Environment

Environmental Management

Our Approach

In its Environmental Policies, Subaru states that “our fields of business are the earth, the sky and nature” and focus on efforts aimed at coexistence with nature. In “STEP,” our mid-term management vision, we are committed to making environmental contributions by enhancing the environmental performance of our products. We include “Environment” in the Six Priority Areas for CSR and deem it important to conduct environmental activities as a precondition to continue our business activities.

In order to foster environmental activities across the Subaru Group, we have our Environment Committee as well as a cross-company integrated environmental management system, which covers Subaru Corporation’s sites as well as its domestic and overseas consolidated production companies and dealers.

Based on this system, we are fostering environmental management activities through an all-Subaru approach, including formulating medium- to long-term environmental targets, implementing measures to achieve the targets, complying with environmental laws and regulations, managing chemical substances, and compiling environmental performance data.

SUBARU Environmental Policies

SUBARU Sustainability Principles

“The earth, the sky and nature” are Subaru’s fields of business.

With the automotive and aerospace businesses as the pillars of Subaru’s operations, our fields of business are the earth, the sky and nature. Preservation of the ecosystem of our planet, the earth, the sky and nature, is of utmost importance to ensure the future sustainability of both society and our organization. We align our business strategy to enhance these global goals in all of our operations.

1. We develop and deliver products to meet societal needs and contribute to the environment through advanced technologies.
   By striving to create advanced technologies that put the environment and safety first, we will develop and deliver products that can contribute to protecting the earth’s environment.
2. We focus on efforts aimed at coexistence with nature.
   Together with efforts to reduce carbon-dioxide emissions in all of our operations, we will promote active engagement with nature by stressing forest conservation.
3. We take on challenges as one through an all-Subaru approach.
   Utilizing our unique organizational character that allows us to oversee the entire supply chain, all of us together will take on the challenges of environmental protection of our planet through an all-Subaru approach.

Environmental Principles

Subaru’s fields of business are the earth, the sky and nature.
Subaru understands that the health and preservation of biodiversity and controlling climate change are critical to ensuring a sustainable future for our planet earth, nature, communities, and businesses.

Products: We develop our products and conduct R&D in light of the lifecycle environmental impacts of our products.

Purchasing: Our purchasing activities reflect consideration for biodiversity and other aspects of environmental protection.

Production: We strive to minimize our environmental impact through improving energy efficiency and waste management.

Logistics: We strive to minimize our environmental impact through enhancing energy efficiency and promoting pollution prevention.

Sales: We endeavor to recycle resources efficiently and reduce waste.

Management: We will strive to improve our sustainability program through contributions that meet societal needs and by publicizing our activities as Team Subaru.

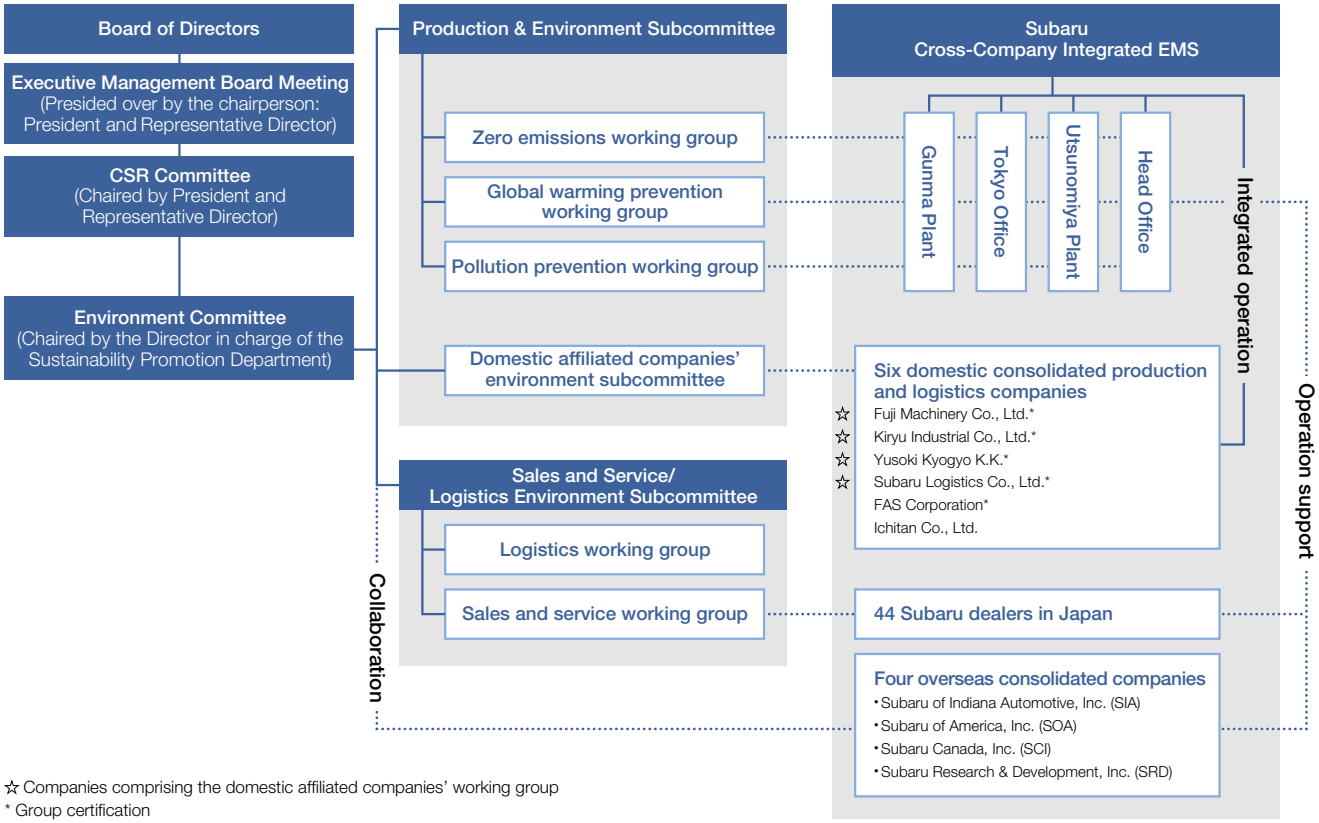
Management System

Environmental Management System

Subaru comprehensively manages the entire progress and direction of its environmental management measures through the Environment Committee and based on the cross-company integrated environmental management system (EMS).

The director in charge of environmental issues oversees the integrated EMS and chairs the Environment Committee. In principle, the related issues are reviewed regularly, at least once a year, and details of discussions held by the Environment Committee are reported to the CSR Committee. Moreover, important issues are discussed and reported at the Executive Management Board Meeting and Board of Directors meetings.

Subaru Group's Environmental Management Organization



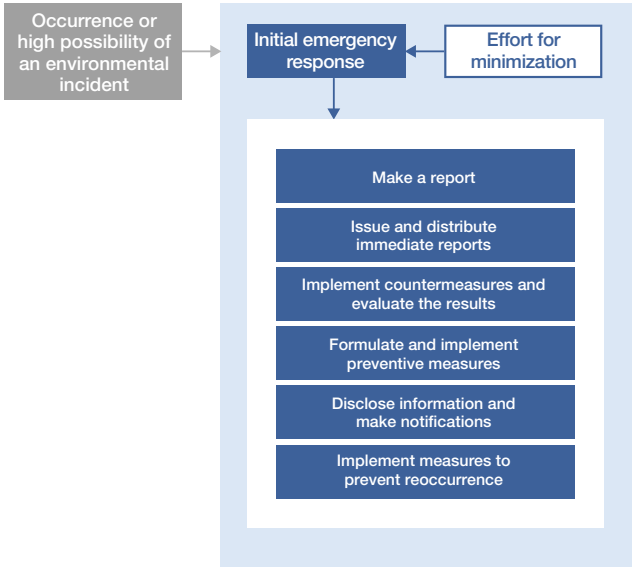
☆ Companies comprising the domestic affiliated companies' working group
* Group certification

Environmental Risk Management System

Subaru regularly identifies the environmental risks involved in its business activities (environmental accidents, pollution, noncompliance with laws and regulations, etc.) and fosters the management of the identified risks to prevent and minimize their materialization.
We also standardize the procedures to be followed when detecting an environmental risk and conduct drills in ordinary times so that we can promptly implement response measures in case of emergency and then take measures to prevent the reoccurrence of similar accidents, while preventing secondary risks from causing the spread of environmental pollution.

Implementation of Environmental Audits
(1) Regular auditing based on the ISO 14001 environmental management system
(2) On-site checking of contractors to ensure proper collection, transportation, and disposal of industrial waste
(3) Checking of compliance with environmental laws, regulations, and ordinances

Procedures to Be Followed in Case of an Environmental Accident



Acquisition of External Certification for Environmental Management Systems

Subaru has been working to build a environmental management system, and its sites, suppliers, domestic and overseas consolidated production companies, and dealers have had their individual environmental management systems certified by external organizations.

■ Major Certifications

• ISO 14001

Subaru Corporation and its six consolidated production and logistics subsidiaries in Japan and three consolidated production and sales subsidiaries in North America have obtained ISO 14001 certification for their environmental management systems. (The five domestic companies marked with an asterisk [*] in the lower right table have obtained group certification.)

• Eco Action 21[*1]

In 2011, 44 Subaru dealers obtained Eco Action 21[*1] certification, becoming the first automaker-affiliated dealers in Japan to do so. We also began implementing an initiative under the Eco Action 21 value chain model project fostered by the Japanese Ministry of the Environment, which the Ministry certified in 2016 as the first initiative implemented under the project in recognition of its results. We will receive instructions and support from the Institute for Promoting Sustainable Societies (IPSuS)[*2], which is the certification body for Eco Action 21, to expand the related activities across the Subaru Group. At the same time, we will support our suppliers in achieving Eco Action 21 certification, thereby expanding the initiative across our value chain.

私たちは、バリューチェーンでの環境経営を推進しています
エコアクション21
普及推進企業001

• ISO 50001[*3]

In 2012, Subaru of Indiana Automotive, Inc. (SIA), which is our production base in North America, became the first automobile production plant in the United States to acquire certification for ISO 50001[*3], which is the international standard for energy management systems (EnMS).

• ISO 39001[*4]

Subaru Logistics Co., Ltd. obtained certification for ISO 39001[*4], the international standard for road traffic safety management systems, in 2015 and for ISO 9001[*5], the standard for quality management systems, in 2016.

*1 Environmental conservation activity promotion program formulated by the Japanese Ministry of the Environment in which SMEs work on three themes: environmental management systems, environmental measures, and environmental reporting.
*2 This organization examines, plans, and implements new initiatives to build sustainable societies by integrating initiatives related to businesses, such as Eco Action 21, with product- and service-related initiatives to be promoted via supply chains.
*3 International standard applicable to all organizations that sets the requirements to be met by business operators when conducting activities to build an energy management system, including the formulation of policies, targets, and plans for their energy use and the determination of management procedures.
*4 International standard for road traffic safety management systems. It requires organizations to appropriately manage the factors that could cause traffic accidents and reduce the related risks effectively and efficiently, thereby reducing the number of deaths and serious injuries caused by road traffic accidents.
*5 Of the ISO 9000 family (a set of international standards on quality management systems) introduced by the International Organization for Standardization (ISO) in 1987, ISO 9001 deals with the requirements that should be met to obtain certification for the standards, which are intended to foster systematic quality improvement under quality management systems.

→ CSR Procurement

Establishment of EMSs and EnMSs by the Subaru Group

Plants and offices					Distributors	
Category	Subaru Corporation	Suppliers	Domestic consolidated production and logistics companies	Overseas consolidated production companies	Domestic consolidated automobile sales companies	Overseas consolidated automobile sales companies
Certification obtained for EMSs/EnMSs	ISO 14001	ISO 14001, Eco Action 21 or self-certification	ISO 14001	ISO 14001 ISO 50001	Eco Action 21	ISO 140001
Target	Gunma Plant Tokyo Office Utsunomiya Plant Head Office	Green procurement Suppliers of materials	Fuji Machinery Co., Ltd.* Kiryu Industrial Co., Ltd.* Yusoki Kyogyo K.K.* Subaru Logistics Co., Ltd.* FAS Corporation* Ichitan Co., Ltd. Six companies in total	SIA	All Subaru dealers 44 companies in total	Subaru of America, Inc. Subaru Canada, Inc. Two companies in total

* Group certification

Subaru Corporation and its affiliated companies marked with an asterisk (*) carry out mutual internal audits on their EMSs within the scope required for ISO 14001 group certification.

Environmental Management Systems Established by Dealers in Japan

All 44 dealers in Japan have acquired Eco Action 21 certification. Under the certification system, they promote their environmental management systems and carry out environmental audits on a regular basis for environmental conservation and compliance with environmental laws and regulations.

Moreover, we collect data about domestic dealers' energy use, CO_2 emissions, waste generation, and water use through the Subaru Group's unique data system for environmental reporting and use the data to reduce our environmental impact.

Environmental Management Systems Established by Retailers in the United States (SOA)

Subaru of America, Inc. promotes the Eco-Friendly Retailer Program that encourages Subaru retailers in the United States reduce energy consumption, water usage, wastes and other environmental impacts. A total of 194 companies, which constitutes more than 30% of all retailers, participate in the program.

Management of Chemical Substances

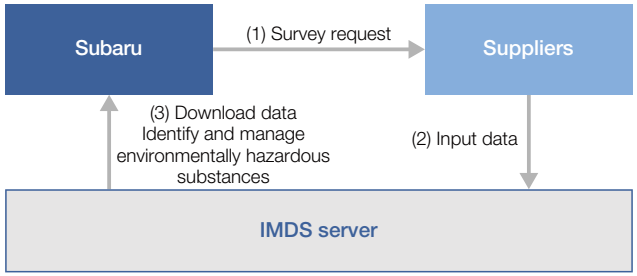
A range of chemical substances are regulated by laws and regulations, including the REACH regulation*1, ELV Directive*2, and the Chemical Substance Control Law*3, under which we are required to disclose information and ensure the appropriate management of chemical substances.

Subaru is strengthening the management of its supply chain by using the IMDS*4 in order to identify which chemical substances are used in what amount in each of the several tens of thousands of parts that comprise its automobiles. Through this initiative, we are ensuring the non-use of prohibited substances (lead, mercury, cadmium, hexavalent chromium, etc.), promoting the replacement of newly regulated substances with alternatives, and establishing a management system that helps us promptly disclose information about the use of substances that we should appropriately manage under REACH and other regulations. We are thereby reducing the use and enhancing the management of environmentally hazardous substances.

*1 REACH regulation: European regulation on chemical substances requiring all chemical substances to be subject to management or restricted use commensurate to the risk that they pose to humans and the environment.
*2 The End-of Life Vehicles (ELV) Directive: European Union (EU) directive brought into force in 2000 to reduce the environmental impact from the scrapping of end-of-life vehicles in the EU. It aims to prohibit the use of hazardous substances and reduce the generation of waste by encouraging the reuse and recycling of end-of-life vehicles and their parts.
*3 The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substance Control Law) is a law whose purpose is to prevent environmental pollution caused by chemical substances that could harm human health or interfere with the habitat or growth of flora and fauna.
*4 IMDS: International Material Data System, an international materials database for the automobile industry.

→ Prevention of Pollution
International Material Data System

Management of Environmentally Hazardous Substances through IMDS



Targets, Plans, and Results

Environmental initiatives need to go beyond merely setting the goals and targets to be achieved. Subaru believes it is also important to implement the measures to attain them and bring the efforts to fruition.

Subaru began implementing the Voluntary Plan for the Environment in FYE1994 and we are currently promoting the sixth plan (FYE2018–FYE2021). For the attainment of the targets set in the plan, we are executing a PDCA cycle to get the greatest efficiency from the measures that we are taking, including those related to ISO 14001 and Eco Action 21 that we have introduced as necessary to some of our sites.

Moreover, in order to implement more measures from medium- to long-term viewpoints, we have also started formulating our new Environment Action Plan for FYE2022 and subsequent years. For the Plan, we have already set some targets (directions in which to head) to examine in finalizing the specific details.

