

Clean Plants

Promote Considering Environment in the Production Stages

Basic Concept

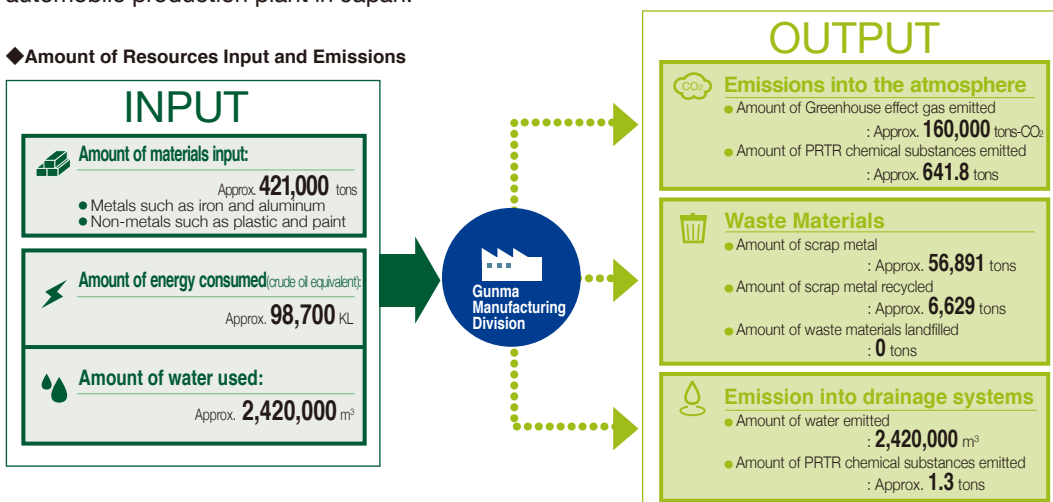
We have maintained zero level of waste materials landfilled in all Manufacturing Divisions since 2004. We are pushing forward with global warming prevention by positive efforts to save energy.

Amount of Resources Input and Total Emissions

Amount of Resources Input and Total Emissions at Automobile Production (Gunma Manufacturing Division)

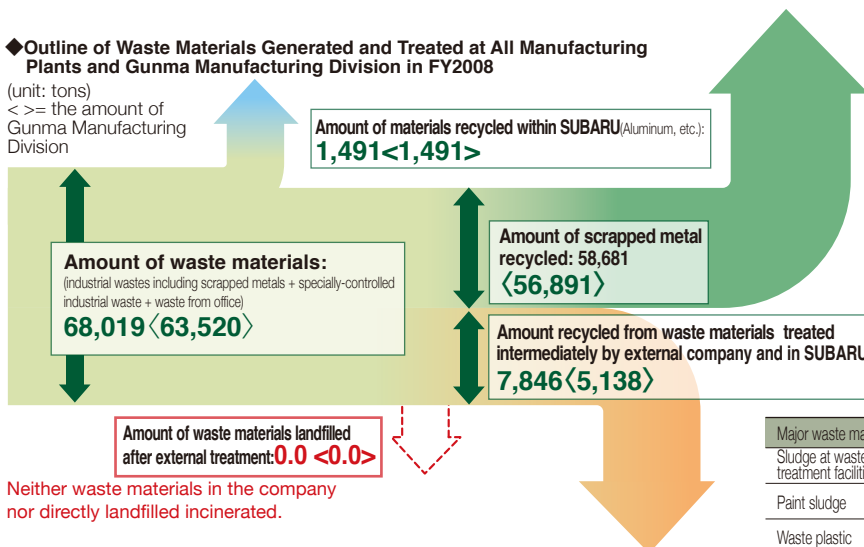
This figure shows the amount of resources used and emissions in FY2008 at Gunma Manufacturing Division, SUBARU's main automobile production plant in Japan.

