

November 15, 2019
Mitsui Chemicals, Inc.

**Mitsui Chemicals Starts Demonstration Testing for Material
Recycling of Flexible Packaging Materials**
**Aiming to build a sustainable system that cuts down on plastic waste
by turning recycled resin back into film**

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: Tsutomu Tannowa) has begun demonstration testing for a material recycling project aimed at cutting down on plastic waste emissions. Mitsui Chemicals is focusing these efforts on flexible packaging materials, which are commonly used in food packaging.

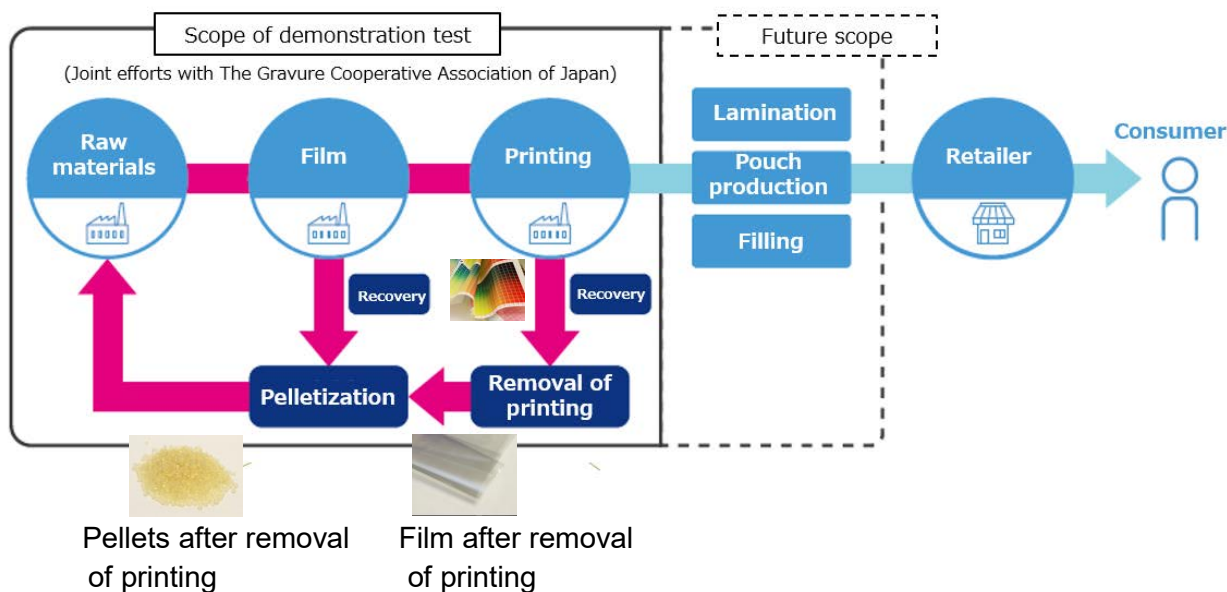
In 2017, Plastic Waste Management Institute (PWMI) published a diagram showing material flows for plastic in Japan, placing the total amount of plastic waste generated in the country at around 9 million tons per year. Cutting down on this figure will be a major issue for society to tackle going forward.

With this new project, Mitsui Chemicals is focusing specifically on the flexible packaging materials sector, which is the largest application for the company's strong business in polyolefin resins and films. Mitsui Chemicals estimates that flexible packaging materials make up approximately 2 million tons of the roughly 9 million ton figure posited by PWMI.

Mitsui Chemicals is therefore striving to cut down on the amount of plastic waste generated in the flexible packaging materials sector. As an initial effort here, the company is starting up demonstration testing for a system that aims to take plastic waste created from the film production and printing processes, then recycle this into new film to be used as a flexible packaging material. Launched in August 2019, this effort is being run in conjunction with The Gravure Cooperative Association of Japan (Chairman: Kaoru Taguchi).

Starting in January 2020, Mitsui Chemicals will also introduce roll-to-roll technology that facilitates the cleaning of printed film and the removal of printing from said film. Mitsui Chemicals will then test this technology's ability to recycle film into regenerated resin that exhibits stable quality and can be reused as a raw material for flexible packaging.

[Diagram showing the model of the material recycling demonstration test for flexible packaging materials]



【Reference】

Pellets made from film that has not had printing removed



Pellets made from film that has had printing removed



Going forward, Mitsui Chemicals will consider commercializing this model for material recycling, as well as expanding its scope to also include plastic waste from lamination through to pouch production, filling and consumption. At the same time, Mitsui Chemicals will pursue development of mono-material packaging that contributes to improved recyclability and product quality, and will work to develop compatibilizing technologies to help secure more high-quality regenerated resin. Mitsui Chemicals aims through these efforts to help reduce plastic waste and bring about a circular economy.