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021)

(1) Global Warming Measures
(2) Resource Recycling
(3) Pollution Prevention and Reduction of Hazardous Chemical Use
(4) Environmental Management

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021) Global Warming Measures

Field	Item		Up to FYE2021 Target/Initiative	FYE2020 Target	FYE2020 Results	FYE2021 Target/Initiative
Products	Fuel economy improvement	◆ Continue to improve fuel economy through full model changes and annual improvements.	◇ Innovate to an environmental engine, and realize category top level fuel efficiency. ◇ Introduce horizontally opposed direct-injection downsized turbo engines to the market.	• Expand global rollout of the new Forester and SUBARU XV fitted with the new e-Boxer power unit. • Complete the development phase for mass production of the downsized turbo engine and move to production readiness.	• Rolled out the new Forester, SUBARU XV and Imprezza-wagon fitted with the new e-Boxer power unit in Europe, Japan, China and Australia. • Planned with good prospects to complete the development phase for mass production of the downsized turbo engine and the next Levorg by the end of March 2020, and partially moved to production readiness.	• Rollout the downsized turbo engine, the next Levorg, and Forester. • Start and promote advanced development of a strong hybrid, aiming at mass production.
	Clean energy use (Automobiles)	◆ Promote introduction of electric vehicles.	◇ Introduce plug-in hybrid vehicles into the main markets in 2018. ◇ Promote research for introducing electric vehicles into the market.	Move forward with efforts to have good prospects for basic advanced development for the next-generation electric vehicle designed with mass production in mind	• Started joint development with Toyota Motor Corporation for a platform dedicated to EVs for midsize and large passenger cars, and a C-segment-class EV SUV model. • Considered expanding the adoption of THS, and established plans to address performance and adoption issues with good prospects.	Promote joint development of EVs with Toyota Motor Corporation and move to mass production of THS-based vehicles, aiming to achieve the environmental goals announced publicly on January 20, 2020.
	Road traffic improvement - IT technology (Automate driving technology and preventive safety technology)	◆ Make efforts to expand deployment of advanced driver assist system and development of automated driving technology, further advance technological development to prevent accidents, and contribute to CO_2 reduction through preventing traffic congestion due to accidents and improving traffic flow with driving support technology.	◇ Promote technological development of advanced driver assist system technology and preventive safety technology, focused on the EyeSight advanced driver assist system, and expand to more markets. ◇ Introduce the traffic jam assist feature that keeps a car in the same lane on expressways to the market in 2017. ◇ Introduce the highway automatic driving feature including lane changes to the market in 2020.	• Promote development that aims zero fatal traffic accidents by 2030. Continue to promote development of advanced driving assist system technology, focusing mainly on expanded deployment of EyeSight Touring Assist and popularization and dissemination of accident damage reduction technology using assessment. • Continue to promote activities based on promotion plans of industry/government/academia such as SIP/ASV.	• Expanded deployment of EyeSight Touring Assist to Legacy, Outback launched in North America in the fall of 2019 following its full model change, and Imprezza in Japan. • Imprezza was awarded ASV+++, the highest rating in the JNCAP preventive safety performance assessment for FYE2019. • Moved forward with the development of technology to facilitate automatic driving on expressways, aiming at market rollout of this function in 2020.	• Promote development that aims at zero fatal traffic accidents by 2030. • Continue to promote development of advanced driving assist system technology, focusing mainly on rollout of the new-generation EyeSight and popularization and dissemination of accident damage reduction technology using third-party assessment. • Continue to promote activities based on industry/government/academia initiatives such as SIP/ASV.
Production	Production facilities	◆ Reduce CO_2 emissions per unit of production at domestic production facilities.	◇ Reduce CO_2 emissions per unit of production by 14% from FYE2007 level by FYE2021 at domestic production facilities.	Reduce CO_2 Emission per unit of production at domestic production facilities by 13% from FYE2007 level.	Reduced CO_2 emissions per unit of production at domestic production facilities by 38% from the FYE2007 level.	Reduce CO_2 emissions per unit of production at domestic production facilities by 14% by FYE2021 from the FYE2007 level.
		◆ Promote activities to reduce CO_2 emissions at overseas production facilities*.	◇ For overseas production facilities, set medium term CO_2 emissions reduction targets and continue to promote activities to attain them.	Reduce CO_2 emissions to the extent possible, considering measures to achieve a significant reduction under the next action plan.	Installed solar panels in the Technical Training Center completed in December 2019, which supplies 50% of the requirement to power the facility. Introduced motion sensor-fitted LED lighting to reduce energy consumption and CO_2 emissions.	Continue to consider introducing energy saving facilities and renewable energy power systems while studying approaches in this context to address inevitable increases in energy use required to increase production.
Distribution/ Sales	Distribution	◆ Promote CO_2 emissions reduction activities synchronized with the Energy Saving Law.	◇ Use FYE2007 per unit of CO_2 emission as a benchmark, and reduce emission by 1% every year.	Continue activities synchronized with the Energy Saving Law, and aim for 1% emission reduction every fiscal year with FYE2007 result as a benchmark.	• Continued to achieve the yearly 1% emissions reduction target. • SPosted 27.05 kg/vehicle for CO_2 emissions per unit, more than meeting the FYE2020 target set at 30.02 kg/per vehicle (1% reduction every fiscal year from the FYE2007 benchmark).	Aim for 1% emissions reduction every fiscal year with the FYE2007 result as a benchmark.

*1 Subaru of Indiana Automotive,Inc.

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021) Resource Recycling

Field	Item		Up to FYE2021 Target/Initiative	FYE2020 Target	FYE2020 Results	FYE2021 Target/Initiative
Products	Recyclability improvement	◆Continue to implement measures to comply with the Automobile Recycling Law. ◆Continue to implement measures to make parts and materials more detachable, separable, and sortable.	◇Promote new model design for recycle, and contribute to actual recycling rate of 95% by FYE2021.	• Continue to promote design for recycle, including large Li-ion batteries for PHEVs, etc. • Continue to promote the development of models designed with consideration for ease of dismantling. • Maintain an understanding of trends in the social environment and in laws and regulations, and promote the use of recycled materials in plastic parts.	• Continued to achieve an actual recycling rate of 95% or better (99.4%). • Added/revised approaches toward recycling design concerning CFRP parts in the recycling design guidelines in response to increased adoption of CFRP parts for the purpose of weight-saving. • Promoted technology development that incorporates design for recycling.	• Build collection schemes as necessary in relevant locations for used EV/HV batteries for large vehicles in time with the launch of MHEV/PHEV. • Continue to promote the development of designed models that considers easy dismantling. • Promote the use of recycled materials in resin parts based on an adequate understanding of trends in the social environment and in laws and regulations.
		◆Make efforts for CFRP recycling technology.	◇Promote technological development regarding easy dismantling of CFRP products.	Continue to promote technological development considering easy dismantling.	For advanced development of CFRP parts, started to promote development and design that considers easy dismantling.	Continue to promote technology development that considers easy dismantling.
	Promotion of life-cycle assessment	◆Promote disclosure of life-cycle assessment (LCA) data.	◇Promote release of LCA data from full model change vehicles.	No targeted vehicle to be released in FYE2020.	No targeted vehicle to be released in FYE2020.	Only the new Levorg, to be released in 2020, will be subject to LCA data disclosure.
Production	Domestic dealerships and dismantlers	◆Establish processing schemes for difficult material to process, etc.	◇Improve recycling and proper treatment.	Continue to promote high-level treatment and recycling, and demonstration experiment.	Conducted demonstration experiments on the recycling of used EV/HV lithium ion batteries and a test treatment before starting domestic operations.	• Japan: Start to apply the used EV/HV lithium ion batteries disposal scheme. • Expand the acquisition and utilization of approval for waste disposal practice, as set forth in the Waste Management and Public Cleansing Act.
	Production facilities	◆Continue the appropriate disposal of waste and reducing waste generation.	◇Appropriately manage waste, and continue the waste reduction maintenance/management by improving yield and packaging.	Keep the amount of waste below 19,731.8 t in FYE2020. Appropriately manage waste and continue to maintain and manage waste reduction by improving yield.	Waste generated in FYE2020 totaled 19,861.5 t (129.7 t above the target). Continued to carry out appropriate waste management and waste reduction measures.	Continue to appropriately dispose of waste and reduce waste generation through sorting.
		◆Continue zero landfill (zero landfill waste either directly or indirectly) at both domestic and overseas production facilities.	◇Continue zero landfill at both domestic and overseas production facilities.	Continue to achieve zero landfill at both domestic and overseas production facilities.	Japan: Continued to achieve zero landfill. US: Achieved zero landfill for the 15th consecutive year starting from 2004. Planted 15 trees in celebration of the milestone record.	Continue to achieve zero landfill.
		◆Manage volume of water used at both domestic and overseas production facilities.	◇Manage volume of water used at production facilities across Group companies in and outside Japan.	Properly manage volume of water use at production facilities in and outside Japan.	Conducted proper management.	Properly manage water use at production facilities in and outside Japan.

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021) Pollution Prevention and Reduction of Hazardous Chemical Use

Field	Item		Up to FYE2021 Target/Initiative	FYE2020 Target	FYE2020 Results	FYE2021 Target/Initiative
Products	Reduction in emissions	◆ Promote the introduction of low-emission vehicles to improve air quality.	◇ Japan: Increase the number of low emission standard certified models by WLTP (produced by Subaru). ◇ Overseas: Promote the introduction of low-emission vehicles to improve air quality in each country and region.	• Bring vehicles with gasoline particulate filters (GPFs), which curb emission of fine particulate matter, to market. • Undertake advanced development aimed at expanding the rollout of SULEV-compliant vehicles in North America.	• Launched in Europe GPF-equipped vehicles of the new Forester and SUBARU XV fitted with the new e-Boxer power unit. • Promoted advanced development of SUL EVs for rollout in North America as planned.	• Japan: Continue to increase the number of low emission standard certified models by WLTP. • Complete advanced development of SUL EV-compliant vehicles to be rolled out in North America.
	Reduction in the use of environmentally hazardous substances	◆ Promote the management and reduction in the use of environmentally hazardous substances.	◇ Improve management of chemical substances contained in products. ◇ Promote switching to substances with lower environmental impact.	• Chemical substance management Continue to enhance chemical substance management using IMDS. • Promote alternatives to Substances of Concern Promote alternatives in line with policies on alternatives to phthalates and other regulated substances.	• Built an IMDS system enabling chemical components management for the complete range of parts in order to strengthen existing IMDS management, and started to use it in FYE2020. • Formulated policies on alternatives to phthalates (required by July 2024) and promoted switching according to the policies.	• Continue to enhance chemical substance management using IMDS. • Continue to replace regulated hazardous substances with appropriate alternatives.
Production	Management and emission reduction of environmentally hazardous substances at production facilities	Automobiles ◆ Further reduce per unit of VOC emissions (g/m^2) at production lines.	◇ Reduce per unit of VOC emissions.	FYE2020 target: 44.2 g/m^2	• FYE2020 1H result: 44.9 g/m^2 • FYE2020 result: 44.0 g/m^2	FYE2021 target: 44.7 g/m^2
		◆ Continue to reduce emissions of PRTR substances into the environment.	◇ Identify and manage the chemical substances regulated by the PRTR law and promote further reduction in the use of these substances.	Continue aggregation management and control of chemical substances regulated by the PRTR law.	Reported emissions amounts of PRTR substances to the government in June 2019 in compliance with the law.	Improve PRTR systems and continue aggregation.
		◆ Promote activities targeting the elimination of occurrences of hazardous substances leaking off site, complaints, and exceeding legal standards.	◇ Promote activities targeting the zero occurrence of environmental accidents, complaints, and cases exceeding legal standards through environmental risk reduction activities. ◇ Set stricter voluntary standards and conduct small-risk elimination activities.	Continue to implement environmental risk reduction activities (enlightenment, education, and coexistence with community), and aim to achieve the FYE2020 target of reducing instances of the issues listed on the left to zero in all cases.	• Exceeding legal regulation standards: 5 cases (3 in Gunma: effluent BOD, coliform contamination, nighttime noise; 1 in Utsunomiya: BOD [Handa Plant]; 1 in the Head Office: noise from the parts center) • Complaints: 2 cases (Gunma Yajima Plant: odor; Ota North Plant: noise (inadequate building repair) • Accidents (leakage): 2 cases (Gunma: oil leakage)	Aim to achieve the FYE2021 target of reducing instances of the issues listed on the left to zero in all cases.

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021) Environmental Management

Field	Item			Up to FYE2021 Target/Initiative	FYE2020 Target	FYE2020 Results	FYE2021 Target/Initiative
Procurement	Green procurement activities		◆Request both domestic and overseas suppliers to establish, maintain, and strengthen environmental management systems (EMS).	◇Continue to establish and maintain the EMS including new suppliers.	Continue to maintain the structure to establish EMS including new suppliers.	Continued to maintain the structure to establish EMS including new suppliers.	Continue to maintain the structure to establish EMS including new suppliers.
				◇Request that the entire supply chain improve environmental management throughout the product life cycle.	As necessary, publish the revised guidelines, and deploy and disseminate them to suppliers.	No revisions were made to the green procurement guidelines in FYE2020.	Revise the guidelines as necessary after checking with related departments for any revision requirements, and issue a new version of the guidelines.
			◆Reduce environmentally hazardous substances.	◇Encourage suppliers to further improve management of and reduce the use of environmentally hazardous substances contained in parts and materials.	Continue to investigate content of environmentally hazardous substances, and promote to reduce environmentally hazardous substances by using alternatives.	Conducted supplier surveys related to REACH-restricted phthalates.	Continue to investigate the content of environmentally hazardous substances and promote switching to alternatives appropriately in response to global regulation trends.
			◆Apply the supplier CSR guidelines and green procurement guidelines.	◇Revise the guidelines according to changes in the social environment and corporate policy, and request suppliers to deploy, disseminate, and comply with the guidelines.	As necessary, publish the revised guidelines, and deploy and disseminate them to suppliers.	Revised and issued the CSR guidelines and distributed the new version of the guidelines to suppliers.	Revise and issue guidelines, and distribute the new version of the guidelines to suppliers as necessary in light of social situations.
Distribution/ Sales	Promotion of environmental conservation activities among dealerships	Automobiles	◆Provide support to Subaru dealerships' environmental activities.	◇Support all dealerships maintain "Eco Action 21" certification. ◇Support voluntary implementation of environmental measures, such as energy conservation and waste reduction measures, under "Eco Action 21".	Provide individual companies with education and other support to ensure that each dealership can undergo the Inspection for Transition to the 2017 Version of the EA21 Guidelines without fail.	• In order to prepare domestic dealerships to undergo the inspection for transition to the FYE2018 version of the EA21 Guidelines, each dealership was visited together with a consultant to provide relevant information, exchange opinions and offer other forms of support. • Out of a total of 44 applicable dealerships that underwent the transition inspection, 43 maintained certified status. The remaining one was exempted from the interim inspection due to the impact of COVID-19.	• Continue to help applicable EA 21-certified domestic dealerships, if any, prepare to undergo the inspection for continued certification in FYE2021. • Support domestic dealerships with efforts to reduce environmental risks and promote environmentally considerate management.

The 6th Voluntary Plan for the Environment (FYE2018 to FYE2021) Environmental Management

Field	Item		Up to FYE2021 Target/Initiative	FYE2020 Target	FYE2020 Results	FYE2021 Target/Initiative
Management	Promotion of environmental conservation activities, including biodiversity conservation, in cooperation with local communities	◆Continue to participate in environmental events, and make friendly exchanges with and support factory tours of residents near factories. ◆Continue to conduct cleanup and greening activities, including biodiversity conservation efforts, near factories. ◆Support activities of and work with environmental organizations.	◇Continue to give factory tours, hold on-site events, and carry out environmental exchange classes. ◇Continue cleanup activities around factories and offices. ◇Promote greening activities taking biodiversity into consideration.	・Continue to provide school visits to lecture on the environment and invite visitors to the Gunma Visitor Center. ・Continue to carry out community cleaning activities. ・Continue to carry out concrete forest conservation projects in Gunma, Utsunomiya and Bifuka, where Subaru has close ties with communities.	・Visited schools to provide environmental classes (33 times), and provided factory tours. ・Continued to carry out cleanup activities around factories and offices. ・In Bifuka, carried out activities related to artificial afforestation, tree-planting ceremonies, thinning to promote forest growth, sampling forest surveys, and J-Credit certification. ・Hosted workshops to create public use items using thinned wood in Utsunomiya.	・Continue school visit programs to provide environmental classes and factory tours. ・Continue to carry out cleanup activities around factories and offices. ・Contribute to forest conservation in regions where Subaru has close ties with local communities.
	Disclosure of environmental information	◆Disclose environmental information through regular publication of environmental reports and other documents in a timely manner.	◇Provide environmental report. Provide updated information on the website.	・Aim to publish the 2019 CSR Report in August 2019. Carry out timely information disclosure by means of press releases, etc.	・Published the 2019 CSR Report in August 2019. ・Issued a number of press releases to announce 2030/2050 climate change goals and related plans. ・Included descriptions of climate change issues in the “risks associated with business, etc.” section of the financial report for the year ended March 2020.	・Continue to carry out timely information disclosure in the CSR report. ・Promote corporate communication activities appropriately, utilizing various content materials effectively.
		◆Improve and enhance the contents of Environmental Report (to be in compliance with Environmental Reporting Guidelines, and inclusion of Group companies in the scope of reporting).	◇Improve compliance of Environmental Report to Environmental Reporting Guidelines of the Ministry of the Environment, and improve the contents of environmental reporting.	Using the GRI Standards and the Environmental Reporting Guidelines as a reference, transition from using the 2012 edition of the Environmental Reporting Guidelines to the 2018 edition.	Promoted disclosure of information regarding environmental initiatives in reference to the GRI Standards and the Environmental Reporting Guidelines.	Consider approaches to increase readability of disclosed content.
		◆Participate in environmental events and publicize corporate environmental activities.	◇Participate in Eco-Products Exhibitions, etc. to widely publicize the company’s eco-friendly activities.	Consider methods of gaining understanding of Subaru’s environmental initiatives among a wider audience and put them into practice.	Showcased Subaru’s environmental commitment through social contribution activities.	Continue to carry out PR activities appropriately to showcase Subaru’s environmental commitment.
	Promotion of environmental education and awareness activities	◆Continue environmental and social education under the in-house education system.	◇Hold more environmental education, enlightenment and presentation events.	・Continue to use e-learning and other methods to deliver environmental education and aim to further enhance the education provided. ・Implement initiatives aimed at increasing understanding of the Waste Management and Public Cleansing Act.	・Updated environmental education materials, and offered e-learning (online) programs and in-person study meetings in July. ・Provided education on the Waste Management and Public Cleansing Act in September to responsible persons from Subaru Group companies.	・Provide e-learning programs, aiming for further improvement. ・Provide programs aimed at improving understanding of the Waste Management and Public Cleansing Act.
	Establishment of an Environmental Management System	◆Each and every Subaru site to maintain ISO14001 integrated certification. ◆Make continuous improvements to the Environmental Management System. ◆Increase cooperation with subsidiaries and suppliers, and maintain and improve the establishment of consolidated environmental management system.	◇Promote sharing the internal auditing and environmental education systems for more practical EMS activities. ◇Promote acquiring the ISO14001 integrated certification, including three subsidiaries (Subaru Logistics Co., Ltd., Kiryu Industrial Co., Ltd., and Fuji Machinery Co., Ltd.), in order to further improve the system. ◇Deploy the EA21 value chain to subsidiaries and suppliers.	Maintain eligibility for certification. Progressively revise methods of deploying the EA21 Value Chain and deepen the understanding of participation by such means as holding briefing sessions.	・Provided group-wide education. ・Maintained the ISO14001-certified status of the group. ・Supported EA21-certified companies to maintain their status (January)	Develop and apply appropriate environmental management systems.

