News Release

RESONAC

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Resonac Launces the Circular Business Model "CirculaC" for Used Plastics and Textiles

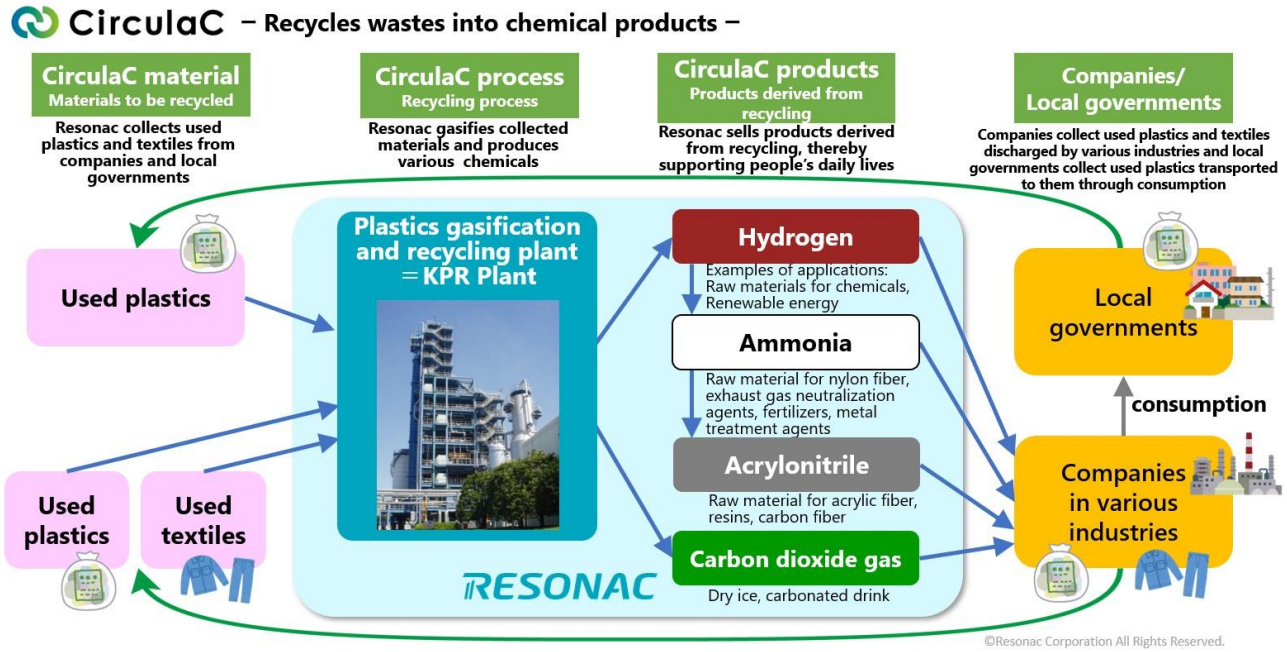
~A new brand expanding the "Circle of Circulation" toward a sustainable future~

Resonac Corporation (President: Hidehito Takahashi, hereinafter "Resonac") has launched "CirculaC," a circular business model for used plastics and textiles. This business model aims to regenerate used plastics and textiles into chemical raw materials such as hydrogen, ammonia, acrylonitrile, and carbon dioxide through the power of chemistry, transforming them into various final products. Through CirculaC, Resonac will strengthen its efforts toward the realization of a sustainable circular society.

CirculaC

The name “CirculaC” is a combination of "Circular" and the initial "C" from "Chemical Recycle." CirculaC embodies the idea that “Used plastics and textiles are regenerated into various products through the power of chemistry and circulate within the economy,” which is based on the Resonac’s Purpose, "Change Society through the Power of Chemistry." The logo of CirculaC conveys a sense of trust and stability as a brand supporting the next generation of a circular society.

At Resonac’s Kawasaki Plant (Kawasaki City, Kanagawa Prefecture), we have been implementing "Plastic Chemical Recycling" (referred to as "Kawasaki Plastic Recycling (KPR)") since 2003, recycling used plastics into hydrogen and carbon dioxide. It is the only gasification chemical plant in the world that has maintained stable operations for over 20 years. In 2022, the cumulative amount of plastic processed exceeded one million tons. Through KPR, we gasify used plastics at high temperatures, breaking them down to the molecular level and extracting hydrogen and carbon dioxide as outputs. The hydrogen is used for power generation in fuel cells installed in a hotel in Kawasaki City, and it is also utilized internally as a raw material for ammonia. Ammonia is used as a raw material for acrylonitrile at our Kawasaki Plant, and it is also supplied externally for synthetic fibers, chemical fertilizers, and denitration agents. Meanwhile, the carbon dioxide is not released into the atmosphere but is utilized as a raw material for dry ice at Resonac's group companies or sold as a raw material for carbonated beverages. These products are planned to be sold under the CirculaC brand in the future.



Conceptual diagram of CirculaC

The Resonac Group places sustainability at the core of its management and considers the realization and contribution to a sustainable circular society as an important mission. CirculaC is a result of our long-standing efforts in recycling used plastics. We aim to further expand the circle of resource circulation by leveraging our technologies and processes while co-creating with external stakeholders. Resonac will continue promoting the sustainable use of resources together with everyone toward achieving carbon neutrality.

[References to KPR]

Plastic Chemical Recycle
https://www.resonac.com/rd/tech/environment.html?intcid=glnavi_rd_tech_environment

Showa Denko Achieves Recycling of 1 million Tons of Used Plastics in Total
https://www.resonac.com/news/2022/02/09/2219.html

Showa Denko's Low-Carbon Ammonia Produced from Used Plastics Reduces CO2 Emission by more than 80%
https://www.resonac.com/news/2022/12/20/2265.html

Becoming the First in Japan to Acquire International Certification for a Supply Chain That Adopts Materials Derived from Used Plastics
https://www.resonac.com/news/2023/05/18/2506.html

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