◆Amount of Resources Input and Emissions



◆Outline of Waste Materials Generated and Treated at All Manufacturing Plants and Gunma Manufacturing Division in FY2008

(unit: tons)
< >= the amount of Gunma Manufacturing Division



Neither waste materials in the company nor directly landfilled incinerated.

Major waste materials	Major recycling methods
Sludge at wastewater treatment facilities	Conversion to cement material
Paint sludge	Reduction to powder at plants within SUBARU for use as material of anti-vibration sheet for vehicles
Waste plastic	Conversion to RPF (recycle plastic fuel), etc.
Wastepaper	Recycling into recycled paper

Reduction of Waste Materials

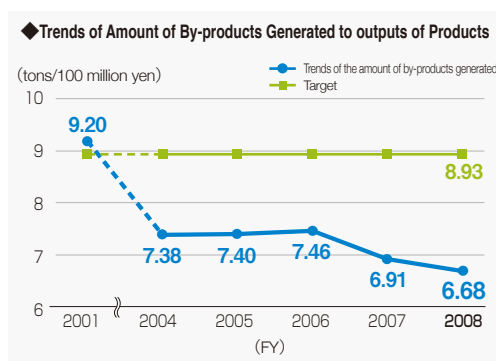
Keeping on Zero emissions for waste materials in all manufacturing plants .

SUBARU's all manufacturing plants have maintained zero emissions for waste materials since 2004. Outline of waste materials generated and treated in FY2008 is as follows.

Efforts to Reduce Waste Materials

Since SUBARU considers that the generation of waste materials itself is a "waste", we have been making a continuous effort to achieve "zero emissions" and to curb the generation of waste materials.

We have been striving to effectively utilize resources by improving the yield ratio of raw materials used in the production stages and enhancing coating efficiency at paint factories. The following graph shows the indexes obtained by dividing the ratio of the amount of by-products (scrap metal and non-ferrous scrap metals such as aluminum) generated by the automotive division by the value of shipped products. In FY2008, we got the best result ever; 6.68. Also, we have achieved at the target levels (of the amount by-products should be reduced, as determined by the Laws for the Promotion of the Effective Utilization of Resources) for a series of 6 years since FY2003.



Efforts to Reduce Consumption of Water Resources

Achieved about 8% Reduction compared with the previous year.

Total water consumption was about 3,330,000 m³ at all our manufacturing plants in FY2008 and this is a decrease of 8% compared with the previous year.

Although the effort of implementing strict measures such as checking for leakage from water pipes at each manufacturing plant have been done, the rise in water consumption caused by the increase of production has exceeded the effect. We will actively make every effort to reduce water consumption further at all manufacturing plants. (This is the best amount of decrease for recent 10 years in a point of view with output per unit, as well.)

* About the trends of water consumption please see P.47 in this report.

Approach the Reduction of Environment-unfriendly Substances

Management of Chemical Substances (the PRTR Law)

SUBARU uses 18 chemical substances subject to the PRTR Law. Use of such chemicals at all

our manufacturing plants totaled 681 tons in FY2008, achieving a big reduction of about 162 tons (approx:19% reduction) compared with the previous year. These achievements result from activities such as changing paint used in the vehicle body painting process to water-base one and reducing the amount of thinner for cleansing.

* About the trends of excretion amounts in substances subject to the PRTR Law, please see P.47 in this report.

Add-on Voluntary Standards for Environment-related Measurements

We set voluntary standards which are stricter or in principle 80 percent lower than the legal requirements to control air pollutants, water toxic contaminants, noise and vibration. We are taking corrective actions to solve any cases which exceed these voluntary limits.

Air Pollutants

Trends in total amount of Nitrogen Oxides (NOx) and Sulfur Oxides (SOx) emitted from specific facilities such as boilers at all manufacturing plants are as shown in the graph of P.47. Periodical measurement results of both NOx and SOx in FY2008 show that our voluntary standards are satisfactory at all locations measured.