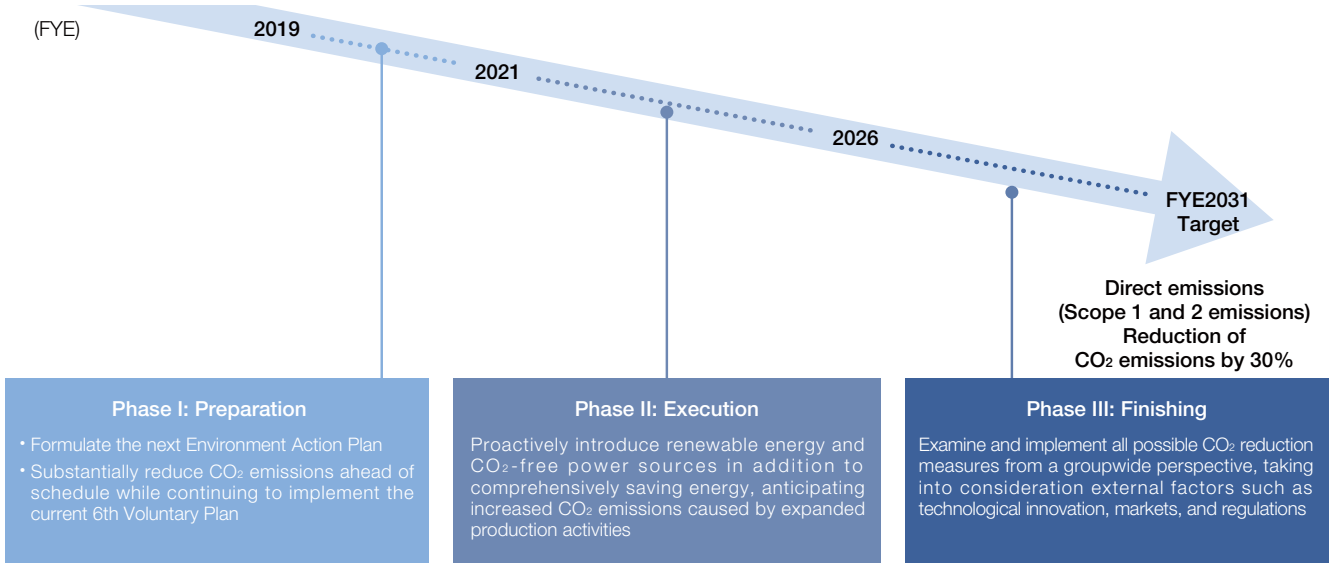
*Environmental conservation activity promotion program for small- and medium-size enterprises formulated by the Ministry of the Environment, Japan. It is an environmental management system that addresses three areas: environmental management systems, environmental efforts, and environmental reporting, based on the guidelines.

Environment Action Plan

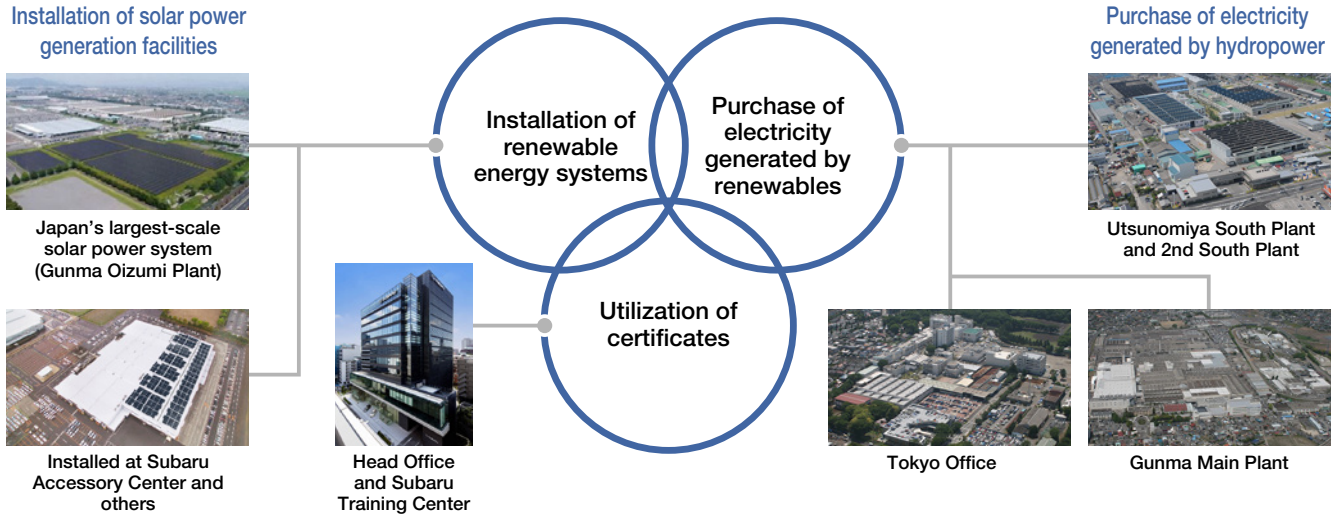
Among various environmental problems, climate change in particular has significant impacts on societies and economies. Accordingly, measures must be implemented to deal with climate change as a pressing issue from a long-term perspective. Subaru regards climate change countermeasures as a priority and has set a target of reducing the total amount of CO_2 emitted directly by the Subaru Group (Scope 1 and 2 emissions) by 30% relative to FYE2017 levels by FYE2031. Although it will not be easy for Subaru to meet this reduction target while it continues to grow, we believe it is important to share the same goal with society and work to "keep the increase in global average temperature to well below 2°C above pre-industrial levels," as upheld in the Paris Agreement. Accordingly, we have drawn up a roadmap for the period up to FYE2031 and are examining specific measures to be taken based on that roadmap. Presently we are in Phase I of the roadmap and working to reduce our CO_2 emissions by 20,000 tons, which constitutes around 3% of the Subaru Group's annual direct CO_2 emissions, earlier than planned by the end of FYE2021.

→ Medium- to long-term targets (long-term visions and milestones)

Environment Action Plan 2030 (Scope 1 and 2 emissions)



Main Initiatives Aimed at Cutting 20,000 t-CO_2 by FYE2021



Environmental Compliance

Compliance with Environmental Laws and Regulations

In addition to complying with environmental laws and regulations, Subaru has set its own voluntary environmental standard values, which are 20% stricter than the regulatory values set by law. We are committed to never exceeding the regulatory and voluntary thresholds and striving to achieve the goal of zero environmental complaints and zero environmental accidents. The following shows the results in which the regulatory threshold was exceeded in FYE2020.

Name of the site	Number of cases
Gunma Plant	3
Utsunomiya Plant	1
Head Office	1

→ FYE2020 Environmental Performance Data for Plants and Offices

Environmental Education

Subaru deems it important for employees to conduct business and environmental activities with a strong awareness of environmental issues and the importance of environmental efficiency. Based on this recognition, we provide employees with a range of environmental education according to rank and job type.

New Employee Environmental Education

In FYE2020, we provided the New Employee Environmental Education program to 566 employees. Our personnel in charge of environmental issues gave lectures on global environmental issues and Subaru's environmental policies and environmental activities, including the importance of each employee's commitment to these activities, by showing examples.

New Employee Environmental Education

ISO14001 New Internal Auditors Training Seminar

We also held the ISO14001 New Internal Auditors Training Seminar to enhance the internal auditing system for our ISO14001-certified environmental management systems and to strengthen environmental conservation activities conducted at our workplaces. We invited external lecturers to this two-day seminar, in which participants strove to gain knowledge required of internal auditors.

ISO14001 New Internal Auditors Training Seminar

Environmental Accidents

We are striving to achieve the goal of zero accidents, both on-site and off-site. There were 4 cases off-site and 5 cases on-site, and we took measures to prevent the reoccurrence of similar incidents.

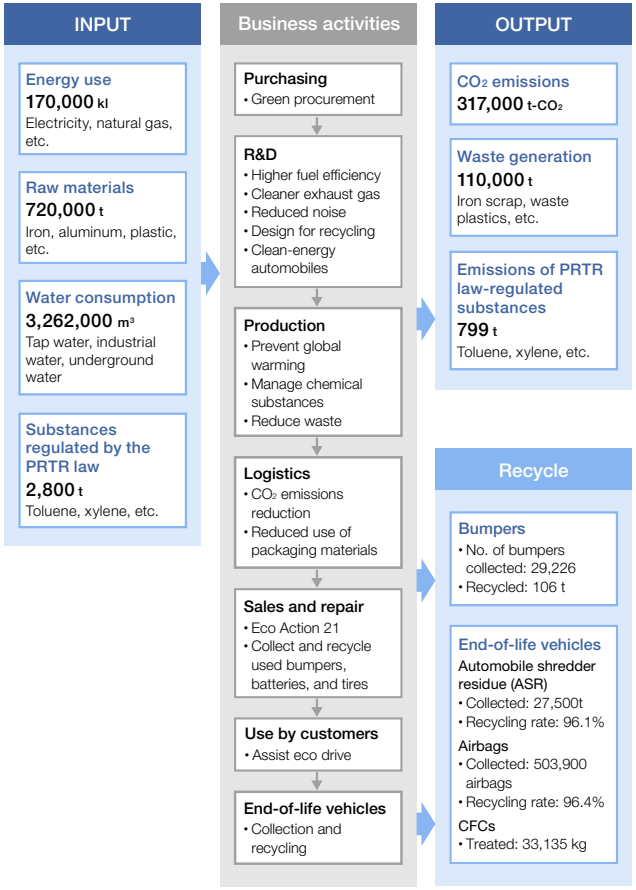
Name of the site	Number of cases
Gunma Plant	7
Utsunomiya Plant	2

Environmental Complaints

We are striving to achieve the goal of zero environmental complaints. However, we received complaints in FYE2020 and took corrective measures.

Name of the site	Number of cases
Gunma Plant	2

Material Flow Concerning Automobiles



Note: These are the main environmental impacts arising from Subaru's automobile manufacturing, sales, etc.
Target: Tokyo Office and Gunma Plant
Energy use and CO_2 emissions: Calculated according to the Mandatory Greenhouse Gas Accounting and Reporting System, which is based on the Act on the Promotion of Global Warming Countermeasures
PRTR: Pollutant Release and Transfer Register system in Japan

Environmental Investment

Calculation Method

Subaru has its own guidelines for calculating and tabulating the amount of environmental investments made by the company and other Subaru Group companies.

Calculation Results

For FYE2020, the amount of environmental investments made by the Subaru Group totaled 2,860 million yen, up about 60 million yen year on year.
The increase was mainly attributable to an increase in the R&D cost (200 million yen on a non-consolidated basis).

Calculation Results for Environmental Investments

Item	Category	Subaru Corporation (non-consolidated)		Consolidated	
		FYE2019	FYE2020	FYE2019	FYE2020
(1) Cost in the business area	(i) Pollution prevention cost	189	135	189	137
	(ii) Global environment conservation cost	176	219	314	223
	(iii) Resource recycling cost	0	1	4	1
(2) R&D cost	R&D cost to reduce environmental impact	2,277	2,480	2,292	2,502
Grand total		2,642	2,835	2,799	2,863

(Unit: million yen)
Note: Due to rounding, the sum may not exactly match the corresponding total.
Consolidated companies
Five domestic affiliated companies: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.

Environmentally Friendly Automobiles

Our Approach

"The earth, the sky and nature" are Subaru's fields of business, and we truly do value the benefits nature provides.
The Subaru Group is committed to increasing the environmental performance of its products and also to protecting the global environment throughout the life cycle of its products, from the mining of raw materials through to the manufacturing, transportation, use, and disposal of its products.

Medium- to Long-term Targets (Long-term Visions and Milestones)

To contribute to the creation of a carbon-free society, the Subaru Group released long-term goals related to vehicles (long-term visions) and complementary medium-term goals (milestones) in January 2020.
Following the adoption of the document urging each country to voluntarily raise their CO_2 emission reduction targets at COP25 held in December 2019, we set our own medium- to long-term targets for 2030 and 2050, with an eye to contributing to the achievement of the non-binding 1.5-degree target set in the Paris Agreement.

- On the well-to-wheel basis, we will pursue our goal of reducing the average CO_2 emissions from new passenger cars by at least 90% by 2050, compared with 2010.
- In the early 2030's, all commercial SUBARU cars will be equipped with electric powertrain technology.
- By 2030, we will pursue our goal of increasing the ratio of electric vehicles (EV) and hybrid cars to at least up to 40% of the gross number of vehicles sold globally.

*1 Well-to-Wheel: Approach to calculate CO_2 emissions including the emissions produced by the generation of electricity to be used by EVs and other vehicles.
*2 Reduce total CO_2 emissions calculated based on the fuel efficiency (notified value) of all Subaru automobiles sold across the world by 90% or more relative to the 2010 levels in 2050. Changes in the sales quantity due to changes in the market environment shall be taken into consideration, while minor changes in running distance shall not.
*3 Excluding the models supplied by OEMs.
*4 Refers to the technology used to foster the use of electricity for EVs, HVs, and others.

Contribution to the creation of a carbon-free society through products from Subaru's point of view

Global Environment Preservation

Companies are required to contribute to the achievement of a decarbonized society

Year 2050

On the well-to-wheel basis, we will pursue our goal of reducing the average CO_2 emissions from new passenger cars by at least 90% by 2050, compared with 2010.

Year 2030

By 2030, we will pursue our goal of increasing the ratio of electric vehicles (EV) and hybrid cars to at least up to 40% of the gross number of vehicles sold globally.
In the early 2030's, all commercial SUBARU cars will be equipped with electric powertrain technology.

SUBARU will accelerate the development of fundamental technologies for EVs and hybrid cars with support from alliance partners and continue offering products accentuating SUBARU's distinctions even in the emerging electric age.

SUBARU will contribute to building a carbon-free society through our distinctive and technological innovations.

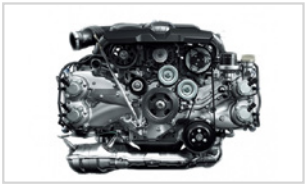
Initiatives

Efforts to Reduce CO_2 Emissions for New Models

Subaru believes that finding ways to improve fuel efficiency is a key to reducing the amount of CO_2 emitted by automobiles. While further improving the fuel efficiency of our gasoline engine vehicles, we will strive to reduce CO_2 emissions produced by our new models by expanding our range of electric vehicles (EVs) and developing more EVs in anticipation of the enforcement of more stringent fuel efficiency regulations in various countries.

Higher Fuel Efficiency

There is still large demand for conventional gasoline-powered vehicles from customers. In fact, HVs are made by combining gasoline engines with electrification technology, and engines need to be further advanced to improve fuel efficiency. The new Outback/Legacy, which we released in the United States in 2019, is equipped with the newly developed 2.5-liter direct injection engine, which is combined with the improved continuously variable transmission (CVT) to provide higher fuel efficiency. Moreover, for the 2020 Forester and Ascent models targeted at the North American market, we are continuing to provide the top-level fuel efficiency in the SUV class.



New 2.5-liter direct injection engine

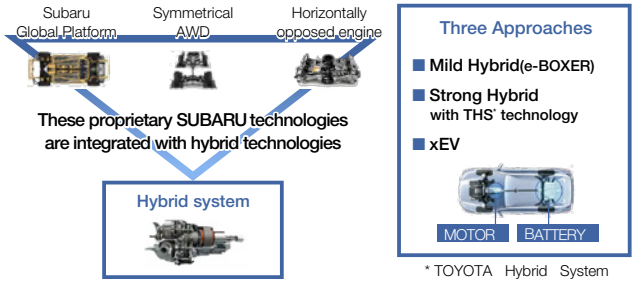
Electric Vehicles—HVs, Plug-in Hybrid Vehicles (PHVs), Strong Hybrid Electric Vehicles (SHEVs), and Other Electromotive Vehicles (xEVs)

Subaru will expand its lineup of models equipped with the e-BOXER* power unit, which was developed by combining a horizontally opposed engine with electrification technology. We will also put on sale a unique plug-in hybrid vehicle developed by using the HV know-how possessed by Toyota Motor Corporation, and will develop a strong hybrid vehicle that provides both SUBARU-ness and high environmental performance in the 2020s. Also, we will equip gasoline-powered vehicles with a range of electrification technologies to release xEVs with higher fuel efficiency. Subaru will expand the lineup of these electromotive vehicles in a planned manner with an eye to reducing CO_2 emissions from new models.

* Generic term used for "horizontally opposed engine + electrification technology," which offers the unique driving pleasure of Subaru while being environmentally friendly.

PHV Crosstrek Hybrid

Forester Advance equipped with the e-BOXER power unit



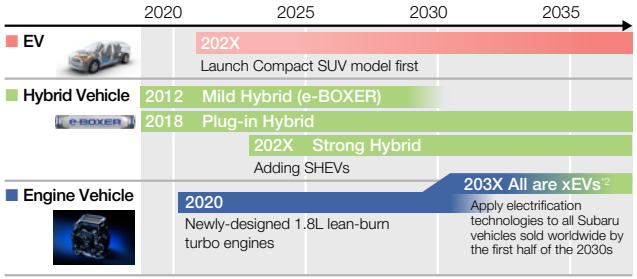
* TOYOTA Hybrid System

Electric Vehicles (EVs)

In June 2019, Subaru announced that it had reached an agreement with Toyota to jointly develop a platform for medium- to large-sized electric passenger vehicles as well as an electric SUV in the C-Segment class as its next step for remaining competitive in the coming age of electrification. By bringing together the technological strengths of two companies, including the electrification technology for which Toyota is fostering partnerships and the all-wheel drive (AWD) technology long accumulated by Subaru, the two will take on the challenge of making an attractive EV and releasing it in the first half of the 2020s.

