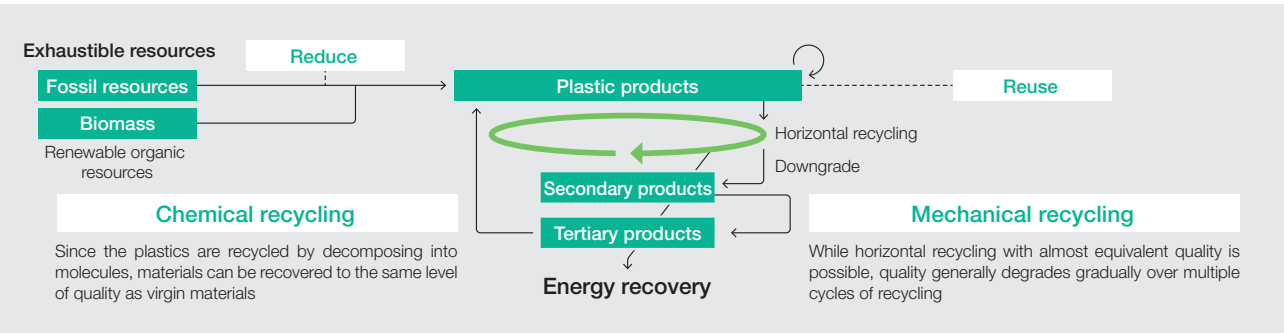
Contribute to Recycling Resources (Sustainability Report)

Initiatives to Achieve Carbon Resource Recycling

Overview of Carbon Resource Recycling, including Plastics

To achieve carbon resource recycling such as for plastics, it is important to make 3R efforts (reduce, reuse, and recycle (mechanical and chemical recycling)) at each stage of the plastics value chain.

Overall picture of circular system for plastics



KPIs for Carbon Resource Recycling

KPI	The amount of recycled plastics utilized in manufacturing processes
Target	200k tons/year by FY2030
Results	FY2024 11,440 tons

Development of the Meguri™ Brand

Meguri™ is a brand of plastic products and chemicals that can be obtained through recycling technology and contribute to reducing environmental impact. We will expand the Meguri™ product lineup and increase production and sales of these products, thereby playing a role in realizing a circular economy.



Circular System for Plastics Website

Initiatives toward Mechanical Recycling

We are promoting the development of various technologies to achieve mechanical recycling for plastic products.

PP (Polypropylene) Mechanical Recycling

Our mechanical recycling initiatives include collaboration with REVER CORPORATION. In this partnership, we are developing technology to produce high-quality recycled plastics for use in automobile parts, made from waste plastics recovered from end-of-life vehicles.

Since 2024, we have been providing Noblen™ Meguri™, produced through our mechanical recycling technology, for use in the front grille of the electric vehicle N-VAN e, marketed by Honda Motor Co., Ltd.

In 2022, we made a decision to introduce a pilot-scale mechanical waste processing facility that performs an integrated process of high-precision sorting and removal of foreign matter according to the type and characteristics of waste plastics.

In addition, we will work towards the acceleration of business development.

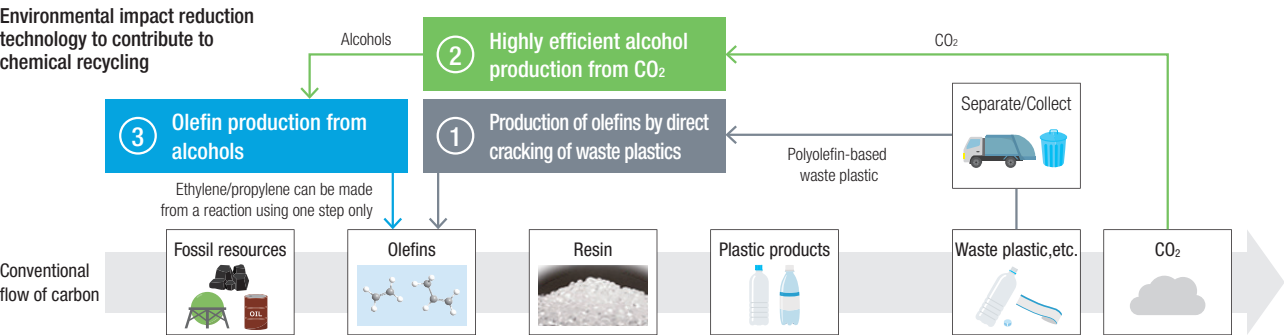
Release of "Nobren™ Meguri™" in 2024

Honda N-VAN e: Front grille

Photograph provided by Honda Motor Co., Ltd.

Initiatives for Chemical Recycling

We promote development of chemical recycling technologies through multiple routes in parallel, by combining our catalyst design and chemical process design technologies, in collaboration with external parties.



Technology for Highly Efficient Production of Methanol from CO2

We have completed the construction of a pilot facility to establish a highly efficient process for producing methanol from CO2 at our Ehime Works and have commenced operations at the facility. In pilot testing, we achieved 80% methanol yield under certain conditions (conventional method: about 20%). Carbon capture and utilization (CCU) technology is expected to serve as a game-changing solution to fight global warming and achieve a circular economy for carbon by recovering CO2 and utilizing it in products, and we are accelerating the development and spread of various new CCU processes. We will establish the technology and work toward its commercial production and licensing to other companies in the 2030s.

Principle of the Internal Condensation Reactor (Conceptual drawing)

Features of This Technology

- Separating generated methanol within the reactor, which leads to improved yield, smaller equipment, and higher energy efficiency
- Separating by-product water, mitigating catalyst degradation

Technology for olefin production from alcohols

We are developing technology to produce olefins directly from ethanol, which has been attracting attention as a sustainable chemical raw material. Since we achieved 80% yield of targeted olefin yield in bench trials, we began designing of pilot facilities for demonstration.

Our direct production process

Features of This Technology

- Producing olefin directly from ethanol
- A newly-developed compact and low-cost process
- Producing hydrogen as a by-product, in addition to olefin

For the future, we are envisioning a business model in which we will reduce fossil fuel resource use, waste plastic generation, and GHG emissions from waste plastic incineration through social implementation of these technologies and will receive fees through value conversion of the amount of GHG emission reduction enabled by our technologies.

Strengthening of the base for the environmental impact solutions business

