

Activities to Reducing Waste Emissions

Aisin is promoting zero-emissions targets in its aim to reduce the volume of waste materials produced, as well as reductions in the use of resources, in order to achieve a recycling-oriented society and the efficient use of natural resources, which are at the forefront of solving the waste-material processing problems currently faced. We began work on the Third Voluntary Plan in FY2002, as part of which we established the targets "All plants to be producing zero landfill-waste emissions by the end of FY2004" and "A 30% reduction in the amount of incinerated waste emitted by the end of FY2006 in comparison with FY2001." Our activities in these areas allowed us to meet both targets during FY2002, and we are now working towards the complete elimination of incinerated waste by FY2006.

Transition in the volume of waste disposed of externally

[State of the Reduction of Industrial Waste Materials]

From FY1992 to FY2002, we reduced our total external waste by 92%, including a 92% reduction in waste oil, a 96% reduction in sludge, and 91% reduction in waste plastic. We did this by converting waste to usable resources and fuel, making products last longer, and decreasing their volume. Viewed as a trend, we have greatly reduced levels of waste oil and sludge, starting in the early 1990s, and since the latter half of the 1990s, greatly reduced our levels of waste plastic, waste oil, and waste casting sand.

Main Activities

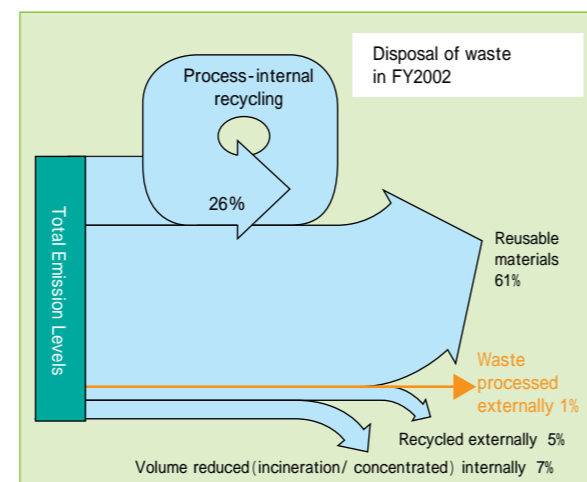
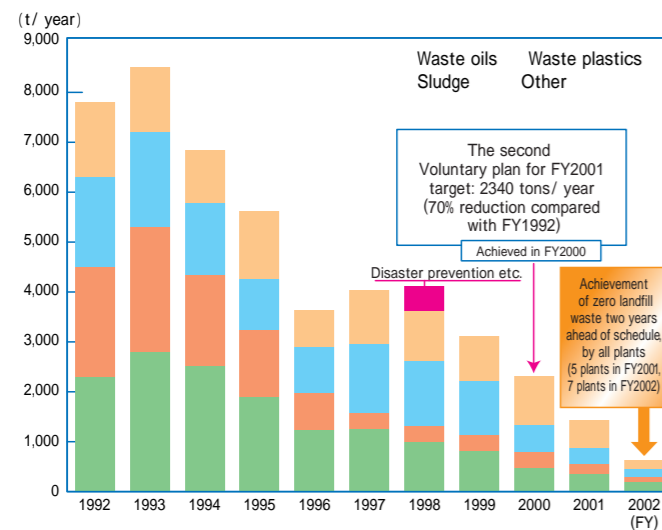
- Sorting waste plastics to make raw materials and fuel
- Prolonging the use life of oils and fluids, reducing the volume of waste oils and fluids, or turning them into fuel
- Recovering metals from sludge and waste fluids produced during plating
- Using collected dust or waste casting sand as raw materials for cement
- Fusion of incinerator ash and the like for use as raw material
- Reducing the volume of wastewater treatment sludge by changing the chemical used
- Separating and crushing brick dust and aluminum oxide for use as raw materials

[State of External Disposal of Industrial Waste]

Our in-house intermediate processing consists of the incineration of wastewater treatment sludge, the concentration of waste fluids, and the pulverization of plastics. When we sublet the disposal work to external vendors, we perform preliminary inspections of the vendors

and carry out yearly inspections. Thus, we maintain reliable vendors who can properly handle the materials under a manifest system.

