Environment

Contributing to a Sustainable Global Environment

Environmental Management

Promoting Decarbonization

Contributing to Vehicle Electrification

Building a Recycling-Oriented Society

Air, Water and Soil Conservation

Environmental Management

What JATCO can do for a sustainable future

JATCO leverages its collected experience in the transmission business and pursues both driving and environmental performance. Currently, we are working both on the development of electric powertrains for EVs and on the further improvement of our CVTs, which boast the No. 1 market share globally (as of a 2023 JATCO survey). Our technologies and experience have further evolved our Jatco CVT-X, which boasts 90% transmission efficiency, into the latest Jatco CVT-XS. Through acceleration that matches the driver's intentions and excellent responsiveness, driving performance is enhanced and with improved fuel efficiency, value is provided to our customers. Going forward, in anticipation of the age of electrification, we will also launch electric powertrains such as our e-Axles. By leveraging these technologies and systems to provide innovative products for non-car mobility, we are contributing to a sustainable future.

Jatco CVT-XS

Ultra-compact e-Axle

JATCO's Environmental Policy

JATCO has revised its environmental policy to content better suited to the times, with a view to promoting environmental activities and realizing a sustainable society.
Based on the new environmental policy, JATCO will make continual improvements and raise the bar in the areas of innovation, decarbonization, resource circulation and pollution prevention in order to realize a sustainable global environment.

Environmental Policy

Contributing to a sustainable global environment through all business activities

- **Innovation:** Develop and produce energy-efficient products and environmental technologies
- **Decarbonization:** Achieve carbon neutrality across the entire value chain by 2050
- **Resource circulation:** Promote a circular economy that maximizes resource utilization
- **Pollution prevention:** Prevent environmental problems and comply with legal requirements
- **Continual improvement:** Improve the effectiveness of the environmental management system through collaboration and co-creation with the people within the organizations

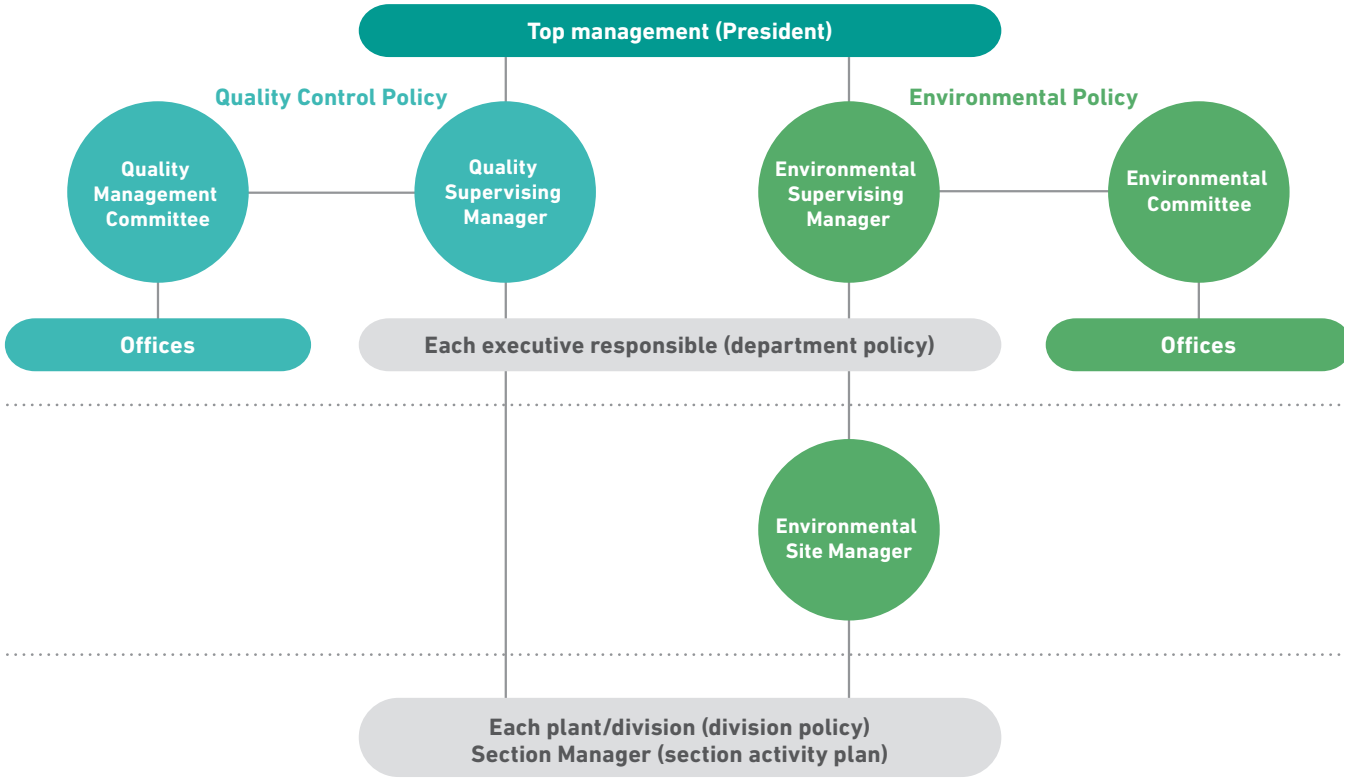
Environmental Management

Promotion system for environmental management

JATCO's environmental management is carried out by appointing environmental supervising managers and site managers to each global site, and promoting our environmental management system (EMS) under the management and authority of each environmental supervising manager.