We at Subaru will "develop and deliver products to meet societal needs and contribute to the environment through advanced technologies," thereby contributing to the protection of the global environment. We will continue to develop EVs and expand our EV lineup, giving consideration to practical functions and customer preferences. We will thereby gradually increase the rate of environmentally friendly automobiles among our products for each market.

Reducing CO_2 emissions with electrification technologies while further accentuating "SUBARU-ness" in the environmental era



Life Cycle Assessment

Subaru carries out LCA* of its automobiles to reduce their environmental impact throughout their life cycle (from the mining of materials to the manufacture, transportation, use, and disposal of the automobiles).

* Life cycle assessment (LCA) is a method to evaluate the environmental performance of a product or service throughout its life cycle.

Life Cycle Assessment (Japanese version only)

Cleaner Exhaust Gas

To achieve and maintain clean air across the globe, Subaru is developing technologies for cleaner exhaust gas, targeting not only conventional air pollutants such as hydrocarbon compounds and nitrogen oxides but also particulate matter, which is feared to have serious impacts on human health.

For our products, we are expanding our range of models that meet the latest environmental standards adopted by each country.

Japan : 2018 low emissions standards
US : State of California's SULEV standards
Europe: Euro 6 emission standards (final stage)
China : China 6 emission standards

We will develop and propose reasonable products for customers based on the results of research conducted to identify the optimal specifications in each country, including research on the components of exhaust gas that will be regulated in the future.

To this end, we are designing materials on an atomic level to improve the performance of the catalyst, which plays a major role in producing cleaner exhaust gas, while also reducing the use of precious metal.

Reducing Environmentally Hazardous Substances

Subaru is also actively working on reducing the use of environmentally hazardous substances in automobiles.

As for lead, mercury, hexavalent chromium, and cadmium, we achieved the environmentally hazardous substance reduction target set by the Japan Automobile Manufacturers Association, Inc. (JAMA) for all new models released in and after 2008.

In order to ensure compliance with the REACH regulation, ELV Directive, Chemical Substance Control Law and other regulations enforced across the world, we are further reducing the use of lead and replacing phthalic acid-based plasticizer and other hazardous chemical substances with alternatives.

Reducing VOCs*1 in Vehicle Interiors

Subaru is reviewing the components and adhesive agents used in vehicle interiors in order to reduce the use of volatile organic compounds (VOCs)*1.

For the Legacy, Levorg, Impreza, Forester, and SUBARU BRZ, we achieved the voluntary target set by the JAMA*2 by reducing the concentration of the 13 substances defined by the Japanese Ministry of Health, Labour and Welfare to levels below the indoor concentration guideline values. We will continue our efforts to reduce the levels of VOCs to make the in-vehicle environment even more comfortable.

*1 Organic compounds that easily volatilize at room temperature, such as formaldehyde and toluene, which are said to cause nose and throat irritation.
*2 Voluntary target set by the JAMA in its "Voluntary Approach in Reducing Cabin VOC Concentration Levels," which was announced with the intention of reducing the in-vehicle concentrations of the 13 substances designated by the Ministry of Health, Labour and Welfare to levels equivalent to or lower than the values set in the guidelines, for new models produced and sold in Japan in and after FYE2008.

JAMA's "Voluntary Approach in Reducing Cabin VOC Concentration Levels" (Japanese version only)

Utilizing Recycled Resins

To contribute to realizing a resource recycling society and a low carbon society, Subaru is working to develop technologies to utilize recycled resins and biomass materials.

Climate Change

Our Approach

Recognizing that climate change is one of the most pressing global issues, Subaru is committed to contributing to the establishment of a decarbonized society, in support of the purpose of the Paris Agreement to decarbonize the world at the earliest possible time in the second half of the 21st century.

Risks and Opportunities Identified

In order to ensure sustainable business activities, Subaru works to understand risks and opportunities associated with climate change. Risks identified at present are as follows: climate change initiatives may not progress as planned, or transition risks and physical risks which are almost unforeseeable at this time may develop into actual issues wielding a serious impact on the Subaru Group's business performance and financial standing; and these scenarios involve a number of possible difficult situations, such as an increase in R&D and other expenses, a decline in customer satisfaction and damaged brand images resulting in lost sales opportunities, and extreme weather disrupting procurement/production/logistics activities. On the other hand, adequate progress of efforts against climate change could provide opportunities for creating new markets and employments as well as reducing capital and energy costs.

Main Risks Identified

■ Relating to Business Management in General

(1) If Subaru fails to implement adequate initiatives to achieve low-carbon/zero-carbon outcomes, its brand value could be harmed, which could affect the company's sales and recruiting ability. Capital costs could also rise, due to increased difficulty in obtaining financing from medium- and long-term investors.

(2) There is an argument that NDCs need to be expanded to be able to achieve the Paris Agreement's "well below 2°C" target, and thus countries may revise their NDCs to set more stringent targets. Such revisions could have a significant impact on Subaru's business activities.

(3) As an impact of climate change, extreme torrential rain will frequently cause floods in various locations, which could pose risks of Subaru's operations being affected by disrupted supply of raw materials and submerged factories.

■ Relating to Products

(1) If Subaru fails to meet fuel economy regulations imposed in Japan, the U.S., Europe, and China, the company could incur additional costs or losses related to negative incentives, such as fines or non-penal fines for legal violation, and credit purchase for unmet standards. Also, some of our products could fail to satisfy certain fuel economy standards, resulting in restrained sales opportunities.

(2) At present, it is difficult to predict technological progress and price optimization for electrification, which will likely cause a substantial gap with the real state of market needs. In such a situation, Subaru could incur unnecessary and

excessive R&D costs while facing a decline in customer satisfaction, resulting in unexpected losses and reduced sales opportunities as well as hampered advancement of the company's electrification efforts.

(3) To promote electrification, it is crucial to ensure profitability for the entire product cycle ranging from procurement and use to disposal. Thus, it is essential to involve Subaru's upstream and downstream partners in exerting efforts toward this end. Failure to do this could render the company unable to meet the profitability goal for the entire product life cycle.

(4) Subaru views electrification as a medium- to long-term steady trend, and also anticipates the possibility of its swift and sweeping penetration of the market at some stage. Subaru could be unprepared for such prospect in terms of technology and timely product lineups, and thus suffer from a resultant loss of product sales opportunities.

(5) There is a possibility that Subaru might suffer from shortages of natural resources used for tires and metal resources for electrification technologies.

■ Related to Production Phase

(1) If Subaru continues to use energy derived from fossil fuels, it could incur rising costs, due not only to geopolitical factors associated with petroleum and the like, but also to carbon taxes, emission quotas, and other government policies and regulations.

(2) If use of renewable energy does not grow as expected, Subaru could face a slower progress in achieving its Scope 1 and 2 emissions reduction goals.

Main Opportunities Identified

(1) If Subaru advances its efforts to make products more environmentally friendly as planned and global climate change mitigation/adaptation efforts progress adequately, the company will be able to maintain its key markets, This scenario also implies a possibility of the company creating new markets through receiving support for its safe and reliable products, a source of its strength, even in the face of intensifying extreme weather conditions that are to some extent unavoidable in certain parts of the world.

(2) Through contributing to addressing climate change issues, Subaru could increase its brand value, thereby enhancing its sales and recruiting ability. This could make it easier for the company to obtain financing from investors, thereby lowering capital costs.

(3) Regarding energy use during the production phase, by transitioning to renewable energy while at the same time giving due consideration to cost-effectiveness, Subaru could overcome the risk of being exposed to price fluctuations involved in energy derived from fossil fuels, thereby preventing future cost increases.

* The risks and opportunities described above are based on past facts and currently available information, and may change significantly due to such factors as future economic trends and the business environment facing Subaru. The opportunities described represent those for Subaru's products to contribute to climate change adaptation and do not anticipate climate change-related deterioration.

Management System

Subaru has established the Environment Committee for the purpose of promoting the sustainable growth of both society and the company, and thereby contributing to global environment conservation. The committee discusses targets and measures from broad as well as medium- to long-term perspectives that accommodate environmental standards required by future societies, and evaluates the progress of related implementations and achievements.
The Environment Committee is chaired by the Director in charge of the Sustainability Promotion Department. Details of discussions by the Environment Committee are reported to the CSR Committee. We also have a system for escalation and reporting to the Executive Management Board Meeting and Board of Directors to be used as necessary. Management of climate change-related activities is included in the responsibilities of the environmental management structure. Environmental risks and opportunities associated with climate change are assessed and monitored, and undergo management review before major issues are reported to the Board of Directors. Each of the four bodies within the structure—Production & Environment Subcommittee, Global Warming Prevention Division, Domestic Affiliated Company's Environment Subcommittee, and Sales and Service/Distribution Environment Subcommittee—meets twice a year for the purpose of monitoring.

Governance Structure Relating to Climate Change

Medium- to Long-term Goals (Long-term Visions and Milestones)

In order to contribute to a decarbonized society, Subaru has set long-term goals (long-term visions) for 2050 and medium-term goals (milestones) for around 2030, regarding the product and production phases (Scopes 1 and 2).

Category	Target year	Goal
Products (Scope 3)	2050	Reduce average well-to-wheel CO_2 emissions from new vehicles (in operation) by 90% or more compared to 2010 levels
	Early 2030s	Apply electrification technologies to all Subaru vehicles produced and sold worldwide
	Up to 2030	Make at least 40% of Subaru global sales electric vehicles (EVs) or hybrid electric vehicles (HEVs)
Plants and offices (Scopes 1 and 2)	FYE2051	Achieve carbon neutrality
	FYE2031	Reduce CO_2 emissions by 30% compared with FYE2017 (total volume basis)

Aiming at a 20,000 t-CO_2 Reduction from Plants and Offices

The Subaru Group has set up a target of reducing CO_2 generated from its plants and offices by 30% (total volume basis) by FYE2031 from FYE2017, as stipulated in the Subaru Environmental Action Plan 2030. As a step toward accomplishing this target, we are promoting group-wide efforts to eliminate 20,000 t-CO_2 by FYE2021.

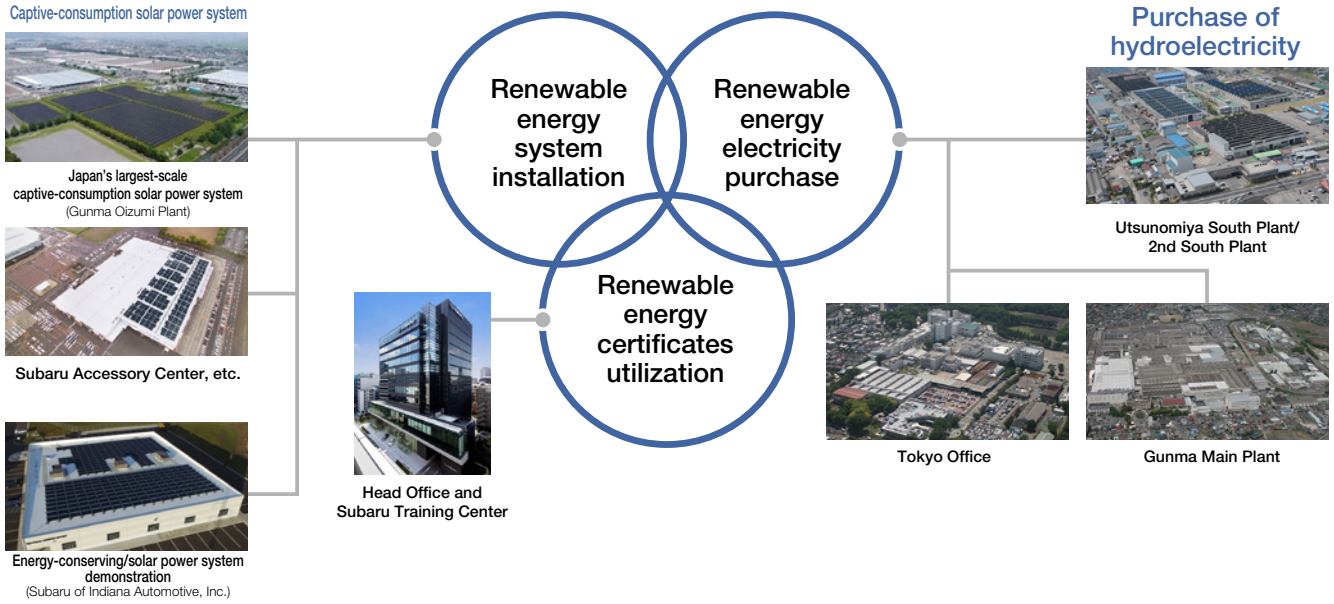
In FYE2020 our efforts effected a reduction of 18,000 t-CO_2. In FYE2021, we will seek to achieve a 23,000 t-CO_2 reduction, exceeding the target for the milestone year.

FYE2020 Main Initiatives and CO_2 Reduction Equivalents

Main initiatives	FYE2020 Results	FYE2021 Estimates
Captive-consumption solar power system installed at Gunma Oizumi Plant*1	—	3,700 t-CO_2
Zero-carbon electricity (Aqua Premium) introduced at Gunma Main Plant	6,032 t-CO_2	6,000 t-CO_2
Captive-consumption solar power system installed at Subaru Accessory Center and Kanto PDI Center*2	—	330 t-CO_2
Zero-carbon electricity (Tochigi Furusato Denki) introduced at Utsunomiya South Plant and 2nd South Plant	4,771 t-CO_2	4,700 t-CO_2
Zero-carbon electricity (Aqua Premium) introduced and Green Power certificates utilized at Tokyo Office	3,891 t-CO_2	3,883 t-CO_2
Solar power system installed at SIA Technical Training Center*3	41 t-CO_2	120 t-CO_2
Green Power and Green Heat certificates*4 utilized at Head Office (Ebisu Subaru Building) and Subaru Training Center	1,029t-CO_2*4	1,000 t-CO_2
Switching to LED lighting (total from FYE2019 to 2021)*5	1,868 t-CO_2	3,358 t-CO_2
Total	17,632 t-CO_2	23,091 t-CO_2

*1 Came online in May 2020. *2 Came online in April 2020. *3 Came online in December 2019. *4 Provisional values to be verified under the Green Energy-based CO_2 Reduction Certification System. *5 Total amount for the three-year plan period (FYE2019: 440 t-CO_2; FYE2020: 1,428 t-CO_2; FYE2021 (plan): 1,490 t-CO_2)

Efforts to achieve the target of reducing 20,000 t-CO_2 emissions

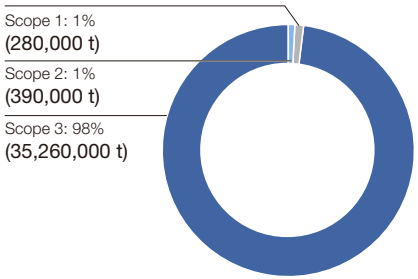


Achievements

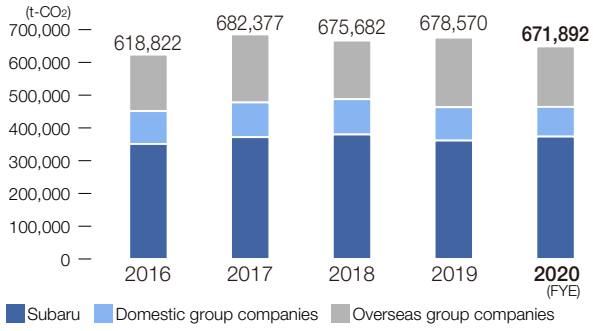
For FYE2020, Subaru has reported a total of 35.93 million t-CO_2 of supply chain greenhouse gas emissions (Scopes 1, 2, and 3). Out of the total amount, 98% is related to Scope 3, the majority of which stems from the use of sold products.

Although our direct CO_2 emissions (Scopes 1 and 2) constitute only a marginal portion of the total, we are making proactive efforts to diminish direct emissions, which we believe will encourage the entire Subaru value chain to work as a team and in greater earnest. In FYE2020, energy use increased by 2,242 kL in line with production increase, while CO_2 emissions (Scopes 1 and 2) decreased by 6,678 t-CO_2 thanks to renewable energy usage. Going forward, we will introduce cutting-edge energy conservation functions and renewable energy sources in order to further reduce CO_2 emissions and energy use.

Scope 1: Direct emissions of greenhouse gases from a company's own facilities.
Scope 2: Indirect emissions of greenhouse gases from the use of purchased or acquired electricity, heat, and/or steam supplied by another company.
Scope 3: All indirect emissions other than Scope 1 and 2 emissions, including those arising from the procurement of raw materials, transport, product use, and the disposal process, as well as arising from employee commuting, business travel, etc.

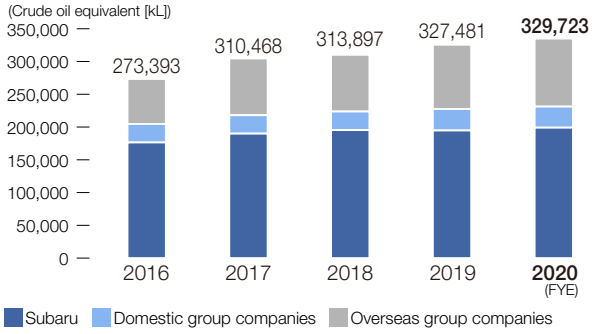


CO_2 Emissions (Scope 1, Scope 2)



Change in emissions factor: This year, Subaru has changed the basis for CO_2 emissions calculations from "non-adjusted greenhouse gas emissions" to "adjusted greenhouse gas emissions," based on the Act on Promotion of Global Warming Countermeasures. In accordance with this change, we recalculated and revised the figures to as far back to as FYE2016.