Water Pollutants Substances

Trends in the amount of nitrogen, phosphorous and BOD discharged into water at all our manufacturing plants are as shown in the graph of P.47. In FY2008, the results of periodic measurements show that 1 case have exceeded our voluntary standards.

* For cases of other substances in violation of limits including our voluntary standards, please see "The Number of Cases Where Limits Set in Environment-Related Laws were Exceeded and Details in FY2008" on P.46.

VOC (Volatile Organic Compounds) Generated in Paint Process at Gunma Manufacturing Division

The amount of VOC emissions per unit paint area in FY2008 was 56.3 g/m², 38.4% less than that in FY2000, reaching the target in the 4th Voluntary Plan for Environment*¹ ahead of schedule. This is mainly due to the switch to water-base paint in the new paint shop and the higher thinner collection rate. We will keep working for further reduction.

*1 The Goal of the 4th Voluntary Plan for Environment is to reduce VOC emissions per unit by 30% less than that in FY2000 until the end of 2010.

Preventing Soil and Underground Water Pollution

SUBARU has voluntarily conducted soil and underground water surveys at all manufacturing plants since 1998 and has reported the results to the government. We are continuously conducting sampling surveys of underground water even at manufacturing plants where purifying measures for soil and underground water have already been taken, such as the Utsunomiya Manufacturing Division, and continue to report the results to the government.

Storage of Equipment Containing PCB

SUBARU stores PCB appropriately and notifies the authorities of possession of PCB in accordance with the related laws and regulations every year. Regarding the equipments (such as transformers and condensers) we store that contain a high concentration of PCB, we already applied and registered for their disposal with the Japan Environmental Safety Corporation (JESCO) in March 2006.

Approaches to Global Warming-up Prevention

Activities for CO₂ Emission Reduction and Energy Saving

Each manufacturing division took actions to reduce carbon dioxide emission and energy

consumption through such measures as installation of natural gas cogeneration system, change of fuel for boilers from heavy oil to gas, reduction of standby energy and energy-saving programs focused on energy-intensive processes. As a result, the gross CO₂ emission in FY2008 was reduced to 205,000 tons or 25 percent less than that in FY1990, although undeniably accelerated in part by the reduction in production volume.

Based on this outcome, we modified our challenge target from “15% CO₂ reduction in FY2010 against FY1990” to “22% CO₂ reduction in FY2010 against FY1990”.

Reduction of Substitute CFC (HFC134a) Emitted to the Air

To reduce atmospheric emissions of HFC134a used as a coolant from the vehicle manufacturing line at Gunma Manufacturing Division, we have continued effort to minimize leakage while pumping and recovering gas in air conditioner. As a result, we have succeeded to reduce emissions by over 95% compared to FY1996 levels since FY2003 and achieved a reduction of 97% since FY2006.

For more characteristic information of each manufacturing, please see our site report on P.63-80.

TOPICS

Odor Measuring Instruments Set at Yajima Plant

The Main Plant and the Yajima Plant of Gunma Manufacturing Division have the paint shops of automobiles from which could possibly leak out odors. To monitor such leak-out from the plants, odor measuring instruments are set in the premises. They measure odor index 24 hours around the clock to prevent environmental problems from affecting local communities.



Odor Measuring Instruments

Environmentally Friendly Logistics

Basic Concept

SUBARU is also involved in logistics for energy and material savings through various measures such as setting most optimal routes for transportation of completed vehicles which burdens the environment most heavily, promoting the modal shift to shipment by sea, increasing load charging efficiency and fuel saving operations. As for shipping knock-down parts, we are working to reduce packing materials through their reuse.

Reducing Environmental burdens by the completed vehicles transportation

Efforts by SUBARU Logistics Co., Ltd

We have contributed to reducing environmental burdens caused during the transportation of completed vehicles, by improving transportation efficiency through such means as setting optimum standard transportation routes, promoting modal shifts and improving carrying efficiency.