With regard to EMS promotion across the entirety of JATCO, comprehensive deliberation and assessment is carried out by a company-wide environmental committee comprised of each of the environmental supervising managers and environmental site managers, and a follow-up system is put in place. By applying the company-wide EMS to all divisions and production bases, we are able to align our efforts as a company, and strongly promote environmental management. This is a major characteristic of JATCO's EMS.

JATCO's systems promoting quality and environmental management



Earning ISO 14001 globally

JATCO has earned ISO 14001:2015, the latest standard for environmental management systems, at all its production bases in Japan and overseas.

To minimize the impact on the environment imposed by the production bases JATCO is deploying globally, we apply the same environmental protection measures used in our production bases in Japan to all our bases around the world, and we are proactive in implementing unique ideas at each base. Furthermore, all our bases have earned the new ISO 14001:2015 environmental management system certification.

Going forward, we will continue engaging in production practices that minimize environmental impact across our bases all over the world.

All of our global bases have acquired ISO 14001:2015 certification.
(The certificates for one of our bases)

Base	Corporation name	Fiscal year earned
Japan	JATCO Ltd	1998
Japan	JATCO Engineering Ltd	2004
Mexico	JATCO MEXICO S.A. DE C.V.	2011
China	JATCO (Guangzhou) Automatic Transmission Ltd.	2013
Thailand	JATCO (Thailand) Co., Ltd.	2015
China	JATCO (Suzhou) Automatic Transmission Ltd.	2022

Environmental Management

Promotion system for environmental activities

Promotion of activities that meet the needs of the local community by the Environmental Committees of each region

JATCO has established Environmental Committees in each region, and the Committees carry out environmental activities that meet the needs of the local community.

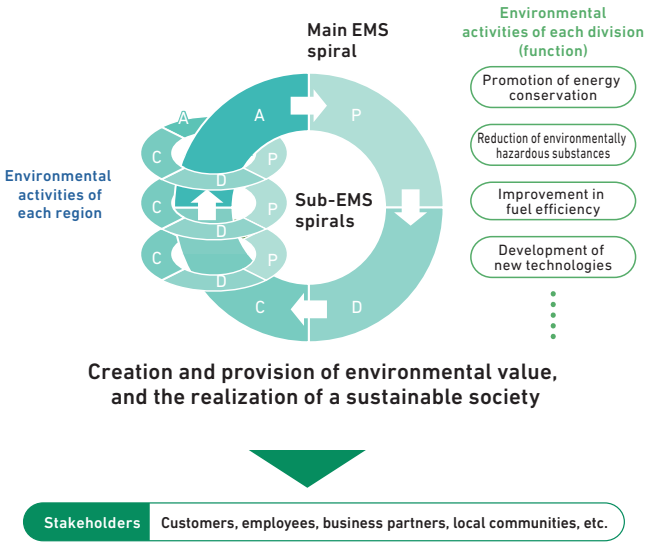
By mutually interlinking and operating two types of PDCA cycles—the PDCA cycle for the whole of JATCO (main EMS spiral) and the PDCA cycles for the regions and divisions (sub EMS spirals)—we strive to unite the direction of all the initiatives that are implemented. The aim is to create and provide environmental value to our stakeholders through continuous improvements, in order to improve the effectiveness of our activities.

Response to environmental issues from a medium- to long-term perspective

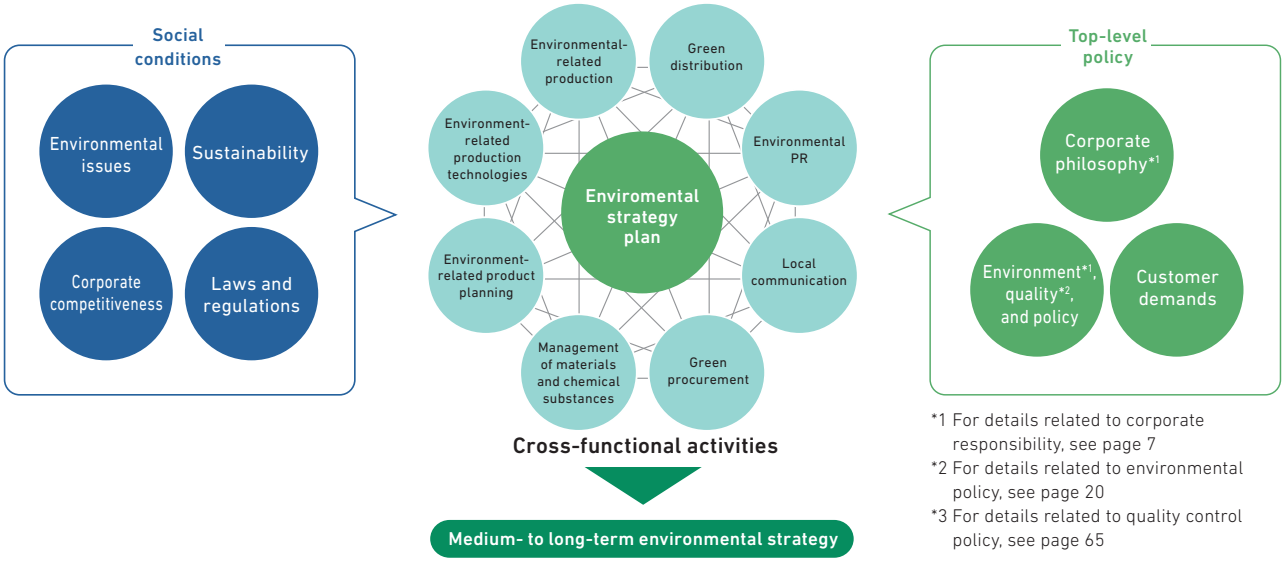
In parallel with the promotion of EMS, which carries out environmental management by sector, we are advancing our medium- to long-term initiatives for environmental issues. In relation to changes in social conditions and business environment and to our corporate philosophy and top-level policies, etc., JATCO ascertains the current situation regarding the environmental issues it should address, analyzes the risks, considers the necessary actions, and then executes them. While examining JATCO as a whole, the committee performs management and planning across the company. They implement this strategy while coordinating the environmental activity planning and management of our overseas bases.