Energy Consumption



Data for Subaru Corporation is calculated based on the notification required by the Act on the Rational Use of Energy.

CO_2 Emissions (Scopes 1, 2, 3) / Energy Consumption
Scope of target: Subaru Corporation
Domestic group companies: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd., Subaru dealerships
Overseas group companies: Subaru of Indiana Automotive, Inc., Subaru of America, Inc., Subaru of Canada, Inc., Subaru Research & Development, Inc.

CO_2 Emissions (Scope 3)

	Category	Greenhouse Gas Emissions (t- CO_2)	
		FYE2019	FYE2020
1	Purchased goods and services	1,703,682	1,992,046
2	Capital goods	372,211	413,287
3	Fuel- and energy-related activities not included in Scope 1 or Scope 2	78,815	105,323
4	Transport and delivery (upstream)	658,268	737,817
5	Waste generated in operations	31,984	32,095
6	Business travel	4,446	4,554
7	Employee commuting	13,506	13,835
8	Leased assets (upstream)	N/A	N/A
9	Transportation and delivery (downstream)	N/A	N/A
10	Processing of sold products	N/A	N/A
11	Use of sold products	30,068,816	31,390,639
12	End-of-life treatment of sold products	556,139	575,107
13	Leased assets (downstream)	N/A	N/A
14	Franchises	N/A	N/A
15	Investments	N/A	N/A

* The calculation method for Scope 3 emissions has been revised in reference to the Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain Ver. 2.3 (December 2017) by the Ministry of the Environment and Ministry of Economy, Trade and Industry, and the Emissions Unit Value Database Ver. 3.0 by the Ministry of the Environment Database of emissions unit values, as well as Subaru's LCA calculation standards.

Initiatives

Production

Subaru has set (the 6th Voluntary Plan for the Environment), and to achieve the quantified CO_2 reduction targets as set, we are implementing measures aimed at more energy-conserving facilities and equipment, specifically through replacement with energy-saving lighting and introduction of renewable energy. One major plan concerns rooftop thermal insulation features (coating and sheeting) installed at plants to protect against solar radiation heat, thereby suppressing increases in indoor temperature.

Subaru also pursues groupwide initiatives, represented by switching to LED lighting. The Subaru Group has replaced a total of about 59,000 lighting units with energy-saving.

Introduction of High-efficiency Air-conditioning Systems

The automobile painting process involves repeated heating and cooling steps, which consumes a huge amount of energy. To address this issue, the Gunma Yajima Plant adopted a heat pump-based highly efficient heat source system to replace the previous discrete heat source system, starting its operation in 2018. In FYE2020, the new technology effected an emissions reduction of 2,926 t-CO_2 from FYE2018 levels.

Replacement of Cogeneration Facilities

At the Gunma Plant, a new cogeneration system was installed to replace the plant's first such system, which had served 15 years. To select a replacement model, we sought out high energy-saving functions to be performed under recent energy mix conditions. The new facilities came into operation in 2019.

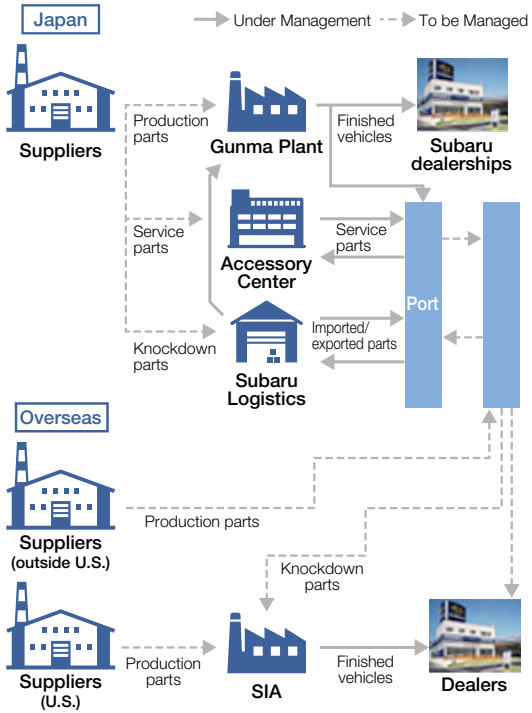
The replacement had an effect of cutting 5,892 t-CO_2 emissions in FYE2020.

Switching to LED Lighting

The Subaru Group is earnestly replacing lighting with LED products. In FYE2020, a total of about 9,000 units were replaced with LED lights, producing an effect equivalent to cutting approximately 1,500 t-CO_2 emissions.

Distribution

In accordance with the 6th Voluntary Plan for the Environment, Subaru is working with its logistics and distribution arms to reduce CO_2 emissions from the entire group through increased transport efficiency for finished vehicles and export parts. We will enhance supply chain management to pursue higher efficiency.



Transport of Finished Vehicles

To improve the transport efficiency for finished vehicles, Subaru is rolling out various measures, including: establishing optimal standard routes; ensuring flexibility to accommodate shipping of a wide range of vehicle types and sizes (particularly large cars); improving loading efficiency; installing digital tachographs[*1] to help energy conservation; and promoting modal shift[*2].

As a result of expanded efforts for consolidated and standardized transportation routes, per unit CO_2 emissions from transportation of Subaru vehicles in FYE2020 declined 9.7% from the FYE2007 level, against the target of a 1% reduction per year from the base year. We will continue with our efforts to pursue further reduction.

*1 Fitted to a vehicle to automatically record its journey information, such as driving time and speed, and store the information in the installed recording medium, such as a memory card. The device is employed broadly by industries involving the commercial operation of vehicles as a tool for driving management. As the system can present clear data of recorded events, including sudden acceleration and deceleration, fuel-wasting engine idling, and dangerous driving, it is expected to help drivers increase their awareness of safe driving and fuel economy.

*2 For cargo transportation, switching transportation modes from trucks to those imposing less environmental burden, such as railway and seaborne systems.

Export Parts

Subaru Logistics Co., Ltd., which packages and ships parts for overseas production of Subaru vehicles, makes ongoing efforts to improve the container fill rate. Key activities relate to utilizing unused upper space in high cube containers, improving packing modes, and employing lighter-weight packaging materials. As a result, the container fill rate rose 14.7 percentage points from the previous year to 93.6% in FYE2020.

We are also seeking to increase transport route efficiency. As of FYE2018, we employ the container round use system[*1], which enabled us to cut 510 t-CO_2 year on year in FYE2020. We will vigorously aim for further reduction through usage of inland container depots[*2].

	FYE2016	FYE2017	FYE2018	FYE2019	FYE2020
Container fill rate	84%	89%	88%	79%	94%

*1 System for shared use of sea freight containers between importers and exporter. Allows empty containers that have been used for import to be directly reused for export, without first being returned to the originating port, thereby decreasing unnecessary shipment of empty containers from ports.
*2 Inland function for consolidation of sea freight container cargo. Introduced as part of redevelopment plans for the overland portion of sea freight container transportation systems to save shippers' transport costs and increase transport efficiency.

Transportation Vehicles

Subaru of Indiana Automotive, Inc., the U.S. production base of Subaru automobiles, is working closely with Venture Logistics, its parts delivery arm, to introduce natural gas vehicles. Compressed natural gas (CNG) has a lower environmental impact than diesel fuel and is superior in terms of cost efficiency and reliability. The companies, however, were faced with a major challenge, which was about poor local accessibility to natural gas stations. In 2014, to overcome this, SIA provided one million-plus dollars for Venture Logistics to purchase CNG trucks and built a natural gas station on SIA's own site. This has enabled SIA and its arm to reduce CO_2 emissions over years, including 72, 620 t-CO_2 curtailed in FYE2020.

Sales

Subaru dealerships are switching to LED lights and highly efficient-type air conditioners, taking advantage of replacement opportunities.

Renewable Energy

Renewable energy is sourced from carbon-free resources, including sunlight, and as such it is becoming an important energy source for electricity generation. Also, it serves to diversify energy sources, which is important in ensuring a stable power supply. Subaru is thus introducing renewable energy generation systems to its facilities.
In FYE2020, use of renewable energy at the Subaru Group effected a reduction of 16,000 t-CO_2.

Use of Solar Energy

Tokyo Office

The Tokyo Office has installed a total of five solar power generation systems: two 10 kW units (FYE2010 and FYE2015) and one 5 kW unit (FYE2015) on the main office building rooftop; one 2 kW unit (FYE2015) in the guardhouse; and one 2.7 kW unit (FYE2017) in the special high-voltage substation. In FYE2020, these systems generated 38 MWh in total, to supply part of the electricity required to power the office.

Subaru Research and Experiment Center, Fuji Machinery Oizumi Plant

In FYE2018, the Subaru Research and Experiment Center and the Oizumi Plant of Fuji Machinery Co., Ltd. installed their first solar power generation system on the building and on the ground, respectively. In FYE2020, the former generated 64 MWh and the latter 36 MWh.


Subaru Research and Experiment Center


Fuji Machinery Oizumi Plant

Gunma Oizumi Plant

In May 2020, the Gunma Oizumi Plant introduced a solar power generation system with Japan's largest-class output capacity (about 5,000 MWh/year), looking to achieve a reduction of approximately 2,600 t-CO_2 emissions per year.

Subaru Accessory Center

In March 2020, the Subaru Accessory Center introduced a solar power generation system with an output capacity of 1,145 MWh/year, planning to cut emissions by approximately 330 t-CO_2 per year.

Electricity Sales

In FYE2015, we installed a solar power generation system with a rated output of 420 kW (capacity to power 100 detached houses) in Kiryu City, Gunma Prefecture, to start an electricity business. In FYE2020, we sold 627 MWh of electricity.

Use of Hydroelectricity

Subaru will adopt the Aqua Premium plan that offers full zero-carbon hydroelectric power to provide part of the electricity demand related to the Gunma Main Plant and the Tokyo Office. This will enable the company to attain an annual emissions reduction of an estimated 10,000 t-CO_2 (corresponding to: 21 GWh).
In FYE2020, Aqua Premium produced the emissions reduction effect of 6,032 t-CO_2 at the Gunma Plant and 2,273 t-CO_2 at the Tokyo Office.

Tochigi Furusato Denki, Power Supply Program for Local Production for Local Consumption

In FYE2019, Subaru's Aerospace Company adopted the Tochigi Furusato Denki program* to provide electricity to its Utsunomiya South and 2nd South Plants. The program offers electricity from

hydropower generation projects owned by Tochigi Prefecture, and represents Japan's first-ever power supply program themed on the "local production for local consumption" concept.
The above program enables the two plants to reduce emissions by an average of 4,700-plus t-CO_2 per year. This program also includes a scheme to spend part of the funds from bill payment, including from Subaru, on environmental conservation projects promoted in Tochigi Prefecture.

* Electricity service program co-hosted by the Tochigi Public Enterprise Bureau and TEPCO Energy Partner, Inc. Supplies electricity generated by eight hydroelectric power stations run by the Tochigi prefectural government. Hydropower users can claim to be emitting no CO_2 from using the electricity, on the grounds of its carbon-free generation process.

Utilization of Renewable Energy Certificates

The Head Office (Ebisu Subaru Building) and Subaru Training Center utilize renewable energy certificate systems (Green Power/Heat certificate) to decarbonize their power and heat consumption, aiming at a 100% green office. They launched the initiative in FYE2020, and achieved a reduction of approximately 1,000 t-CO_2 emissions.
From November 2019, the Tokyo Office purchased Green Power certificates for 3,556 MWh, which is equivalent to 1,681 t-CO_2 emissions. We will use the above values to meet the total volume carbon reduction requirement imposed by the Tokyo Metropolitan Environmental Security Ordinance.

Environmental Technologies Employed at Plants and Offices

Gunma Plant

The Gunma Plant's West Building completed in April 2016 has installed solar panels with a 20 kWh capacity, and employed two key advanced environmental functions: a new-generation lighting system that has incorporated individual address control and image-pickup human-presence sensor technologies; and a high-efficiency air-cooling heat-pump chiller. The plant has also adopted a number of non-mechanical features that can help achieve energy conservation and workplace comfort, such as: low-e double-pane windows; trench heating/cooling systems; and balconies that create an attractive recreation space while also serving as a sunlight blocker. In FYE2020, the Gunma Main Plant and the Yajima Plant were commended by the Energy Conservation Center, Japan for their efforts to promote energy conservation.

Awards ceremony

Subaru of Indiana Automotive, Inc.

The SIA Technical Training Center completed in December 2019 has installed a rooftop solar power generation system to supply about half the electricity required to power its facilities while achieving full LED and motion sensor-fitted indoor lighting.

SIA Technical Training Center

Subaru of America, Inc.

New buildings of Subaru of America, Inc. to house its head office and training center, completed in New Jersey in April 2018, were designed with an eye to obtaining LEED certification, which is awarded to building projects that consider global environmental conservation through incorporating effective functions for cost and resource saving, health considerations, and renewable, clean energy use. The head office building and the training center received a Silver certificate, awarded to higher- than-standard scorers, in October 2018 and July 2019, respectively. In March 2019, the project was also commended by the U.S. Green Building Council New Jersey Branch as an innovative green project.
Additionally, a number of energy-conserving features were introduced to the renovated office in Pennsauken, New Jersey, specifically adopting LED and motion sensor-fitted lighting and white roof coating to replace the previous black coating, a countermeasure against the heat-island effect.

* Leadership in Energy and Environmental Design (LEED) certification is a green building certification system developed and operated by the U.S. Green Building Council (USGBC). It provides objective environmental performance data on buildings through evaluation of energy conservation and environmental impact reduction abilities for a range of project stages from overall planning and design to construction, management, and maintenance. Acquisition of the certification is becoming popular in the U.S. and others.

Subaru Canada, Inc.

The building that houses the relocated office of Scott Subaru, a retailer of Subaru Canada, Inc. from 2019 boasts a distinctively high energy efficiency design that enables comfort without air conditioning systems. In recognition of this, the building is the world's first retail facility to obtain a passive house certification.

External Partnership

Subaru is tackling the climate change challenge through partnerships with suppliers, customers, and industry groups.

Alliance with Toyota Motor Corporation

Subaru and Toyota Motor announced an agreement to jointly develop EV platforms and vehicles applying Subaru's AWD technologies and Toyota Motor's electrification technologies. This agreement will enable the two automakers to bring together technical strengths of each, seeking to create attractive EV products.

Suppliers

We have set out a code of conduct that requires supplier selection and management mechanisms relating to climate change issues, and share the code with our suppliers, asking them to take appropriate actions when providing orientation sessions. This measure has encouraged suppliers to voluntarily work to obtain ISO14001 certification, resulting in a decline in environmental accidents and mismanagement events. We have also created and run a system to assist voluntary Tier 2 customers* to seek Eco Action 21 certification.

* Secondary subcontractor that supplies parts to motor vehicle manufacturers.

Industry Groups

Subaru is a member of the climate change committee of the Japan Automobile Manufacturers Association, Inc. (JAMA). Also, the President and Executive Vice Presidents are JAMA directors responsible for the body's executive decision making, and decisions made by the JAMA are reflected in STEP, Subaru's mid-term management vision.

Customers

Carter Subaru Ballad, a U.S. retailer, runs regional forest conservation campaigns involving its customers. Specifically, for each test drive in a Subaru car, the retailer donates one tree to be planted in areas along national highways, and additional three trees for each purchase. Under this campaign, a total of more than 200,000 trees have been planted over 11 years up to 2019. Engaging customers and local residents, this forestation initiative helps them become more aware of environmental issues, including about climate change.

Resource Recycling

Our Approach

The Subaru Group considers it very important for manufacturing companies to help realize a society where materials are recycled continuously and the sustainability of business is assured through recycling to maximize resource efficiency.
We will strive to support the creation of such a recycling-based society by efficiently recycling resources during the life cycle of our products, while continuing to achieve zero landfill at our domestic and overseas plants. We will also aim for a higher level of the integrated achievements of the 3Rs (reduce, reuse, recycle).

Achievements and Initiatives

Raw Materials and Design

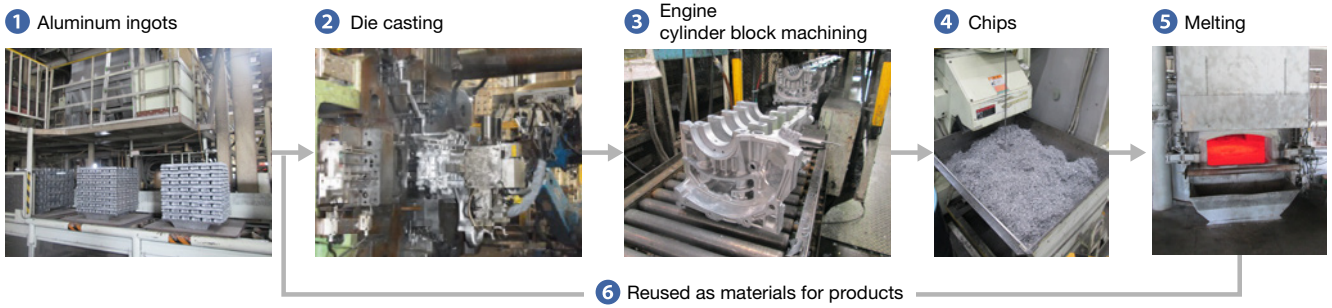
■ Raw Materials

Subaru reuses remnant materials and scrap generated during the production of automobiles as well as end-of-life products that have been collected and other reusables as resources for materials, such as iron, aluminum, and plastics, that account for a large proportion of materials used in making an automobile. Through these efforts, we are promoting closed-loop recycling* to reduce natural resource consumption and waste generation.

* A method by which waste and scrap generated during production along with end-of-life products are recycled as materials for parts of the same quality and then reused to make products of the same kind.