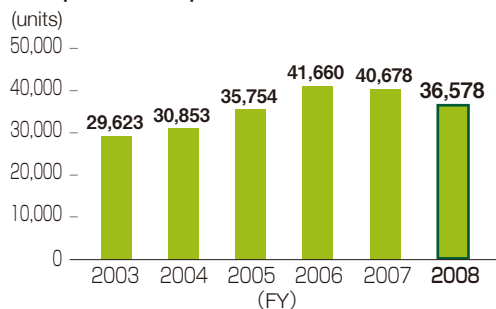
In FY2008, by promoting the cooperate transports of completed vehicles with other companies in the same industry, the total of consigned-to and consigned-from vehicles was 36,578.

In FY2008, we promoted the installation of the highly functional digital tachograph, idling stop device and eco tires. Meanwhile, continuous efforts have been made to accurately grasp energy consumption and CO₂ emissions by collecting data on travel distances and fuel consumptions periodically from cooperative companies.

As a result of these approaches, we have achieved at about 3% improvement compared to the previous year in fuel economy, and been continuing to reduce the energy consumption per sales by 1% or more annually.



◆Trends in the Number of Vehicles Carried Through Cooperative Transports



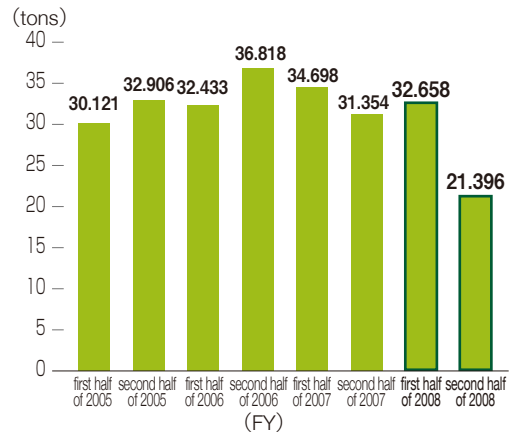
Reuse of Packaging Materials

Approaches to Reduction of Foam Materials for Packaging of Overseas Knockdown Parts by Reuse

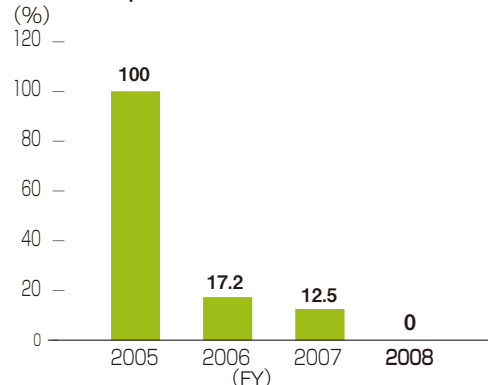
The Production Logistics Division of SUBARU Logistics Co., Ltd, which handles packing designs for knockdown parts has been involved in activities to reduce environmental burdens primarily focusing on the reuse of packaging materials.

To increase transportation efficiency, returnable steel pallets with exclusive size specifications which allow high charging rates of containers are in use. Also, from March, 2006, styrene foam and vacuum-molded packing materials have been reused. They were redesigned to be placed in the afore-mentioned returnable steel pallets for return shipment to minimize wastage.

◆Trends in the Amount of Styrene Foam Packaging Materials for Reuse



◆The Amount of Styrene Foam Packaging Materials for Reuse purchased



Approaches to “Green Dealer Outlets”

Basic Concept

SUBARU is actively pushing forward to have used bumpers returned from dealerships for recycling for automotive parts. In order to strengthen the involvement of dealerships in environmental protection, the introduction of the environment management system “Eco Action 21” has started.