JATCO classifies the initiatives for environmental issues into eight functions, creating environmental management through collaboration by each functional axis. In particular, we are strengthening our medium- to long-term initiatives in "decarbonization," "resource circulation" and "reduction of our environmental impact (pollution prevention)" as the most important fields to JATCO. We are strengthening our initiatives in three fields—stopping global warming, preserving the environment, and effective utilization of resources.

Conceptual diagram of JATCO's environmental activities



Conceptual diagram of JATCO's Environmental Planning Subcommittee

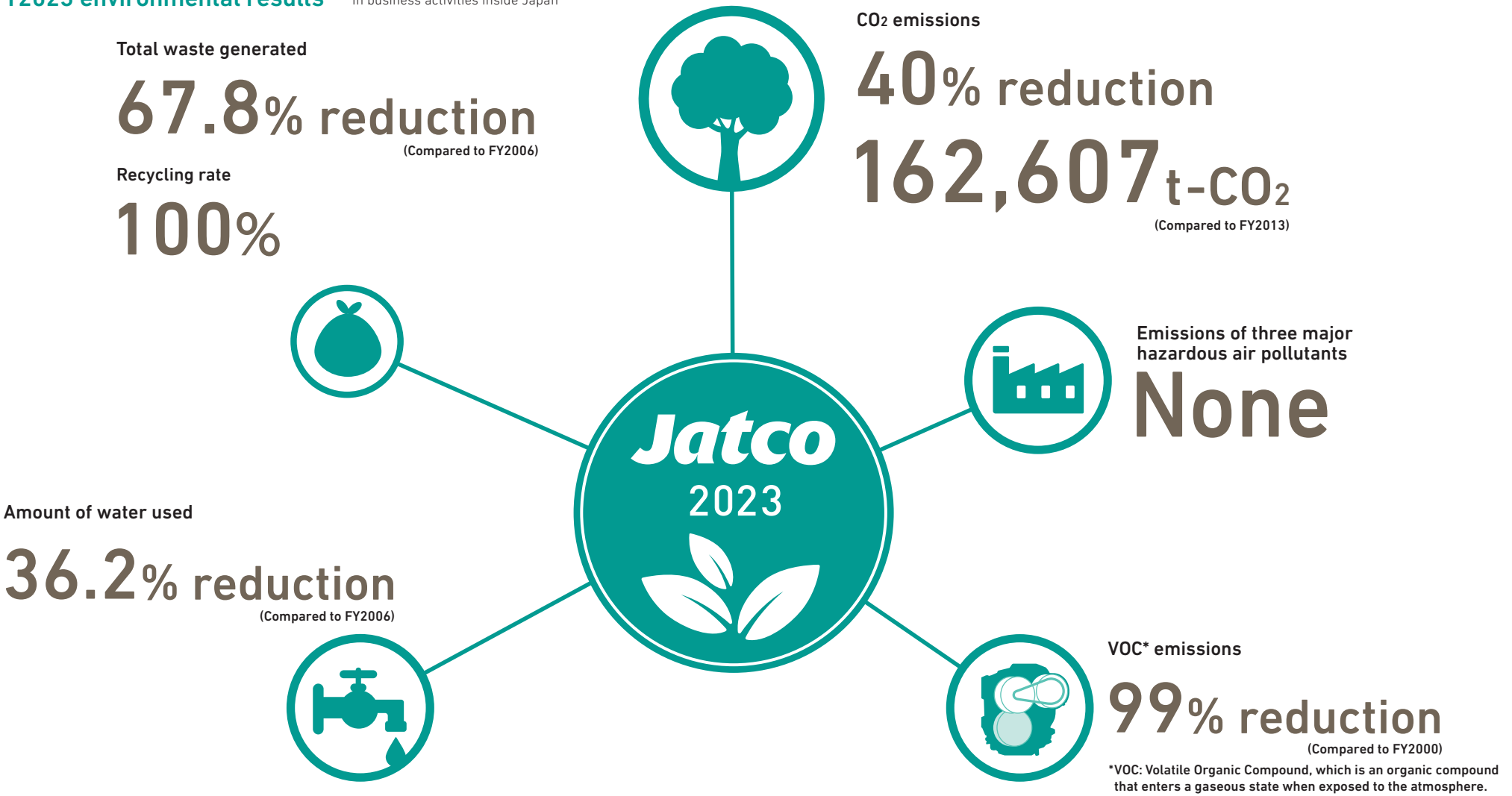


*1 For details related to corporate responsibility, see page 7
*2 For details related to environmental policy, see page 20
*3 For details related to quality control policy, see page 65

Environmental Management

FY2023 environmental results

*In business activities inside Japan



*VOC: Volatile Organic Compound, which is an organic compound that enters a gaseous state when exposed to the atmosphere.

Environmental Management

Material balance

JATCO aims to create a recycling-oriented society by properly using resources and reducing emissions.