Raw materials used in automobiles in FYE2020		Recycling method
Iron	664,330 tons	Delivered to dealers in the form of iron scrap for reuse
Aluminum	30,468 tons	Re-melted at plants and reused almost entirely
Plastics	23,314 tons	Crushed again at plants and reused partially

e.g., Recycling of aluminum chips

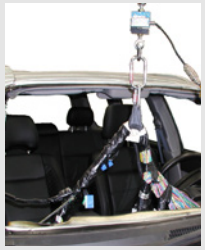


Design for Recycling

Subaru incorporates recyclability into its automobile design process to make effective use of limited resources.

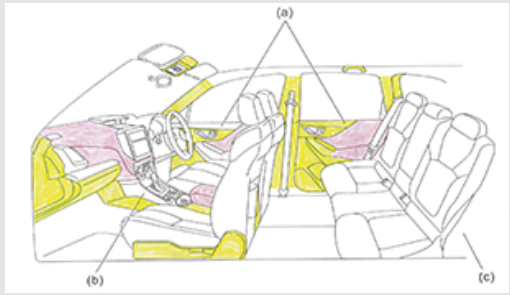
Increased ease of dismantling wiring harnesses

A harness layout and structure are designed in such a way as to enable quick and efficient recovery of wiring harnesses.



Use of easy-to-recycle materials

Olefin resin with superior recyclability is actively used for interior parts.



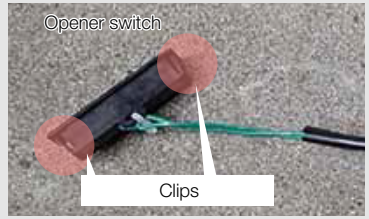
Made of olefin resin
Made from an olefin resin material

Improved material identification

Material identification is displayed on the both inner and outer surfaces of bumpers to facilitate material separation.

Adoption of easy-to-dismantle structure

Trunk and rear gate opener switches are now clipped, rather than screwed, in place.



Production

Zero Emissions of Waste from Production

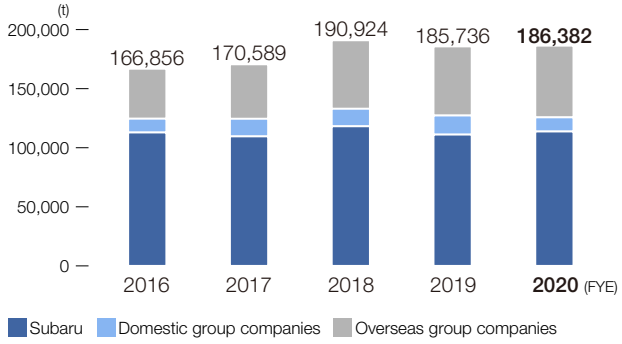
Our waste generation in FYE2020 increased by 664 tons due to increased automobile production and treatment of waste liquid. This is attributable mainly to reduced automobile production. However, as waste is also an important resource, we have maintained zero emissions* of waste since FYE2015 through maximum recovery and recycling and proper treatment of waste generated.

* A system in which waste and by-products generated in one industry are utilized as resources by other industries, resulting in no waste discharge. This concept was proposed by the United Nations University (UNU) in 1994.

Primary waste products and their recycled products

Primary waste product	Primary recycled product
Wastewater treatment plant sludge	Raw material for cement
Paint sludge	Iron-making reducer
Waste plastics	Refuse paper and plastic fuel (RPF) (solid fuels, etc.)
Paper waste	Recycled paper, RPF, etc.

Waste generation



Scope:
Subaru: Gunma Plant, Tokyo Office, Utsunomiya Plant
Group companies in Japan: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.
Overseas group companies: Subaru of Indiana Automotive, Inc., Subaru of America, Inc., Subaru Canada, Inc., Subaru Research & Development, Inc.
* The waste generation amount includes metal scrap that is sold.
* We do not export or import waste deemed hazardous under the terms of Annex I, II, III, and IV of the Basel Convention 2.

Amount of waste generated and processed

Based on aggregation of data from Gunma Plant, Tokyo Office, Utsunomiya Plant
* Waste is not disposed of in a landfill after external intermediate processing.

Logistics

Reuse of Packaging Materials

Subaru Logistics Co., Ltd., which handles packaging and transport for complete knockdown (CKD) parts of Subaru automobiles, has been actively working on reducing its environmental impact, focusing on the reuse of packaging materials.

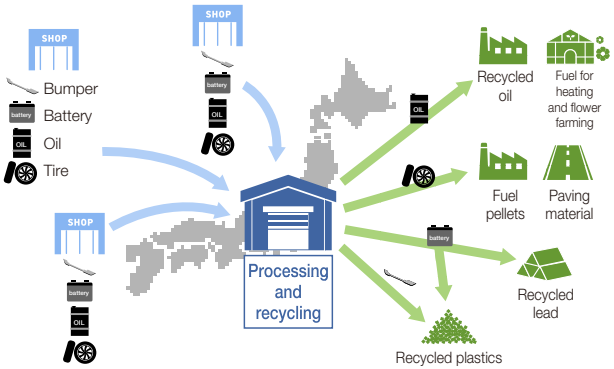
The amount of packaging materials reused in FYE2020 was 1,020 tons, up 32% from the previous year. This was due to the standardization of packaging materials reused for a new Legacy model that began to be produced in a US plant in July 2019, expanded adoption of reused packaging materials to new parts, and an increase in the number of CKD parts.

	FYE2016	FYE2017	FYE2018	FYE2019	FYE2020
Amount reused (t)	550	652	699	776	1,020
Intensity (kg/vehicle)	2.3	1.9	2.0	2.1	2.8

Sales

Zero Emissions of Waste from Subaru Dealers in Japan

Subaru dealers in Japan are committed to the proper management of waste generated from their business activities. In cooperation with companies and industrial organizations, they advance zero waste emission initiatives aimed at recycling all their waste into useful resources in Japan. As the result of these efforts, in FYE2020, 130,003 used lead-acid batteries (equivalent to 1,699 tons of lead), 5,563 kL of used oil, and 195,573 used tires were collected and recycled. Zero emission initiatives led by dealers, who work most closely with stakeholders, are activities that will contribute more directly to environmental conservation in each community. The initiatives are expected to help promote proper processing, recycling, and the effective use of resources.



Recycling of Waste Oil

Waste oil generated at Subaru dealers in Japan during oil changes is recycled as recycled fuel oil through Subaru's zero waste emissions scheme. Flower farmers in Yamagata Prefecture grow beautiful poinsettia and cyclamen every year using this recycled fuel oil to heat their greenhouses.

Proper Processing of End-of-life Automobiles

Under the Act on Recycling, etc. of End-of-Life Vehicles of Japan, car manufacturers are required to fully recover and properly recycle automotive shredder residue (ASR), airbags, and chlorofluorocarbons (CFCs) from their end-of-life automobiles.

Subaru has been promoting the smooth, proper, and efficient recycling of ASR by establishing, together with 12 other automakers and other companies, the Automobile shredder residue Recycling promotion Team (ART)*. We also ensure proper processing of airbags and CFCs through operations of Japan Auto Recycling Partnership Ltd., established jointly with Japanese automakers and importers.

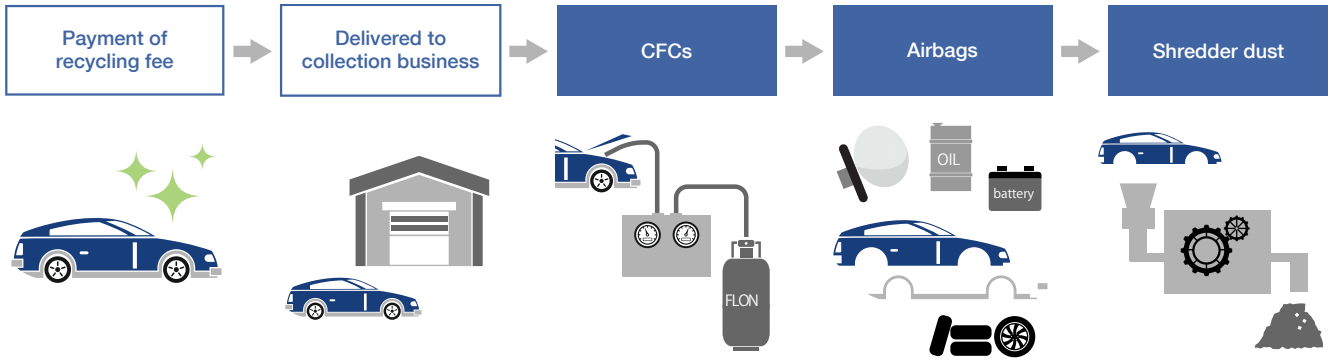
Subaru also collaborates with its dealers nationwide by jointly operating an automotive recycling system aimed at promoting the proper processing and raising the recycling rate of ASR, airbags, and CFCs.

In FYE2020, the ASR recycling rate was 96.1%, achieving the legal target of 70% for the fiscal year ended March 2016 and thereafter. The airbag recycling rate was 94.6%, exceeding the legal target of 85%, and all CFCs recovered were processed properly.

* A team to promote the recycling of automotive shredder residue (ASR), organized by 13 automobile manufacturers in December 2003. The team plans the smooth, proper, and efficient recycling of ASR, a waste product that is classified as one of the Parts Specified for Recycling as defined by the Act on Recycling, etc. of End-of-Life Vehicles and required to be recycled under the law.

Act on Recycling, etc. of End-of-Life Vehicles (Japanese version only)
Automobile shredder residue Recycling promotion Team (ART) (Japanese version only)

Automobile recycling process



The user pays a recycling fee when purchasing a car.

A car that is no longer used is delivered to a collection business*.

* A new or used car dealer, maintenance business, etc. registered with the local authorities

CFCs are recovered and made harmless through proper processing.

Airbags are removed, safely processed, and recycled. Other parts are also processed (reused or recycled) properly.

The dismantled car is crushed. The shredder dust is recycled.

Overseas Initiatives

Zero Landfill Disposal (Subaru of Indiana Automotive, Inc.)

In 2004, Subaru of Indiana Automotive, Inc. (SIA) became the first automobile plant in the United States to achieve zero landfill and is continuing to make various efforts to maintain that status.

(Subaru of America, Inc.)

Subaru Gear Distribution Facility reviewed its packaging materials and promoted cardboard and paper recycling. As a result, it achieved zero landfill in 2019.

Improvement of Recycling Rates (Subaru of America, Inc.)

Subaru of America, Inc. (SOA) partnered with U.S. recycling firm TerraCycle® to launch the TerraCycle® Zero Waste™ Box program in 2018 to promote the recycling of various waste products considered difficult to recycle. The program is part of the “Subaru Loves the Earth” initiative aimed at improving waste recycling rates.

Under the program, TerraCycle® Zero Waste™ Boxes have been placed on the premises of around 540 Subaru dealers in the United States to collect recyclables. Customers, employees, and community partner organizations are encouraged to deposit snack packages, used paper cups and plastic containers. SOA also ran a three- month campaign from October to December 2019 in cooperation with a partner outdoor equipment retailer, seting up a total of 154 TerraCycle® Zero Waste™ Boxes in its outlets and calling for shoppers to hand in used snack wrappers and unwanted recreational equipment they wish to recycle. This program collected 33,538 used items in total, including hiking tents, yoga mats and other items from household that require proessional services for recycling.

Zero Landfill Waste Joint Initiative in U.S. National Parks (Subaru of America, Inc.)

By leveraging the expertise of Subaru of Indiana Automotive, Inc. (SIA), Subaru’s production base in the United States that has achieved and maintains zero landfill waste status, SOA has been advancing a joint initiative with suppliers, the National Parks Conservation Association, the National Park Service, and others since 2015 to reduce landfill waste generated from three national parks: Yosemite National Park (California), Denali National Park and Preserve (Alaska), and Grand Teton National Park (Wyoming). The initiative encompasses a range of activities that include placing more than 500 trash bins in the parks, promoting the composting of organic waste, and increasing the number of water supply stations, which are leading to the steady reduction of waste left inside the parks. As a result, the amount of waste reduced 50% and the recycling rate doubled in four years by 2019.

SOA donated $24 million to the National Park Foundation (NPF) in FYE2020 and the total amount of donations made since SOA started supporting NPF in 2013 has reached $176 million. These donations came from proceeds raised by Subaru by setting aside a certain amount of money each time a customer purchased or leased a Subaru automobile.

At the New York International Auto Show held in April 2019, SOA installed a booth that allowed visitors to virtually experience National Parks in the United States. Most of the display materials were recycled, donated or saved for future reuse at other auto shows and events.

Subaru's booth recreates the National Parks

Proper Recycling of Household Waste (Subaru of Indiana Automotive, Inc.)

Every year, SIA organizes an opportunity for its empolyees to hand in used household items to be appropriately recycled or disposed of. In 2019, the company collected a total of about 17 tons of used products, such as oils, pigments, electronics, and pharmaceuticals, from 246 employees.

Collection of Waste Electronic Equipment (Subaru Canada, Inc.)

As aprt of its environmental week campaign, SCI collected used personal electronic devices from employees to be recycled by appropriated services. A palletful of used electronics were collected during the campaign period.

Water Resources

Our Approach

Water is an indispensable resource for the Subaru Group's business activities. The risk of droughts, floods, and other disasters is increasing, however, due to climate change, while global population growth and economic development are increasing demand for water and raising the risk of water shortages and pollution.

To help alleviate these risks, the Subaru Group is committed to the proper management of water consumption, as well as to minimizing the environmental impact of its discharged water. We are also actively engaging in activities to conserve forests that have a water storage function.

Water Management

Water consumption at the Subaru Group is maintained at a certain level in terms of the total amount used and the amount used per unit of sales. Our aim is to "Manage [the] volume of water used at both domestic and overseas production facilities" as stated in our 6th Voluntary Plan for the Environment. The Production & Environment Subcommittee is in charge of monitoring the water consumption of each location.

The share of each water source in the total freshwater consumption at major locations of the Subaru Group is as follows: industrial water 60%, tap water 30%, and groundwater 10%. As we are well aware of the risks involved in using the valuable resource of fresh water, we carefully monitor water consumption by conducting water risk assessments at major locations. Although the current assessment results show that the water risk is not high, we will continue to regularly assess our water risk levels and work to reduce water consumption in order to ensure a continuous water supply.

Water Risk Assessment

The Subaru Group uses a third-party expert to implement water risk assessments* to ensure the sustainable use of water. These assessments estimate, among other things, the water supply and demand risk in the river basins in which the production bases are located, the probability of water-related disasters occurring, and the impact on public health and ecosystems on a five-point scale. These assessments showed that water risk at the Gunma Plant, Utsunomiya Plant, and Subaru of Indiana Automotive, Inc. is generally evaluated as moderate or lower.

■ Gunma Plant and Subaru of Indiana Automotive, Inc.

According to an assessment in FYE2017, the water supply and demand risk at the Gunma Plant and Subaru of Indiana Automotive, Inc., both of which are automobile manufacturing bases, is moderate. It is expected that the current risk level will be maintained for the mid to long term, even when the impact of climate change is taken into account. No biodiversity conservation areas are identified at the lower reaches of the rivers. The vulnerability to water pollution is low.

■ Utsunomiya Plant

According to an assessment in FYE2018, the water supply and demand risk at the Utsunomiya Plant, which is our base for aerospace manufacturing, is moderate. This risk level is expected to drop in the future as an increase in the river flow rate and decrease in water demand are likely to take place. The plant is not located in an area at high risk of flood inundation or landslides. No biodiversity conservation areas or habitats for rare aquatic life are identified in the areas within 10 km downstream from the site. Going forward, we will continue to accurately monitor our water risk based on the assessments, ensure optimum water consumption in relation to local water demand, and help conserve the environment along the river.

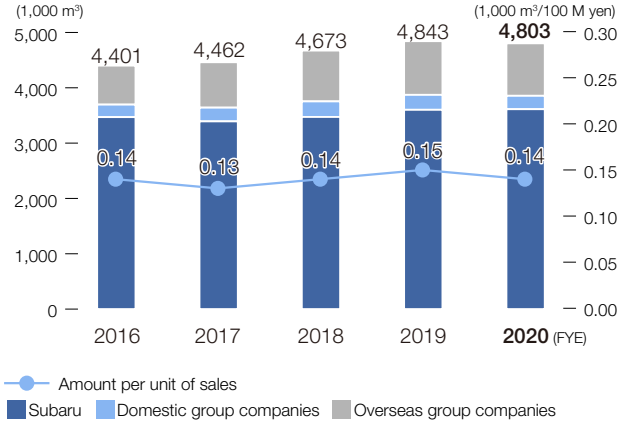
* Reference databases
(1) WRI Aqueduct water risk atlas, WWF-DEG Water Risk Filter, PREVIEW Global Risk Data Platform, Climate Change Knowledge Portal, Integrated Biodiversity Assessment Tool, NCD-VfU-GIZ Water Scarcity Valuation Tool (Version 1.0), Costing Nature/Water World, National Land Numerical Information: Possible Inundation Area Data and Sediment Disaster Hazard Area Data (Only for Gunma Plant and Utsunomiya Plant)

Achievements and Initiatives

Water Consumption

The total amount used is monitored and compiled for each location, and reported and verified at biannual meetings. Necessary measures are then taken as appropriate.

Water consumption (total amount used)



Scope:
Subaru: Gunma Plant, Tokyo Office, Utsunomiya Plant, Handa Plant, Handa West Plant
Group companies in Japan: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.
Overseas group companies: Subaru of Indiana Automotive, Inc., Subaru of America, Inc., Subaru Canada, Inc., Subaru Research & Development, Inc.