Collection of the Scrapped Bumpers

Recycle Scrapped Bumpers for Use in Other Parts

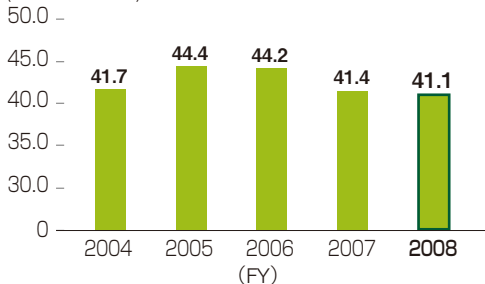
SUBARU established an in-house system in 1973 to identify the materials used in plastic parts, ahead of the timetable for industry guidelines for the establishment of such systems. This system is very helpful when the company collects bumpers which are scrapped and changed for repairs to recycle for use in other parts of vehicles. In FY2008, we collected 41,055 scrapped bumpers from all over Japan, which is 99.1% toward the previous year (41,412). The scrapped bumpers were recycled for use in other parts of SUBARU as shown in the below graph.

◆Parts Produced from Scrapped Bumpers

Models	Parts
R1, R2, PLEO	Universal joint cover, Underfloor cover
SAMBAR	Air guide, Engine cover
LEGACY (~May, 2009)	Under spoiler, Battery pan, Rear skirt, Apron
IMPREZA	Trunk trim

◆Trends in Number of the Scrapped Bumpers Collected

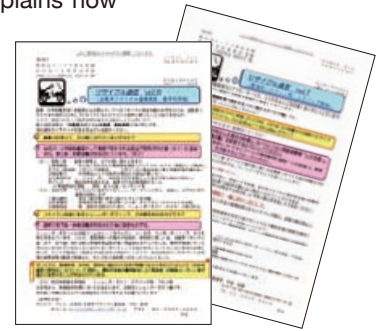
(unit: thousand)



First issue of “Recycle Communication” Released in September, 2008 for Communication Between SUBARU and Dealerships

It is a monthly magazine which explains how used bumpers, air conditioner refrigerants, airbags and others collected from dealerships are being processed for recycling.

We are responding to inquiries from dealerships, hoping to make it as a more inspiring two-way communication tool on automotive recycling.



Environmental Preservation Approaches in Dealers

Introduction of the “Eco-Action 21 (EA21^{*1})” Started

To beef up our approaches to the environmental protection, we began from September, 2008 introducing the environment management systems “Eco-Action 21 (EA21)” which was mapped out by the Ministry of the Environment based on ISO 140001^{*2}. We will keep working to expand the scope for acquisition of the EA21 authentication.

◆The Status in Acquisition of the EA21 Authentication (including its latest)

Company	Employee	Date of acquisition	Shops acquired
TOKYO SUBARU INC.	1,253	27 Jun, 2009	All 59 shops
SAITAMA SUBARU KK	477	25 Feb, 2009	All 34 shops
NAGOYA SUBARU KK	512	30 Apr, 2009	All 36 shops
SHIKOKU SUBARU INC.	160	29 May, 2009	All 14 shops
HIGASHI SHIKOKU SUBARU INC.	177	29 May, 2009	All 13 shops



25 Feb, 2009
The Certification acquired to SAITAMA SUBARU KK and its President, Yoshizawa



25 Apr, 2009
Awarding ceremony of NAGOYA SUBARU KK's acquisition
Left: President, Mizuno
Right: an operation member of EA21 central secretariat, Takeuchi

^{*1} The following approaches are needed to acquire the certification of EA21;

- Establishment of the EMS.
- Grasping the amount of CO₂ emitted, waste generation, water consumption and Setting the goal of reduction and its try
- Making Environmental activities Report regularly and issue

^{*2} The Following 7 outlets have already acquired the certification of ISO14001.

- CHIBA SUBARU KK
 - AOMORI SUBARU KK
 - FUJI SUBARU INC.
 - OSAKA SUBARU INC.
 - NIIGATA SUBARU KK
 - KUMAMOTO SUBARU KK
 - HOKURIKU SUBARU KK
- [the above list in acquired order]