Input	Unit	2021	2022	2023
Raw materials (aluminum)	kt	77	59	64
Raw materials (steel)	kt	174	137	149
Energy (LNG)	km^3	10,059	10,059	8,726
Energy (LPG)	T	1,754	1,434	1,343
Energy (kerosene)	kL	5,913	4,562	4,321
Energy (other)	kL	125	224	60
Electricity	MW-h	605,669	513,001	551,685
Water resources (industrial water)	km^3	1,262	1,060	1,198
Water resources (tap water)	km^3	241	142	137
Water resources (ground water)	km^3	949	904	1,007

Emissions/output	Unit	2021	2022	2023
CO_2	t-CO_2	320,739	281,599	276,604
Gas emissions	kNm^2	701,092	493,700	618,554
Water discharge	km^3	2,207	2,204	2,466
Waste generated	t	5,472	7,009	6,960

(Global data)

Environmental Management

Material management at overseas bases

JATCO (Guangzhou) Automatic Transmission Ltd.

	2019	2020	2021	2022	2023
Electricity (kw/h)	105,640,590	109,968,489	87,337,703	61,967,997	52,300,000
Natural gas (m^3)	–	–	–	–	–
Propane gas (t)	–	–	–	–	–
Water (m^3)	156,462	161,703	131,685	102,045	89,000

JATCO (Suzhou) Automatic Transmission Ltd.

	2019	2020	2021	2022	2023
Electricity (kw/h)	–	29,598,000	27,699,000	18,875,000	14,160,000
Natural gas (m^3)	–	36,000	36,000	43,000	32000
Propane gas (t)	–	–	–	–	–
Water (m^3)	–	43,438	43,156	24,690	30,000

JATCO MEXICO S.A. DE C.V.

	2019	2020	2021	2022	2023
Electricity (kw/h)	231,490,755	169,617,431	172,062,929	160,110,000	178,186,000
Natural gas (m^3)	2,010,198.67	796,922	1,290,724	1,500,000	812
Propane gas (t)	241	150	–	–	–
Water (m^3)	372,382	307,989	329,334	326,700	376,000

JATCO (Thailand) Co., Ltd.

	2019	2020	2021	2022	2023
Electricity (kw/h)	27,119,912	14,555,600	19,590,020	13,106,000	14,099,000
Natural gas (m^3)	–	–	–	–	–
Propane gas (t)	42.77	17.46	20.12	23	22
Water (m^3)	58,891	34,025	42,824	39,000	38,000

JATCO in Japan

	2019	2020	2021	2022	2023
Electricity (kw/h)	354,274,000	266,682,000	300,797,000	285,914,000	298,173,000
Natural gas (m^3)	8,718,000	7,422,000	8,433,000	8,157,000	7,883,000
Propane gas (t)	2,329,000	1,686,000	1,734,000	1,686,000	1,322,000
Water (m^3)	2,574,000	1,927,000	1,905,000	1,651,000	1,809,000

*JATCO Ltd, JATCO Engineering Ltd, JATCO Plant Tec Ltd, and JATCO Tool Ltd

Environmental Management

Continuous efforts to reduce environmental impact, based on the PDCA (Plan-Do-Check-Act) cycle

JATCO sets forth initiatives every year aimed at reducing environmental burden as our environmental targets and aims to achieve these targets. Based on the results of these initiatives every fiscal year, we establish our targets for future fiscal years, thereby continuously improving our environmental performance. In FY2023, we did not receive any administrative dispositions due to major violations of laws, regulations, or ordinances related to the environment, but there was one environmental accident in which the exception was exceeded, so we worked with governmental entities to carry out the necessary measures and reviews.

Environmental objectives	Items	FY2023 targets	FY2023 results	Achieved	FY2024 targets
Continuous improvement of our environmental management system	Routine reviews	Receive regular audits: maintain certification Internal environmental audit: 1 time Environmental Committee meeting: 2 times	Received regular audits: maintained certification Internal environmental audit: 1 time Environmental Committee meeting: 2 times	○	Receive regular audits: maintain certification Internal environmental audit: 1 time Environmental Committee meeting: 2 times
	Internal environmental auditor training	Train people as needed	21 people trained	○	Train people as needed
Compliance with laws and preventive measures for environmental issues	Findings highlighted by administrative and government agencies	Number of findings: 0	Number of findings: 0	○	Number of findings: 0
	Maintenance of significant environmental characteristics	Accomplish 100% of regular reviews	Accomplished 100% of regular reviews	○	Accomplish 100% of regular reviews
	Education relating to environmental laws	Perform environmental training: 2 times	Performed environmental training: 2 times	○	Perform environmental training: 2 times
	Prevention of environmental accidents	Number of A & B rank accidents: 0 Number of C rank accidents: 0	Number of A & B rank accidents: 1 Number of C rank accidents: 1	○	Number of A & B rank accidents: 0 Number of C rank accidents: 1
Promotion of resource conservation	Promotion of energy conservation CO_2 emissions by revenue	51.0 t-CO_2 / Billion yen	52.1 t-CO_2 / Billion yen	△	45.3t-CO_2 / Billion yen
	Promotion of waste reduction Reduction in total waste generated	2.004kg/unit	1.879kg/unit	○	2.105kg/unit
	Reduce water consumption	0.550m²/unit	0.555m²/unit	△	0.543m²/unit
Technological development aimed at reducing environmental impact	Environmentally-friendly design [Contribution to environmental conservation and fuel-economy improvements]	Achieve 100% of goals for individual (product) issues	Achieved 100% of goals for individual (product) issues	○	Achieve 100% of goals for individual (product) issues
	Management and reduction of environmentally hazardous substances in products	Maintain product compliance with environmental laws and regulations at 100%	Maintained product compliance with environmental laws and regulations at 100%	○	100% Conform/Maintain products with changes in environmental laws and regulations

Promoting Decarbonization

Carbon neutrality initiatives

JATCO aims to achieve carbon neutrality across its entire value chain by 2050, focusing on initiatives in the four areas of entire life cycle, production, development, and environmental activities.

