

Topics

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Honda and Idemitsu Kosan Begin Joint Demonstration Testing of Closed-loop Recycling of Plastics from End-of-Life Vehicles

— Honda Initiative Toward Resource Circulation —

TOKYO, Japan, March 28, 2024 – Honda R&D Co., Ltd. (Honda) and Idemitsu Kosan Co., Ltd. have begun joint demonstration testing related to closed-loop recycling of plastic materials collected from End-of-Life Vehicles (ELVs).

Through this demonstration testing, the two companies will conduct a broad range of verifications toward the establishment of requirements for recovery of ELV plastics necessary for closed-loop recycling and the realization of a closed-loop recycling system, including the future production system for recyclable resources. Beyond this joint demonstration, the two companies will strive to establish the closed-loop recycling of ELV plastic materials and begin applying recycled plastic materials to new mass production vehicles by the second half of the decade.

Due to the technological difficulties of collecting and recycling separate types of plastic, ELV plastic recycling has been limited to the recovery and utilization of thermal energy generated during the incineration process. In this joint demonstration, the closed-loop recycling will be realized by technology of recycling of used plastics into oil,*1 that is less prone to degradation of the physical properties of plastics than conventional mechanical recycling*2 and thus makes possible the conversion into recycled materials with performance and quality equivalent to those in virgin materials.

Specifically, Honda will be in charge of exploring recycling resources and collecting appropriate plastic materials from ELVs. Then, Chemical Recycle Japan Co., Ltd., a subsidiary of Idemitsu Kosan will apply its chemical recycling technologies to convert ELV plastics into generated oil. Then, Idemitsu Kosan will verify the feasibility of recycling the converted generated oil as recycled materials.

<The process of the closed-loop recycling to be demonstrated>



Honda has identified "resource circulation" as one of the key directions to focus on in order to future advance its mobility products. To pursue "resource circulation" of plastics, Honda has been studying various methods of plastic recycling, including recycling of used plastics into oil as well as mechanical recycling. Honda will continue making progress in the research related to recycling of various materials and strive to achieve 100% use of sustainable materials.

^{*1} Recycling of used plastics into oil: A recycling method to produce chemicals and fuels using generated oil converted from used plastics.

^{*2} Mechanical recycling: A recycling method that uses physical processes such as sorting, crushing and washing to turn used plastics into a reusable condition.