Breakdown of water consumption by water source at major production bases

(Unit: 1,000 m³)

Region	Industrial water	Tap water	Groundwater	Source of water intake
Japan	2,967	311	577	Tone River, Watarase River
North America	0	944	0	Groundwater from the Teays Valley aquifer
Total	2,967	1,254	577	

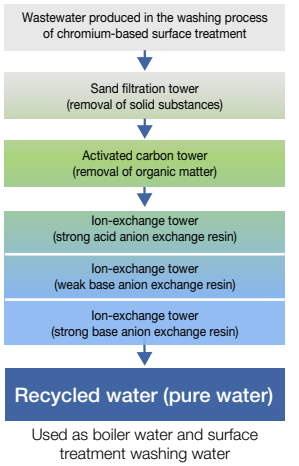
Scope:
Japan: Gunma Plant, Tokyo Office, Utsunomiya Plant, Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.
North America: Subaru of Indiana Automotive, Inc.

Water Reuse

Utsunomiya Plant

The Utsunomiya Plant has introduced a surface treatment facility equipped with an ion-exchange water recycling system that converts wastewater into pure water. In FYE2020, 41,998 m³ (33%) of the total of 126,669 m³ of water used in the surface treatment facility was recycled and utilized at the plant as washing water for the facility.

Processing and recycling of surface treatment wastewater (image)



Subaru of Indiana Automotive, Inc.

Subaru of Indiana Automotive, Inc. (SIA) added filters to its water tanks equipped with electrodeposition apparatus that are used to clean the car body prior to the painting process, and started water reuse. As a result, SIA was able to reduce its water consumption by approximately 1,300 m³ in FYE2020.

Biodiversity

Our Approach

With the automotive and aerospace businesses as the pillars of Subaru's operations, our fields of business are the earth, the sky and nature. We promote biodiversity preservation through our business activities, aiming to achieve coexistence with nature. We support the Declaration of Biodiversity by Keidanren (Japan Business Federation) and participate in the Japan Business and Biodiversity Partnership as part of our active commitment to biodiversity. We also ensure ongoing, biodiversity-friendly business activities by establishing the Guidelines on Biodiversity, while also committing ourselves to the Subaru Forest Project for biodiversity conservation and organizing various events in and outside our business locations aimed at raising people's awareness of biodiversity.

Guidelines on Biodiversity

The Subaru Group instituted the Subaru Guidelines on Biodiversity in April 2019, which serve as the basis for its approach to biodiversity. The guidelines were formulated with reference to the government's Guidelines for Private Sector Engagement in Biodiversity and the Declaration of Biodiversity by Keidanren: Guide to Action Policy as well as by taking into account international trends in biodiversity management. They are consistent with the Six Priority Areas for CSR and the Subaru Environmental Policies and are designed to ensure that their effectiveness and continuity can be guaranteed.

Subaru Guidelines on Biodiversity

Our society is supported by biodiversity, which is the source of various blessings from nature.
On the other hand, "biodiversity" is rapidly being lost on a global scale.
We promote biodiversity preservation through our business activities and contribute to the environmental protection of our planet while aiming to coexist with "the earth, the sky and nature."

1. We grasp the impact of business activities on biodiversity and reduce their impact. We also promote initiatives leading to further recovery.
2. We strive to raise awareness of biodiversity.
3. We respect international rules concerning biodiversity.
4. We cooperate with stakeholders and strive for preservation of biodiversity.
5. We proactively disclose information on activities regarding biodiversity.

Established in April 2019

Management System

Our cross-sectional working group covering all of our business locations, which was established in FYE2015, studies the relationship between our business activities and biodiversity, identifies potential risks and priority issues, and formulates roadmaps. With this arrangement, we have been addressing and advancing biodiversity management in a steadfast manner.

Initiatives

Japan

■ Subaru Forest Project

Since FYE2018, Subaru has been working on the Subaru Forest Project, an initiative that is directly linked to biodiversity conservation and embodies the idea of “coexistence with nature” included in the Subaru Environmental Policies.

· Subaru Forest Bifuka in Hokkaido

In a forest of 115 hectares located on the premises of Subaru Test & Development Center Bifuka Proving Ground, Subaru started forest management and conservation activities in FYE2018, including tree-planting, thinning, and nature conservation. We aim to carry out these activities in collaboration with local communities such as Bifuka Town with a long-term plan to create a forest through artificial afforestation in 50 years. Furthermore, as a measure against climate change, we have completed the certification and registration process required for the issuance of J-Credit (which we expect to purchase in or after FYE2022), while also utilizing wood from thinning as biomass fuel.

Subaru Test & Development Center Bifuka Proving Ground and its surrounding forests

Ezo red foxes are often spotted on the premises

· Sponsorship of a tree-planting ceremony at Bifuka Town

A tree spirit ceremony and a tree-planting ceremony, which had been organized by Bifuka Town annually, were held in May 2019. The ceremonies were attended by about 90 people.The participants planted 300 Todo fir trees, a variety chosen for its suitability to the local climate, on the 0.7-hectare site in the hope of passing on healthy and abundant forests to the next generation. These Todo firs so planted will be ready for felling in 50 years’ time.

About 90 people participated in the tree-planting

· Donations to fund environmental conservation activities at Matsuyama Marsh

Subaru, Bifuka Town, and the Hokkaido Government Kamikawa General Subprefectural Bureau signed an agreement to promote conservation of the forest environment in Bifuka Town in 2017. Subaru has been utilizing the corporate version of a hometown tax donation program—the government’s tax incentive scheme to encourage companies to support regional revitalization—to donate three million yen to the Hokkaido Government’s Matsuyama Marsh* Forest Project over three years starting from FYE2020. The donations are used, among others, for boardwalk improvements in Matsuyama Marsh. The initial donation was made and used to replace the old signpost and maintain trails so that the trekking route is properly demarcated to preserve valuable vegetation and ensure safety of visitors.

* Matsuyama Marsh (Bifuka Town): Japan’s northernmost high-altitude wetland situated 797 meters above sea level. As the marsh is home to around 200 distinctive plant species, including ferns and mosses, the Ministry of the Environment has selected it as one of Japan’s 500 most important wetlands.

A beautiful Matsuyama Marsh landscape

A renewed signpost

· Subaru Friendship Forest Akagi (Gunma Prefectural Forest Park)

In April 2018, Subaru obtained the naming rights to a prefectural forest park in Gunma Prefecture, where its automotive plants are located.

The park is named “Subaru Friendship Forest Akagi,” and the name will be used for five years through 2023. During these years, we will donate a total of 9.8 million yen to the prefectural government to support forest park conservation and management. In June 2019, a donation presentation ceremony was held at the prefectural government office.

· Subaru Forest Utsunomiya (Utsunomiya City Forest Park in Tochigi Prefecture)

Utsunomiya City, Tochigi Prefecture, is where our Aerospace Business is located. We support the conservation and management of a part of a forest owned by the city named “Subaru Forest Utsunomiya” in collaboration with the city. In FYE2020, we helped perform thinning for forest maintenance and make new benches and cycle stands, utilizing the thinned wood.

A bike rack made of thinned wood

A bench made of thinned wood

→ Social Contribution: Subaru Forest Project

Greenery Conservation and Creation

Since the Subaru Group’s business locations are closely linked to the neighboring natural environments and ecosystems, we make a variety of contributions to the conservation of biodiversity in each area.

· Saitama Logistics Center

The Saitama Logistics Center in Kitamoto City has been nurturing and taking care of cherry trees growing on the site since they were received from the city in 2003. The trees are descendants of the Ishito Kabazakura cherry tree, estimated to be 800 years old, at Tokoji Temple in the city. Ishito Kabazakura was designated as a natural monument of Japan in 1922 and is classified as one of Japan’s five great cherry trees.

A cherry tree at Saitama Logistics Center (Right and left)

· Tokyo Office

The Tokyo Office has been gradually increasing greenery at its site in a manner that does not impede biodiversity by carefully choosing native plants and trees. The plants and trees planted include East Asian beautyberry and bamboo-leaf oak, both of which grow wild around the Musashino area where the office is located. With this initiative, we are contributing to recreating the lush Musashino landscape in consideration of the biodiversity.

Bamboo-leaf oak

East Asian beautyberry

· Utsunomiya Plant

At Utsunomiya Plant, based on our recognition that natural vegetation is an important habitat for various living creatures, we deliberately left an area in the site unmowed on a trial basis to monitor its biodiversity. As a result of the monitoring study conducted in cooperation with experts, we found 20 species of insects in the monitoring area, compared to only 11 species found in a mowed area of lawn. Based on this study, we will create an environment suitable for promoting biodiversity in the monitoring area.

Insects found in the monitoring area

Noshime-tombo dragonfly
(*Sympetrum infuscatum*)

Migratory locust
(*Locusta migratoria*)

Asian swallowtail
(*Papilio xuthus*)

Asian lady beetle
(*Harmonia axyridis*)

· Gunma Plant

Flower distribution

We distribute flower seedlings to member companies of the Subaru Community Exchange Association on request basis three times a year. We chose varieties that contribute to biodiversity in 2015. With these seedlings, each company promotes greenery conservation.

Staff distributing flower seedlings

Subaru Community Exchange Association (Japanese version only)

Elementary school flowerbed contest

We have hosted a flowerbed contest for elementary schools in Ota City and Oizumi Town since 2015.

The contest is intended to provide children in the communities with an opportunity to understand the preciousness of life through their experience of growing flower seedlings donated by Subaru for use in creating flowerbeds.

Fifteen schools participated in the seventh contest, held in FYE2020. The winner was the Ota Municipal Ikushina Elementary School for their flowerbed with flowers arranged in the shape of hiragana letters that read “Ikushina.” The children said that it was difficult for them to keep the bed free of weeds and to make the flowers bloom in a beautiful way, but expressed their joy at seeing how colorful the flowers made their school. The contest helped the children to understand how valuable life is.

Winner: Ota Municipal Ikushina Elementary School (Right and left)

Participation in Ota City Environmental Creation Council

Subaru is a sponsor of the Ota City Environmental Creation Council and takes part in a wide range of environmental activities through interaction with local communities.

Activity	Timing	Outline
Firefly watching	June 2019 (cancelled during bad weather)	We planned an event that would allow participants to observe fireflies and learn about environmental conservation. The fireflies had been raised at a firefly habitat in Ota City and released at a larval stage.
Used oil candle making	June 2019	We participated in an eco-event where participants made a candle from discarded household cooking oil and were encouraged to spend one hour a day with the lights switched off, using only candlelight for illumination. A contest for photos of the candles made was also organized, and our sponsorship fee was used to organize the contest and purchase prizes for the winners.
Participation in Ota City Environmental Fair	November 2019	Environmental activities by businesses in the city were presented at the two booths of the Ota City Environmental Creation Council through panels and other means at the Ota City Environmental Fair. We introduced our recycling operations for automotive production waste and explained how wood from thinning in Bifuka is utilized as part of our environmental efforts. We also handed out 50 of the candles made from used cooking oil mentioned above to visitors.
Volunteer cleanup event in the lower Amanuma area to remove non-native parrotfeather	February 2020	The environment of Ota City is increasingly being destroyed by non-native plants. We are working on the conservation of native biodiversity, focusing particularly on areas hardest hit by the non-native plant invasion, as well as drawing attention to the need to address the problem.

Used oil candle making (Right and left)

Overseas

■ Forest Protection (Subaru of China Ltd.)

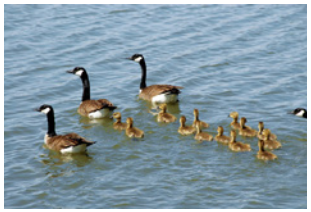
Subaru of China Ltd. (SOC) established the SUBARU Forest Ecology Conservation Project in 2012 in collaboration with Wildlife Conservation Society China (WCS China), an organization under the jurisdiction of the State Forestry Administration of China. SOC established 31 Subaru Ecology Conservation Forests in nature reserves in 31 provinces in collaboration with WCS China in 2013. Starting 2012, SOC hosts “31 Forest Star Tours” for afforestation and rare species protection, while running fund-rasing drives for wildlife protection and commending staff who have participated in natural reserves’ activities to contribute to afforestation.

Going forward, SOC will continue to conduct activities in harmony with the local natural environment and promote initiatives to conserve biodiversity.

Award ceremony

Initiatives Aiming at Coexistence with Nature (Subaru of Indiana Automotive, Inc.)

Subaru of Indiana Automotive, Inc. (SIA) worked on ecosystem protection by improving the water retention area on and its surrounding greenery on the plant's premises to make them suitable habitats for local wildlife. Thanks to these efforts, the area was certified by the National Wildlife Foundation in 2003 as a wildlife habitat, making SIA the first U.S. automobile production plant to receive the certificate. SIA maintains its surrounding natural environment, where wild Canadian geese and herons feed and rest, and many wild deer live in the native wildlife area behind the recreation center.



Wild Canadian geese

SIA is surrounded by a wealth of nature

Afforestation in Wildfire-burned Areas (Subaru of America, Inc.)

Subaru of America, Inc. (SOA) carried out afforestation activities in areas severely damaged by a record-scale forest fire in 2019, in collaboration with the National Forest Foundation. The company planted a total of 125 thousand trees in 2019, and plans to plant the same number of trees annually in the coming three years.

Participating in Postal Service-run Nature Conservation Programs (Subaru of America, Inc.)

Starting 2019, SOA, together with printing companies, is involved in a program to donate one cent per postal mail to plant one seedling in each of the areas affected by natural disasters and faced by the challenge of protecting local species. Through this activity, a total of 692,919 seedling were planted in 2019.

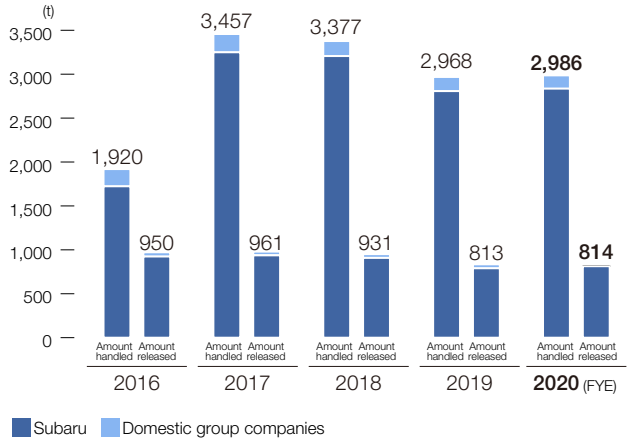
Prevention of Pollution

Our Approach

For the development of a sustainable society as well as its own business continuity, the Subaru Group considers it essential to prevent the pollution of public water resources, soil, and the atmosphere. The Group endeavors to accurately measure its environmental impact and reduce it to a minimum by making the best use of its environmental management system.

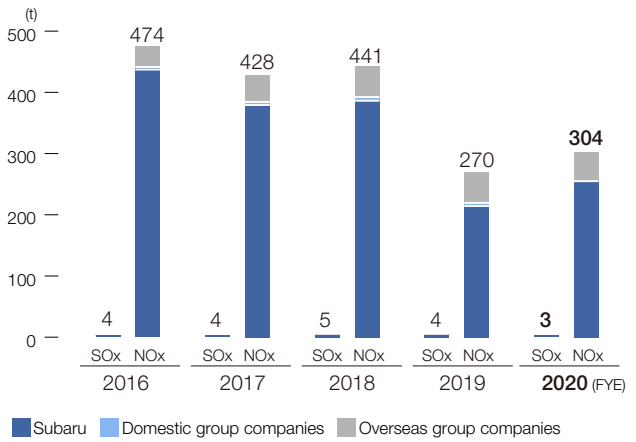
Achievements and Initiatives

Chemical substances regulated by Pollutant Release and Transfer Register (PRTR) law of Japan



Scope: Subaru—Gunma Plant, Tokyo Office, Utsunomiya Plant, Handa Plant
Group companies in Japan: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.

NOx,SOx



Scope: Subaru—Gunma Plant, Tokyo Office, Utsunomiya Plant
Group companies in Japan: Yusoki Kogyo K.K., Fuji Machinery Co., Ltd., Ichitan Co., Ltd., Kiryu Industrial Co., Ltd., Subaru Logistics Co., Ltd.
Overseas group company: Subaru of Indiana Automotive, Inc.

VOC

The amount of volatile organic compounds (VOCs) emitted from the automobile coating process at Subaru is figured out by emissions per unit coating area, which in FYE2020 was 44.0 g/m^2, down 3.9% from the FYE2019 level. This reduction in VOC emissions was mainly due to the decreased use of cleaning thinners and the increased collection of used thinners.

Soil and Groundwater

We started our voluntary soil and groundwater tests at our locations in 1998 and have since implemented purification measures and groundwater monitoring as required. Since the Soil Contamination Countermeasures Act came into effect in 2003, we have also filed reports and conducted tests in accordance with the law.

Sensory Nuisance

According to empirical studies showing that there is a significant difference between instrumental measurement results and the level of odor or noise perceived by people, the Gunma Plant conducts patrols around the site every day. The plant also makes available a contact point for consultation and organizes dialogues and plant tours for residents in the neighborhood to maintain close communication with them. The plant makes improvements of its facilities as necessary based on the valuable feedback received from residents.

PCB Waste

Subaru stores polychlorinated biphenyl (PCB) waste appropriately in accordance with the law and disposes of it according to a plan set to ensure that the disposal will be completed within the legally stipulated time frame.

Hazardous Waste

Subaru has had no significant spillage, nor has it transported, waste deemed hazardous under the terms of Annex I, II, III, and IV of the Basel Convention*.

* International treaty on the control of movements of hazardous wastes between nations and their disposal procedures.

FYE2020 Environmental Performance Data for Plants and Offices

In addition to complying with the laws and regulations, Subaru sets voluntary standards that are 20% stricter than the legal regulation values to manage the controlled substances. The following shows the regulation values and measured performance data for our plants and offices regarding the main substances.