Total Product Life Cycle Initiatives

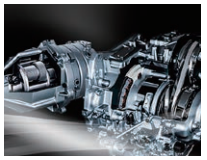
From raw material procurement to final recycling, we evaluate the environmental effects of the entirety of our product life cycles and are tackling the reduction of CO_2 emissions from our supply chain and other business activities.

Production Initiatives

We are working to realize smart factories through innovations in production technologies and by pushing digital transformations (DX), promoting reduced energy usage. Moreover, through the proactive adoption and generation of renewable energy, we are working to reduce the CO_2 emissions from our production processes.

Product Initiatives

We improve the efficiency of our transmissions to the utmost limit to achieve ever better fuel economies. In addition, with our core technologies, we accelerate the development of products for next generation electric and hybrid vehicles, contributing to the reduction of CO_2 emissions.



Environmental Activities and Other General Initiatives

We are driving forward harder than ever with environmental activities such as tree planting in concert with governmental entities, local communities, and NPOs, working as a good corporate citizen to contribute to the reduction of carbon dioxide.

Carbon Neutral Steering Committee

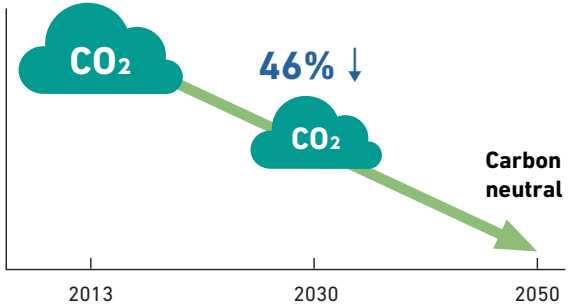
Once every two months, JATCO executives discuss strategy formulation for and confirm progress towards realizing carbon neutrality at the Carbon Neutral Steering Committee. The Committee has the participation of the individuals responsible for total product life cycle, production, products, and environment, and aims to quickly solve problems and invigorate company-wide activities through support and decision-making by reviewers such as our President.

Carbon Neutral Steering Committee Structure

- Chairman: Corporate Planning Department Executive
- Sponsor: Corporate Planning Department

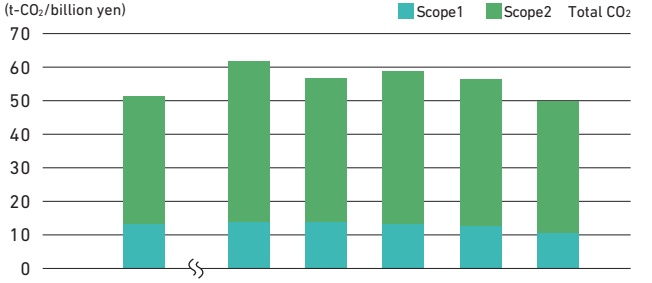
Reviewer: CEO

- R&D Division Executive (Initiatives related to products)
- Purchasing Division / Sales Department Executive (Initiatives across LCA)
- Production Division / Quality Division Executive (Initiatives in production)
- Corporate Planning Division Executive (Initiatives such as environmental activities)



Aiming to reduce CO_2 emissions by 46%* by 2030 *Compared to 2013

CO_2 emissions (Japan)



	2010	2019	2020	2021	2022	2023
Scope2	38.4	48.0	42.7	45.4	43.6	39.5
Scope1	13.1	13.1	13.9	13.3	12.7	10.4
Total CO2	51.5	51.5	56.6	58.7	56.3	49.9

Promoting Decarbonization

Production efforts

Promoting energy and resource conservation in pursuit of greater efficiency in the production process

After purchasing the raw materials, JATCO carries out production in an integrated manner, from the casting, forging, machining, heat treating, and the assembly, to the completion of the unit, and, when planning for a new product or developing a new technology, we are mindful of Earth's resources. In particular, with the aim of tackling priority issues—such as CO_2 emissions reduction and hazardous substance management—through the active adoption of new technology and the recycling of goods by using idle facilities, we are putting effort into developing innovative technologies to shorten work processes and develop highly-efficient processes with low environmental impact, as well as making the shift toward low-energy and low-resource facilities.

Adoption of production design into the machining and heat treatment lines

The production technology department promotes production designs in the product design process. By minimizing the number of processing stations on the pulley machining line, we significantly reduced the number of production machines and cycle time. By incorporating the requisite specifications in the heat treatment line, we also significantly cut cycle time on that line. These measures have dramatically increased our current production efficiency.

	Line for previous units	Line for new units	
Machining line			
Equipment numbers	49 machines × 3.5 modules	27 machines × 3.5 modules	–43%
Heat treatment line			
Cycle time	100%	66.6%	–33%

Switch from hydraulic press fitting to servo (electric) press fitting

In conventional hydraulic press fitting, which is a part of the assembly process, a hydraulic generator is constantly running. This consumes a large amount of electrical power and generates significant noise and heat, and as such, JATCO is switching to the use of electric press fitting using servos. As a servo does not require a pump to constantly be in operation like for a hydraulic press fitting, it successfully minimizes the electricity consumed, as well as the noise and heat generated.

