

# COLLECTION AND RECYCLING OF END-OF-LIFE VEHICLES (ELVS) AND USED PARTS

Implementing thorough recycling and waste-reduction initiatives to ensure that limited resources are used effectively, Mazda promotes efforts to establish a recycling-oriented society. Attaching importance to building resource-saving initiatives into every phase of the life cycle of its vehicles, based on the three Rs: reduce, reuse, and recycle, the Company undertakes various efforts, such as the collection and recycling of end-of-life vehicles (ELVs) and used parts.

## End-of-Life Vehicles (ELVs)

### Measures in Response to End-of-Life Vehicle Recycling Law in Japan

Mazda properly processes and recycles three designated items (fluorocarbons, airbags, and automobile shredder residue [ASR]) pursuant to the End-of-Life Vehicle Recycling Law in Japan. In addition, the Company is creating unique technologies and measures to move this recycling program forward. In the case of ASR, Mazda is working through ART\*<sup>1</sup>, a consortium of 13 key companies including Mazda, Nissan Motor Co., Ltd., and Mitsubishi Motors Corporation, to comply with the law and achieve progress in the reuse of resources.

The Company appropriately executes recycling at dealerships. Dealerships collect vehicle recycling fees at the time of sale and receive the ELVs from their final owners in order to transfer them to the disposal processing companies.

**a** **b**

As for recycling fees, the Company reviewed its fee calculation standard for new models launched in 2012. The new fee standard is applicable to the Company's new models launched after that. While forecasting a future recycling situation, the Company will continue to push forward with its recycling business in such a way to ensure a balance between revenue and expenditures in the medium- and long-term.

The End-of-Life Vehicle Recycling Law was revised in February 2012, and newly designated lithium-ion batteries and nickel-metal hydride batteries as items for advance collection before dismantling of end-of-life vehicles. Mazda, in cooperation with manufacturers, is committed to collecting lithium-ion batteries installed in new micro-minis (OEM vehicles) launched in and after October 2012. The Company also collects nickel-metal hydride batteries installed in the new Axela (Mazda3 overseas) Hybrid (launched in November 2013).

Moreover, Mazda promotes the appropriate disposal of capacitors for i-ELOOP, a brake energy regeneration system, in order to ensure safety during recycling by related contractors, even though capacitors are not designated for advance collection. Measures to ensure appropriate disposal include attaching a caution label inside the engine room of the vehicle, and providing a disposal manual on the Company's website.

**c**

Reference website (Japanese language only) for Mazda's efforts with regard to the End-of-Life Vehicle Recycling Law

● <http://www.mazda.com/ja/csr/recycle/>

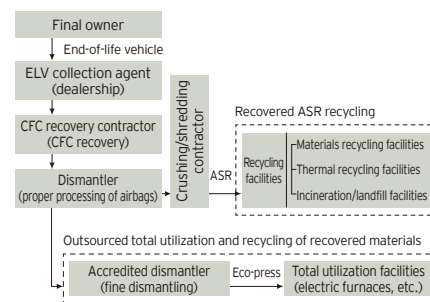
### ASR and the End-of-Life Vehicle Recycling Law

Disposed vehicles consist of about 80% useful metal and about 20% automotive shredder residue (ASR) that includes resin.

Useful metal is recycled in cooperation with metal recycling-related companies such as dismantlers, crushing/shredding contractors, and steel manufacturers. With regard to ASR, which used to be disposed by landfill, is now subject to the End-of-Life Vehicle Recycling Law, which was enforced in January 2005. This is due to the rise in the risk of illegal dumping of end-of-life vehicles on the back of a surge in disposal costs due to overstrained final landfill sites and weakness in iron scrap prices.

Due the enforcement of this law, car manufacturers are required to recycle ASR, chlorofluorocarbons—which lead to global warming and ozone depletion—and airbags—which require specialist knowledge for disposal—under their responsibility.

### a End-of-Life Vehicle Recycling Process



### b Resource Recycling Results in FY March 2016

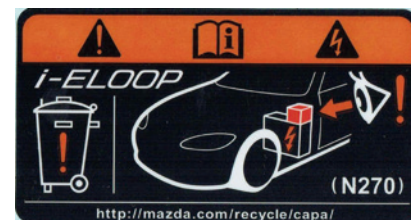
Number of vehicles from which fluorocarbon is collected	132,775units	
Number of vehicles from which airbags are collected	120,478units	
Number of vehicles from which ASR is collected	150,471units	
Recycling ratio	Airbags	93.3%
	ASR	97.7%
Recycling ratio for ELVs*	More than 99%	
Total contracting deposits received	1,645,083,709yen	
Total expenses for recycling	1,450,074,703yen	

(Includes separate cost required at Mazda)

\*Recycling ratio for ELVs is the recycling ratio in dismantling/shredder processes of 83% (cited from the May 2003 joint council data), plus the remaining ASR ratio of 17% multiplied by the ASR recycling rate of 97.7%.

### c Vehicle caution labels for capacitors for i-ELOOP

[For the Roadster (MX-5)]



[For models other than the Roadster (MX-5)]



\*1 ART: Automobile shredder residue Recycling promotion Team

## Promoting Recycling Overseas

Mazda is committed to the recycling of end-of-life vehicles overseas in accordance with the laws in each country and region, under the initiative of the local distributors. As for countries in which recycling-related laws are planned to be established, Mazda is preparing to respond in cooperation with the distributors in such countries.

To ensure the appropriate disposal of capacitor-equipped vehicles in countries where i-ELOOP-equipped new models are introduced, Mazda provides related contractors with information on appropriate disposal by attaching a caution label in vehicles and providing a capacitor disposal manual in eight languages on its website, as in the case of cars sold in Japan. c d

### Europe

Based on the EU Directive, Mazda Motor Europe provides a dismantling manual to recycling contractors when introducing a new model and has established a network to collect used vehicles from their final owners free of charge, in cooperation with the distributors in each country.

### China

A law was enforced in January 2015, in accordance with which local manufacturers are managing substances with environmental impact and developing dismantling manuals.

Capacitor disposal manual reference website

- <http://mazda.com/recycle/capa/>

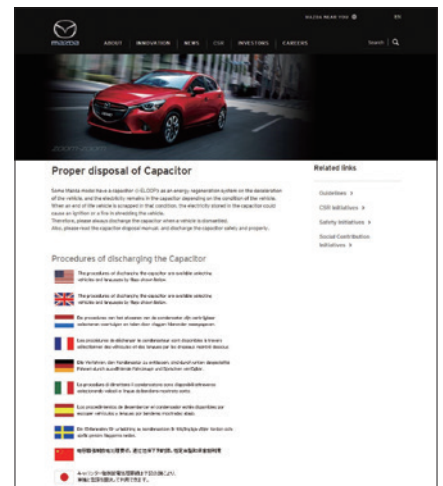
## Used parts

## Promoting the Collection and Recycling of Used Parts (in Japan)

Mazda is continuously engaged in the recycling of damaged bumpers replaced for repairs, and bumpers attached to end-of-life vehicles as plastic materials for new vehicle bumpers, etc.

- Recycling of damaged bumpers: Mazda collects bumpers removed for repairs at dealerships throughout Japan, and recycles them for reuse as plastic parts (new vehicle bumpers, undercovers, etc.). In FY March 2016, the Company collected 68,545 bumpers. The Company has continuously achieved a collection rate of around 80% from consolidated dealerships since FY March 2009. e

## d Capacitor Disposal Manual Reference Website



## e Collection Rate of Damaged Bumpers (in Japan)