Atmosphere (Air Pollution Control Act, Prefectural Regulations)

Automotive Business

Gunma Plant

Main Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
NOx	Paint drying oven	ppm	230	184	50	36
Particulate matter	Paint drying oven	g/m^{3}N	0.2	0.16	0.003	0.002
VOC	Paint booth, etc.	ppm-C	700	—	687	211

Yajima Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
NOx	Paint drying oven	ppm	230	184	68	38
Particulate matter	Paint drying oven	g/m^{3}N	0.2	0.16	0.005	0.002
VOC	Paint booth, etc.	ppm-C	700	—	299	73
VOC	Paint booth, etc.	ppm-C	400	—	215	166

Oizumi Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
NOx	Aluminum melting furnace	ppm	180	144	46	39
Particulate matter	Aluminum melting furnace	g/m^{3}N	0.3	0.24	0.033	0.009

Ota North Plant

No applicable equipment/facility

Tokyo Office

No applicable equipment/facility

Aerospace Company

Utsunomiya Plant

Main Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
NOx	Cogeneration	ppm	600	480	180	180
NOx	Drying oven	g/m^{3}N	180	144	47	45
NOx	Quenching furnace	g/m^{3}N	170	136	<100	<100
Particulate matter	Drying oven	g/m^{3}N	0.3	0.24	<0.001	<0.001
Particulate matter	Quenching furnace	g/m^{3}N	0.2	0.16	<0.010	<0.010

South Plant and 2nd South Plant

No applicable equipment/facility

Handa Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
SOx	2-ton boiler	ppm	1.5	1.2	<0.02	<0.02
NOx	2-ton boiler	ppm	180	144	32	29
Particulate matter	2-ton boiler	g/m^{3}N	0.1	0.08	<0.002	<0.002

Handa West Plant

Substance	Equipment/facility	Unit	Regulation	Voluntary standard	Maximum	Average
SOx	2-ton boiler	ppm	1.5	1.2	0.03	0.023
NOx	2-ton boiler	ppm	180	144	32	28.3
Particulate matter	2-ton boiler	g/m^{3}N	0.1	0.08	<0.002	<0.002

Water Quality (Water Pollution Prevention Act, Sewerage Act, Prefectural/Municipal Regulations)

Automotive Business

Gunma Plant

Main Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.1–8.3	7.7	7.1	7.4
Biochemical oxygen demand (BOD)	mg/L	25	20	14.1	<1.0	5.1
Suspended solids (SS)	mg/L	50	40	8.8	<1.0	3.1
n-Hexane extract content (Mineral oil content)	mg/L	5	4	<1.0	<1.0	<1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	<1.0	<1.0	<1.0
Zinc content	mg/L	2	1.6	0.300	0.021	0.153
Soluble iron content	mg/L	10	8	0.2	<0.1	0.1
Soluble manganese content	mg/L	10	8	0.3	<0.1	0.1
Nitrogen content	mg/L	60	48	21.8	2.4	10.2
Phosphorus content	mg/L	8	6.4	1.9	<0.1	1.2
Fluorine and its compounds	mg/L	8	6.4	1.8	<0.2	0.6

Effluent is discharged into public rivers. Measured at two drainage outlets (New No.2 and No.5 waterways). Values for total phosphorus content and total nitrogen content are daily averages.

Yajima Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.1–8.3	7.3	7.1	7.2
Biochemical oxygen demand (BOD)	mg/L	25	20	77.7	1.3	19.7
Suspended solids (SS)	mg/L	50	40	5.6	2.0	3.5
n-Hexane extract content (Mineral oil content)	mg/L	5	4	<1.0	<1.0	<1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	<1.0	<1.0	<1.0
Zinc content	mg/L	2	1.6	0.40	0.400	0.40
Soluble iron content	mg/L	10	8	0.4	<0.1	0.2
Soluble manganese content	mg/L	10	8	0.2	<0.1	0.1
Nitrogen content	mg/L	60	48	8.9	4.8	6.5
Phosphorus content	mg/L	8	6.4	1.1	0.3	0.5
Fluorine and its compounds	mg/L	8	6.4	1.9	0.9	1.4

Effluent is discharged into public rivers. Values for total phosphorus content and total nitrogen content are daily averages.

* The BOD values exceeded the standard value since air conditioner drainage containing solvents leaked into the rainwater ditch. We reviewed and improved the drainage paths and treatment processes so that the BOD values are now maintained within the standard value.

Oizumi Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.1–8.3	7.7	7.1	7.4
Biochemical oxygen demand (BOD)	mg/L	10	8	7.3	1.4	3.9
Suspended solids (SS)	mg/L	10	8	5.6	<1.0	2.5
n-Hexane extract content (Mineral oil content)	mg/L	3	2.4	1.0	<1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	<1.0	<1.0	<1.0
Zinc content	mg/L	2	1.6	0.234	0.083	0.166
Soluble iron content	mg/L	5	4	0.2	<0.1	0.1
Soluble manganese content	mg/L	5	4	0.1	<0.1	0.1
Nitrogen content	mg/L	60	48	13.9	6.3	10.3
Phosphorus content	mg/L	8	6.4	<0.1	<0.1	<0.1
Fluorine and its compounds	mg/L	8	6.4	<0.2	<0.2	<0.2

Effluent is discharged into public rivers. Values for total phosphorus content and total nitrogen content are daily averages.

Ota North Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.1–8.3	7.8	7.7	7.8
Biochemical oxygen demand (BOD)	mg/L	25	20	2.7	1.3	2.0
Suspended solids (SS)	mg/L	50	40	2.4	<1.0	1.7
n-Hexane extract content (Mineral oil content)	mg/L	5	4	<1.0	<1.0	<1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	<1.0	<1.0	<1.0
Zinc content	mg/L	2	1.6	0.07	0.046	0.058
Soluble iron content	mg/L	10	8	0.1	<0.1	0.1
Soluble manganese content	mg/L	10	8	0.2	<0.1	0.2
Nitrogen content	mg/L	60	48	1.2	1.1	1.2
Phosphorus content	mg/L	8	6.4	<0.1	<0.1	<0.1
Fluorine and its compounds	mg/L	8	6.4	<0.2	<0.2	<0.2

Effluent is discharged into public rivers. Values for total phosphorus content and total nitrogen content are daily averages.

Tokyo Office

Item	Unit	Regulation*	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5–9	5.4–8.6	8.6	7.6	8.3
Biochemical oxygen demand (BOD)	mg/L	600	480	350	56	172
Suspended solids (SS)	mg/L	600	480	410	82	194
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	<0.5	<0.5
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	24.0	2.6	12.0
Total phosphorus	mg/L	16	12.8	11	2.6	7.3
Total nitrogen	mg/L	120	96	96	25	63.0
Soluble manganese	mg/L	10	8	0.03	0.02	0.03
Cyanogen	mg/L	1	0.8	<0.01	<0.01	<0.01

Effluent is discharged into public sewer.

* Water Pollution Prevention Act, Mitaka City Sewer Regulation

Aerospace Company

Utsunomiya Plant

Main Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5–9	5.4–8.6	8.6	6.5	7.4
Suspended solids (SS)	mg/L	600	480	357	1.0	65
Biochemical oxygen demand (BOD)	mg/L	600	480	476	0.7	81
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	20.8	1.0	7.8
Fluorine compounds	mg/L	8	6.4	0.7	0.2	0.3
Cyanogen	mg/L	1	0.8	0.1	0.1	0.1
Cadmium	mg/L	0.03	0.024	0.01	0.003	0.004
Total chromium	mg/L	2	1.6	0.18	0.01	0.03
Hexavalent chromium	mg/L	0.1	0.08	0.03	0.02	0.02

Discharged into public rivers

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.0–8.3	8.0	7.0	7.5
Suspended solids (SS)	mg/L	50	40	2.4	1.0	1.5
Biochemical oxygen demand (BOD)	mg/L	30	24	9.1	0.5	1.6
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	1.0	1.0	1.0
Fluorine compounds	mg/L	8	6.4	0.2	0.2	0.2
Cyanogen	mg/L	1	0.8	0.1	0.1	0.1
Cadmium	mg/L	0.03	0.024	0.013	0.003	0.006
Total chromium	mg/L	2	1.6	0.01	0.01	0.01
Hexavalent chromium	mg/L	0.5	0.4	0.02	0.02	0.02

Effluent is discharged into public rivers.

South Plant

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5–9	5.4–8.6	8.4	6.9	7.4
Suspended solids (SS)	mg/L	600	480	134	1.2	52
Biochemical oxygen demand (BOD)	mg/L	600	480	312	2.6	111
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	17	1.0	3.9
Fluorine compounds	mg/L	8	6.4	0.2	0.2	0.2
Total chromium	mg/L	2	1.6	0.02	0.01	0.01
Hexavalent chromium	mg/L	0.1	0.08	0.02	0.02	0.02

Discharged into public rivers

Item	Unit	Regulation (Prefectural regulation)	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.0–8.3	7.7	6.8	7.3
Suspended solids (SS)	mg/L	50	40	4.4	2.0	3.3
Biochemical oxygen demand (BOD)	mg/L	30	24	15	0.5	2.6
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
Cyanogen	mg/L	30	24	1.0	1.0	1.0
Cadmium	mg/L	8	6.4	0.2	0.2	0.2
Total chromium	mg/L	2	1.6	0.01	0.01	0.01
Hexavalent chromium	mg/L	0.5	0.4	0.02	0.02	0.02

Effluent is discharged into public rivers.

2nd South Plant

Item	Unit	Regulation	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5–9	5.4–8.6	8.6	6.9	7.6
Suspended solids (SS)	mg/L	600	480	197	1.0	42
Biochemical oxygen demand (BOD)	mg/L	600	480	416	1.0	54
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	14	1.0	2.8
Fluorine compounds	mg/L	8	6.4	1.2	0.2	0.3
Total chromium	mg/L	2	1.6	0.56	0.01	0.2
Hexavalent chromium	mg/L	0.1	0.08	0.02	0.02	0.02
Total nitrogen	mg/L	240	192	56	2.8	45
Total phosphorus	mg/L	32	26	2.9	0.05	1.3

Discharged into public rivers

Item	Unit	Regulation	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	6.0–8.3	7.6	6.7	7.0
Suspended solids (SS)	mg/L	50	40	2.0	1.0	1.5
Biochemical oxygen demand (BOD)	mg/L	30	24	6.0	0.5	1.8
n-Hexane extract content (Mineral oil content)	mg/L	5	4	1.0	1.0	1.0
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	30	24	1.0	1.0	1.0
Fluorine compounds	mg/L	8	6.4	0.2	0.2	0.2
Total chromium	mg/L	2	1.6	0.02	0.01	0.02
Hexavalent chromium	mg/L	0.5	0.4	0.02	0.02	0.02

Effluent is discharged into public rivers.

Handa Plant

Item	Unit	Regulation	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	6–8	6–8	7.8	6.3	6.9
Suspended solids (SS)	mg/L	25	20	12	1.0	1.8
Biochemical oxygen demand (BOD)	mg/L	25	20	11	0.6	3.2
Chemical oxygen demand (COD)	mg/L	25	20	15	1.7	6.6
n-Hexane extract content (Mineral oil content)	mg/L	2	1.6	0.5	0.5	0.5
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	10	8	0.5	0.5	0.5
Cadmium	mg/L	0.03	0.024	0.005	0.005	0.005
Total chromium	mg/L	2	1.6	0.04	0.04	0.04
Hexavalent chromium	mg/L	0.5	0.4	0.04	0.04	0.04

Effluent is discharged into public rivers.

Handa West Plant

Item	Unit	Regulation	Voluntary standard	Maximum	Minimum	Average
Hydrogen ion concentration (pH)	—	6–8	6–8	7.6	6.9	7.3
Suspended solids (SS)	mg/L	15	12	7.0	1.0	2.9
Biochemical oxygen demand (BOD)	mg/L	15	12	17	2.2	6.5
Chemical oxygen demand (COD)	mg/L	15	12	10	2.7	5.9
n-Hexane extract content (Mineral oil content)	mg/L	2	1.6	0.5	0.5	0.5
n-Hexane extract content (Animal and plant oil and fat content)	mg/L	2	1.6	0.5	0.5	0.5
Soluble manganese	mg/L	0.5	0.4	0.1	0.1	0.1
Total chromium	mg/L	0.2	0.16	0.04	0.04	0.04
Hexavalent chromium	mg/L	0.3	0.3	0.04	0.04	0.04

Effluent is discharged into public rivers.

* The BOD values exceeded the standard value due to the temporarily elevated values in washing water. We reviewed and improved the drainage process so that the BOD values are now maintained within the standard value.

Noise (Noise Regulation Act, Prefectural Regulations, Agreements)

Automotive Business

Gunma Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Main Plant	dB(A)	55	54	8	53
Yajima Plant	dB(A)	55	54	10	55
Oizumi Plant	dB(A)	55 (50)	49	8	54

* The night value for Oizumi Plant is specified by the Pollution Prevention Agreement with Ota–Oizumi.
* Since the measured values exceeded the agreement value, we are providing a new noise barrier to avoid recurrence.

Aerospace Company

Utsunomiya Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Main Plant	dB(A)	60	58	8	56
South Plant	dB(A)	50	48	3	42
2nd South Plant	dB(A)	50	48	3	47

Handa Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Handa Plant	dB(A)	65	63	3	52

Handa West Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Handa West Plant	dB(A)	65	63	6	59

Kisarazu Office

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Kisarazu Office	dB(A)	50	48	2	30

Vibration (Vibration Regulation Act, Prefectural Regulations, Agreements)

Automotive Business

Gunma Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Main Plant	dB(A)	65	64	8	46
Yajima Plant	dB(A)	65	64	10	42
Oizumi Plant	dB(A)	60	59	8	40

Aerospace Company

Utsunomiya Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Main Plant	dB(Z)	65	63	8	38
South Plant	dB(Z)	60	58	2	<30
2nd South Plant	dB(Z)	60	58	3	<30

Handa Plant and Handa West Plant

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Handa Plant	dB(Z)	70	68	3	<30
Handa West Plant	dB(Z)	70	68	5	<30

Kisarazu Office

Measurement location	Unit	Regulation* (Night)	Voluntary standard	Number of measurement sites	Measured value
Kisarazu Office	dB(Z)	55	53	2	<30

Odor (Offensive Odor Control Act)

Automotive Business

Gunma Plant

[Odor index]

Measurement location	Regulation	Voluntary standard	Number of measurement sites	Measured value
Main Plant	21	20	6	<10
Yajima Plant	21	20	8	<10
Oizumi Plant	21	20	6	15

Chemical Substances Subject to Japan's Pollutant Release and Transfer Register (PRTR) System: Handling Amount and Emissions

Automotive Business

Gunma Plant (Main Plant, Yajima Plant, Oizumi Plant, Subaru Test & Development Center at Sano)

[Unit: kg/year, excluding dioxins (mg-TEQ/year)]

Chemical substance	Amount handled	Atmospheric emissions	Water emissions (Public waters)	Amount transferred (Sewer)	Amount transferred	Amount consumed	Amount removed through processing	Amount recycled
Water-soluble zinc compounds	61,935	0	848	0	0	61,086	0	0
Ethylbenzene	460,654	246,328	0	0	0	45,921	48,723	119,682
Xylene	636,938	261,630	0	0	0	192,167	106,454	76,687
1,2,4-Trimethylbenzene	238,135	1,174	0	0	0	236,961	0	0
1,3,5-Trimethylbenzene	36,289	23,342	0	0	0	2,034	4,554	6,359
Toluene	759,519	234,628	0	0	0	389,381	66,452	69,059
Naphthalene	11,267	7,381	0	0	0	0	2,048	1,837
Nickel compounds	3,797	0	103	0	1,796	1,898	0	0
Bis(2-ethylhexyl) phthalate	7,610	0	0	0	152	7,457	0	0
Hydrogen fluoride and its water-soluble salts	4,180	0	3,804	0	0	376	0	0
n-Hexane	135,138	442	0	0	0	134,696	0	0
Benzene	23,968	78	0	0	0	23,889	0	0
Formaldehyde	14,494	6,907	0	0	1,689	0	4,208	1,689
Manganese and its compounds	5,671	0	148	0	2,613	2,909	0	0
Dioxins	—	0.00011	—	—	0.00339	—	—	—
Unit: mg-TEQ/year	11,491	6,773	0	0	0	0	2,851	1,866
Cumene	14,390	72	0	0	0	14,318	0	0
Methylnaphthalene	2,425,474	788,756 (Total)	4,903	0	6,251	1,113,094	235,291	277,180

Tokyo Office

[Unit: kg/year]

Chemical substance	Amount handled	Atmospheric emissions	Water emissions (Public waters)	Amount transferred (Sewer)	Amount transferred	Amount consumed	Amount removed through processing	Amount recycled
Ethylbenzene	12,707	0.13	0	0	0	12,707	0	0
Ethylene glycol	2,366	0.00	0	0	0	2,366	0	0
Xylene	56,094	0.53	0	0	0	56,094	0	0
1,3,5-Trimethylbenzene	11,911	0.02	0	0	0	11,911	0	0
Toluene	220,022	6.83	0	0	0	220,022	0	0
1,2,4-Trimethylbenzene	42,943	0.15	0	0	0	42,943	0	0
Benzene	7,009	0.82	0	0	0	7,009	0	0
n-Hexane	21,444	5.67	0	0	0	21,444	0	0
Total	374,496	14.15	0	0	0	374,496	0	0

Aerospace Company

[Unit: kg/year]

Chemical substance	Amount handled	Atmospheric emissions	Water emissions (Public waters)	Amount transferred (Sewer)	Amount transferred	Amount consumed	Amount removed through processing	Amount recycled
Bisphenol A	31,518	12,741	0	0	3,584	15,193	1,024	0
Xylene	2,336	1,226	0	0	411	699	0	0
Hexavalent chromium	1,216	0	0	0	547	372	297	0
Total	35,070	13,967	0	0	4,542	16,264	1,321	0