Enhancing production and engineering process innovation and inventive technology development

In our development of next-generation technologies, we established the elimination of CO_2 emissions as one of JATCO's principal goals and have been putting in place initiatives to achieve our goal of zero greenhouse gas emissions by 2050, for both our production and development processes. With the production process for our latest CVT, we have further reviewed the processes used to date, and succeeded in reducing production lead-time significantly. With regard to our other parts, the development and production divisions are working together to minimize CO_2 emissions.
Furthermore, we are working towards balancing product performance and improving productivity by promoting "production design," which gets the production technology involved in the design of the product from the development phase. We challenge ourselves to achieve ever greater technological breakthroughs, such as the enabling of lower energy use for the production of our products through the purchase of molten metal at the die-casting stage, the abolishment of the shaving process for gear parts, the development of a vacuum carburizing furnace, the reduction of the weight of units through the use of alternative materials and thin-walled die-casting, and the downsizing of casting machines.

Vacuum carburizing furnace

Introducing NaS batteries to streamline power operation

JATCO is actively pushing its collaborations with companies from different industries as part of a new initiative for preserving the Earth's environment. Since FY2005, we have worked jointly with TEPCO Energy Partner, Incorporated, to introduce NaS battery* facilities. The NaS batteries charge at night when power consumption is low, and this electric power is utilized during the day when load is high. This helps to reduce excess operation of power plants and brings about efficient power consumption.
In FY2020, we upgraded our equipment, and when the power companies are short on power, we release stored power, contributing to the stability of power supply and demand.

NaS battery facility
*NaS battery: A storage battery composed of liquid sodium (Na), liquid sulfur (S), and special ceramics

Promoting Decarbonization

Logistics efforts

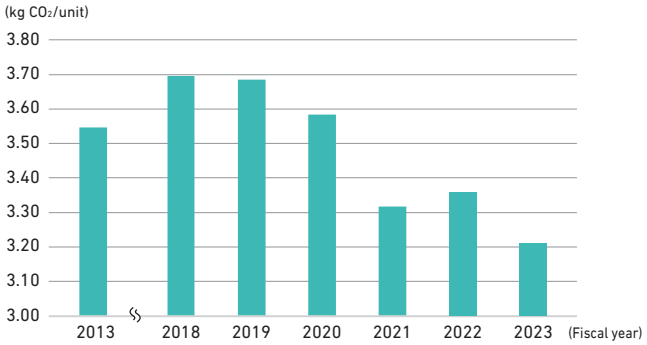
With the aim of reducing our CO_2 emissions, JATCO utilizes green logistics when transporting parts, and from 2013 to 2023 we have achieved a 9% reduction in CO_2 emissions. In order to reduce the CO_2 emissions due to the transportation of our parts, we have been implementing a modal shift in our logistics, while gaining the acceptance of our customers in Japan.

Specifically, starting from FY2009 we switched from using trucks to using railcars for transporting procured parts for the route from Hiroshima (approximately 780 km away) to Shizuoka where JATCO's production bases are located. As a result, we were able to reduce our CO_2 emissions by 83.3%.

Additionally, since September 2019 we have introduced double trailer trucks to transport JATCO production parts from the JATCO Fuji area to the Kyoto Yagi plant.

Transporting at a high load factor led to a reduction in CO_2 emissions. We will continue to pursue this modal shift and work to improve load efficiency to reduce the number of trucks and other vehicles used for shipping.

CO_2 emissions per unit in transportation



Land transportation by railway

Double trailer truck (Photo provided by Vantec Corporation)

FY2023 CO_2 emissions due to transport activities

9% reduction

(Compared to FY2013)

CO_2 emissions from logistics (Fiscal year)

	Unit	2021	2022	2023
Total	t-CO_2	4,376	4,166	4,344
Inbound	t-CO_2	3,127	2,824	2,834
Internal	t-CO_2	1,108	1,262	1,422
Outbound	t-CO_2	141	80	88

Load ratio (Fiscal year)

	Unit	2021	2022	2023
Truck	%	92.9	94.0	94.3
Rail	%	7.1	6.0	5.7

Promoting Decarbonization

Various initiatives

Enhancing lighting facilities at each production plant

We are systemically reducing CO_2 emissions by improving our lighting equipment. As the energy consumption from lighting equipment in our production plants is by no means low, we have focused on improving the ceiling lights in each production plant. To ensure the brightness of the working environment, we have taken measures such as switching to energy-efficient equipment, using fewer lights, and turning off the lights when appropriate.

Use of energy-regenerating and energy-efficient equipment, and visualization of power consumption

Through the use of regenerative energy from motors and the adoption of energy-efficient equipment such as LED lighting, we have succeeded in minimizing the amount of electricity consumed. We are also promoting activities to increase awareness of energy conservation via visualization of power consumption for the main and sub-lines respectively.

CO_2 emissions posted at the entrance of a conference room

Implementing a green curtain project

At our Yagi Plant in Kyoto we are implementing a green curtain project by growing vines around the plant building to block direct sunlight. By using plants to block the sunlight, we are reducing the generation and penetration of radiant heat.

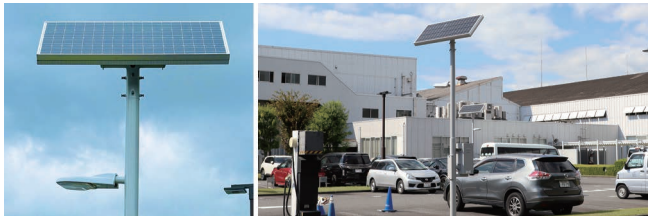
The Green Curtain Project at Yagi Plant

Reuse of Nissan Leaf batteries, solar powered outdoor lighting

JATCO has changed its Fuji Area 1 Plant and Head Office Area outdoor lighting equipment to solar power specifications, achieving zero CO_2 through zero commercial power.

