

Further Expanding Plastic Recycling

Sharp has developed and put into practical use new technologies that help increase the potential of closed-loop material recycling,^{*1} which reuses plastic recovered from four kinds of home appliances (TVs, air conditioners, refrigerators, and washing machines). Based on these technologies, Sharp is greatly increasing the amount it recycles, with the goal of using 1,000 tons of recycled plastic in fiscal 2008.

*1 Repeated reuse of recovered plastic in the parts of new consumer electronics products



① Recycled plastic pellets

② Refrigerator with transport handles made from recycled plastic

③ Washing machine with a bottom stand made from recycled plastic

④ Recovered washing tub

⑤ Recycled washing tub

⑥ High-efficiency metal removal line (Kansai Recycling Systems)

Developing Technology to Recycle Plastic

Although large amounts of plastic are used in consumer electronics, most of the plastic is disposed of as industrial waste after use. In 1999, with the aim of recycling that plastic, Sharp started developing the technology for closed-loop material recycling. In 2001, when the Japanese Law for Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law) was enacted, Sharp and Kansai Recycling Systems Co., Ltd.^{*2} jointly put this recycling technology to practical use. Since then, through a series of technological advances and improvements to its facilities, Sharp has steadily increased its use of recycled plastic every year.

With the passage of more than six years since the technology was first put into practical use, washing machines equipped with tubs made from recycled plastic are now being sent to plants for recycling. Tests conducted on the washing tubs confirm that they possess the

properties needed for repeated recycling. These tubs are once again being recycled into parts of new home appliances.

New Technology to Increase the Use of Recycled Plastic

The reuse of recovered plastic was previously limited to components made from a single resin material; plastic with metal parts and different types of resins still attached was disposed of as industrial waste. In August 2007, Sharp developed a technology to separate and recover high-purity polypropylene (PP) from plastic components previously subject to disposal, and recycle it into high-quality plastic. By employing this technology, Sharp can greatly expand its use of recycled plastic.

There are three significant aspects to the new technology. First, the high-efficiency metal removal line newly set up at Kansai Recycling Systems is based on a system in which

screws and other metal parts attached to recovered plastic components are accurately detected and removed, and the remaining plastic parts are placed into a crusher. Next, high-purity PP separation and recovery technology enables the recovery of PP in an almost 100% pure form from the crushed plastic through wind-power sorting and water-gravity separation. The third aspect involves plastic pigmentation technology developed by Ube Industries, Ltd. This proprietary technology for incorporating colored pigments into recovered PP to which additives have been mixed in after cleaning prevents impurities from being visible.

Measures for Creating a Resource-Recycling Society

To increase the use of recycled plastic, it is necessary not only to expand the recovery of plastic but also to widen the applications of recycled plastic. Through the high-efficiency metal removal line and the high-purity PP separation and recovery technology, Sharp has greatly increased its recovery of recyclable plastic. Also, the plastic pigmentation technology has expanded the range of applications by

making it possible to reuse PP in the exterior components of new home appliances. In fiscal 2007, Sharp used PP developed through these technologies in refrigerator transport handles and in the bottom stands of washing machines. By further expanding the range of applications, Sharp plans to increase its use of recycled plastic to 1,000 tons in fiscal 2008.

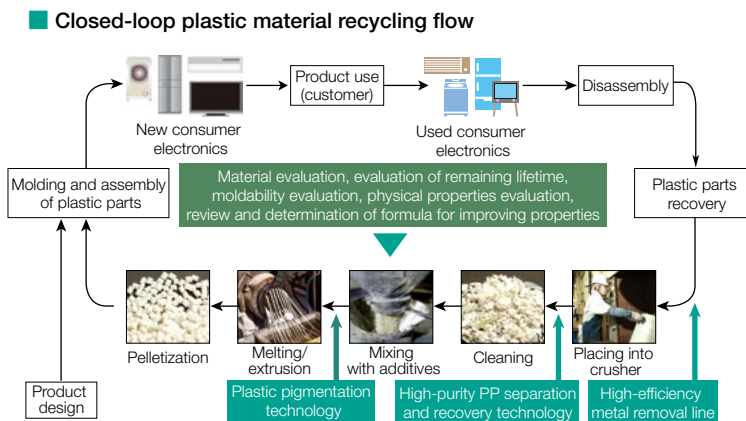
Sharp has already applied this closed-loop plastic material recycling technology to the cabinets of LCD TVs³ and to plant-based plastic⁴. Moreover, Sharp has developed and put into practical use plant-based resin paint made from corn⁵. Thus, by expanding the use of environment-friendly materials, which helps reduce the consumption of limited fossil resources, Sharp is contributing to the creation of a resource-recycling society.

*2 A consumer electronics recycling company established with investment from Sharp Corporation, Mitsubishi Materials Corporation, and five other electronics companies.

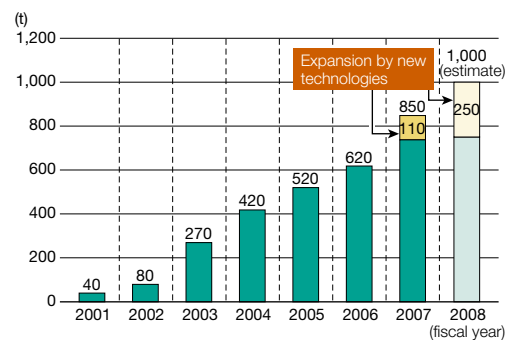
*3 See page 30.

*4 See page 30.

*5 Developed jointly with Kansai Paint Co., Ltd. See page 29.



Use of recycled plastic

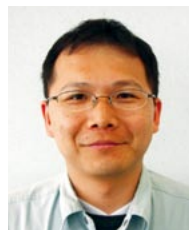


Target and results of closed-loop plastic material recycling

Evolving the Recycling Industry from a Venous Industry to a Materials Industry, to Create a Resource-Recycling Society

Our corporate vision is to be an advanced resource-recycling company valuable for humans and the Earth. To create a resource-recycling society, it is important to take on the challenge of conducting more advanced recycling: closed-loop material recycling is a prime example.

To further expand closed-loop material recycling, we will cooperate with Sharp in efforts to evolve the recycling industry from a "venous" disposal/renewal industry to an "arterial" materials industry.



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Waste Plastic Is Domestically Produced Material

Plastic is made from oil. Our closed-loop material recycling technology, however, enables the production of plastic, while reducing the use of oil. In the sense that waste plastic can be substituted for oil in the production of plastic, it can be called "domestically produced material."

To further expand closed-loop material recycling for the effective use of waste plastic as domestically produced material, we will promote coordination among Kansai Recycling Systems, our product divisions, and subcontractors, and, with an eye toward establishing a resource-recycling society, we will work to create environmentally conscious products.



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