External Industrial Waste Emissions



State of the reduction of industrial waste for Fiscal 2002

Aisin is rolling out various waste-reduction activities with the intention of achieving zero emissions by FY2006, and has implemented the thorough separation of all waste oils, plastics, and brick dust. We have worked hard at the separation of waste materials and the implementation of recycling in regard to waste materials occurring in our manufacturing processes,

with particular attention paid to the recycling methods used. These activities gave us a 56% reduction in externally processed waste materials during FY2002, in comparison with FY2001. We also reduced incinerated waste materials by 37%, representing the achievement of a target four years in advance of our specified date of FY2006.

Main Activities

- Fused iron-glass waste materials creation of raw materials through crushing and separation of fused iron-glass waste materials
- Making roadbed materials from crushed brick dust
- Creation of fuel through recovery and separation of waste oils
- Increase of barrel-liquid lifetime through removal of sludge
- Use of inorganic sludge and barrel-shaving sludge as raw material for cement
- Grinding of waste gloves and vests to make fuel
- Heat breakdown of aluminum oxide, creating iron reducing material
- Use of aluminum dross and oil sludge to create iron reducing material

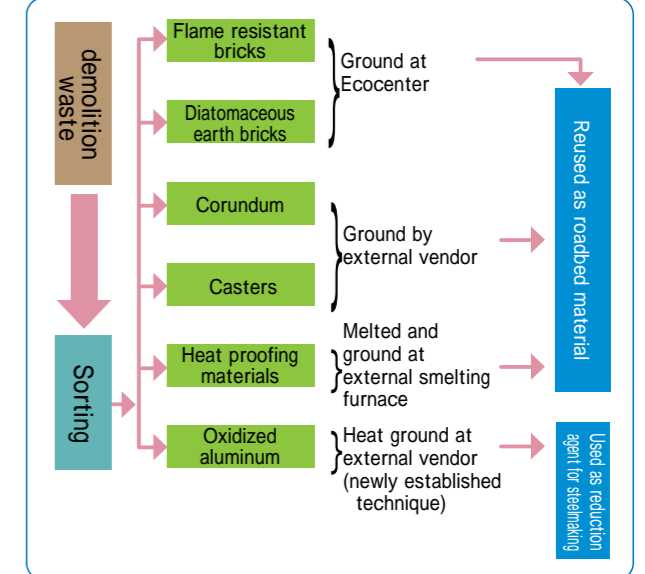


Integrated iron and glass grinding/ separating equipment

[State of Activities Aimed at Zero Landfill]

Aisin undertook four activities targeting zero landfill waste: Establishing target achievement years for each plant, Early implementation in a model plant, Strengthening of measures taken in plants across the company based on the example of the model plant, and Creation of the EcoCenter, a joint recycling center for landfill waste materials. We pressed ahead with these activities, with the intention of reaching our zero landfill emissions targets by FY2004. Through monitoring detailed information regarding the type of landfill waste and the conditions under which it is emitted, we have been able to search for recycling methods for each type of waste, based on recycling technology and information gained from outside the company. As a result of these activities, following on from the five plants that achieved the target during FY2001, a further seven plants managed to reduce their landfill waste emissions to zero during FY2002. This means that all our plants have now met the target, two years ahead of schedule. (Definition of zero landfill emissions: a more than 95% reduction in landfill emissions compared to those of FY1998).

Flow of Recycling Brick Dust



Status of Each Plant in Regard to Achievement of Zero Landfill Waste

Plant	Before FY 2001	During FY 2002		Reduction against quantity of landfill waste produced during FY 1998
		First half	Second half	
Kariya Plant				96%
Shintoyo Plant				96%
Nishio Plant				100%
Nishio Body components Plant Machinery & Equipment Plant				98%
Ogawa Plant				100%
Anjo Plant				96%
Shinkawa Plant				100%
Handa Plant				100%
Handa Electronics Plant				100%
Trial Manufacturing Plant				100%
R&D Center				100%

Zero landfill waste achieved

Target and Results for Incinerated Waste During FY2002