The CO_2 reduction effect is 0.8t-CO_2/year/unit and the storage batteries reuse Nissan Leaf batteries, also contributing to the circular economy.

In an emergency, the batteries can be removed and used as a portable power source for disasters (capacity of 40.000 mA).



Solar powered outdoor lighting

Educating employees through the use of environmental content

With the aim of raising environmental awareness among employees, we set up a dedicated environmental topics webpage on our employee portal site. In addition to encouraging employees to participate in conservation events both within and without the company, we post content, such as JATCO's unique eco certification and eco-drive certification, to help employees learn about environmental issues in a fun and enjoyable manner.

There is also a section with visualizations of our power consumption, which sheds light on our actual power consumption, and a section on electrical cost reduction, which provides information about energy conservation.

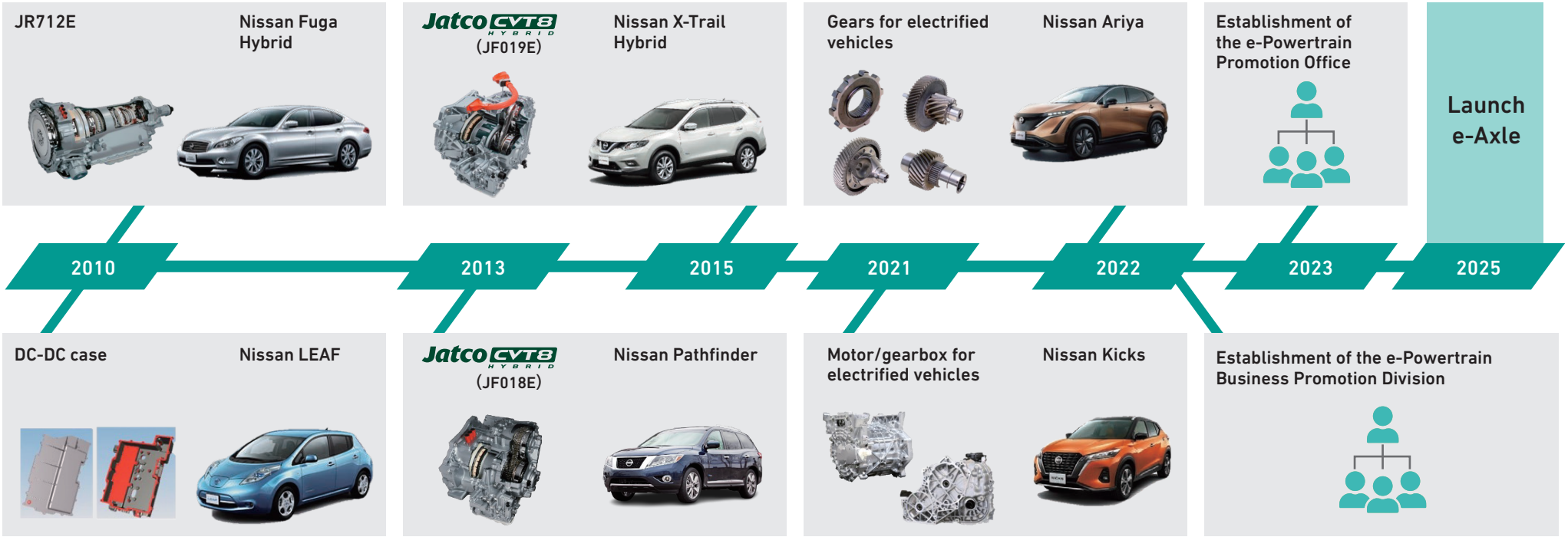
All of our employees can easily check the amount of electricity used in each area, thereby leading to spontaneous energy saving.

Our system for visualizing power consumption

Contributing to Vehicle Electrification

Introducing electrified products utilizing JATCO's proprietary technologies

For more than 10 years, JATCO has been accumulating know-how in preparation for the era of electrification. In 2010, we developed the JR712E, the world's first transmission for RWD hybrid vehicles that uses a one-motor, two-clutch system. In 2013, we launched the Jatco CVT8 HYBRID, the world's first transmission for FWD hybrid vehicles that uses a dry multi-plate clutch for the coupling between the engine and the motor in the same system. In addition, since 2021, JATCO (Thailand) Co., Ltd., has started producing motors and gearboxes for the Nissan Kicks. We are supplying gear parts for Nissan's new flagship EV, the Nissan Ariya, where we are contributing to vehicle quietness, one of the Ariya's characteristic features. Based on our accumulated know-how, by mid-2025 we will fully launch our e-Axles, drive units for electric vehicles that integrate a motor, an inverter, and gears.

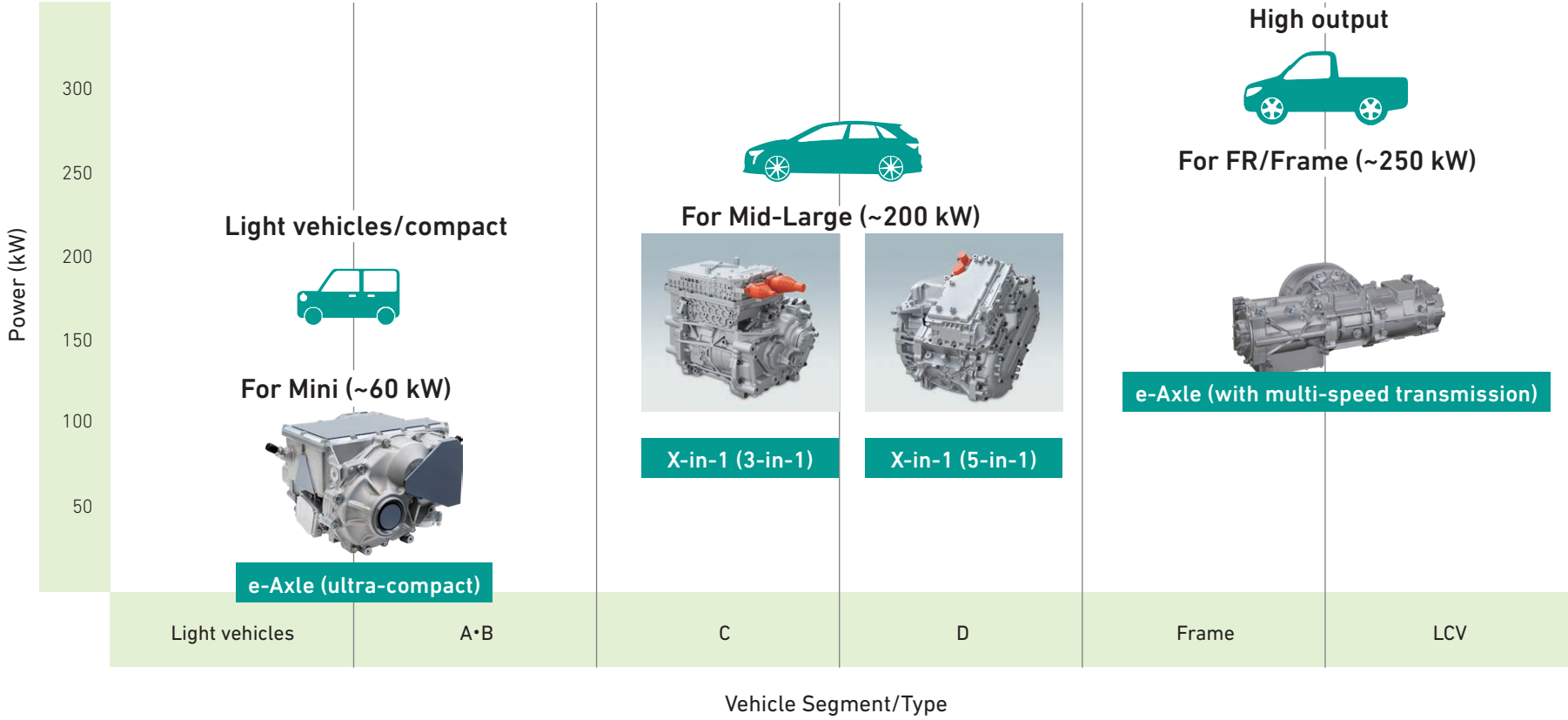


Contributing to Vehicle Electrification

Electrification initiatives

Meeting customer needs with a full lineup of electric powertrains

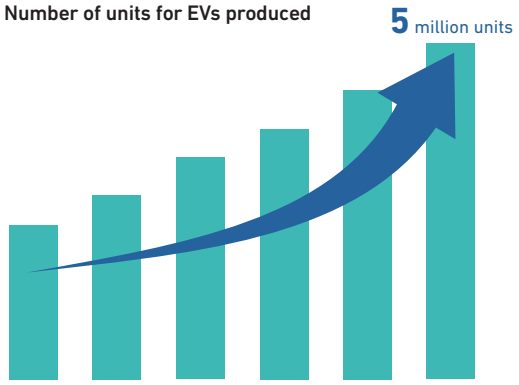
As the shift to electric vehicles accelerates, EV lineups will expand from the small and medium-sized car segments to light vehicles, compact cars, and large vehicles such as high-performance cars and pickup trucks. JATCO is also conducting various kinds of research and studies on these shifts, and the two models that we are focusing on are our offset design e-Axle, which is currently under research and development, and an e-Axle with multi-speed transmission, which is intended for installation in large pickup trucks and other vehicles.



Contributing to Vehicle Electrification

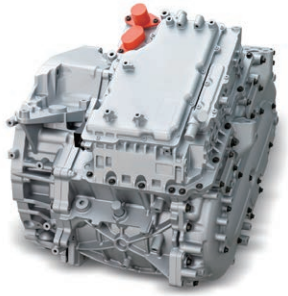
Strengthening our systems to achieve annual production of 5 million units for EVs by 2030

JATCO has set a goal of increasing annual production for EV units to 5 million units by 2030, and to achieve this goal we have been steadily strengthening our internal structure. In April 2023, we established a new e-Powertrain Business Promotion Division. We are planning and promoting our electrification business from a company-wide perspective and will vigorously move ahead with our electric powertrain business. In terms of development, we are continuing to expand our electric powertrain design and development capabilities, including the launch of an R&D center in Zama in October 2022. In order to achieve globally competitive production costs, we are moving away from production methods that are based on mass production, and are considering from scratch production methods that can flexibly respond to changes in production volume and increases or decreases in models.



“3-in-1” for electric vehicles and “5-in-1” for e-POWER (hybrid)

3-in-1 For electric vehicles



5-in-1 For e-POWER

- Sharing of major drive components
- Enhancement of production efficiency through modularization of the constituent components

Cost reduction of 30%* *Compared to 2019

- Use of a motor which uses less than 1% rare earth elements

Development and image source: Nissan Motor Co., Ltd.

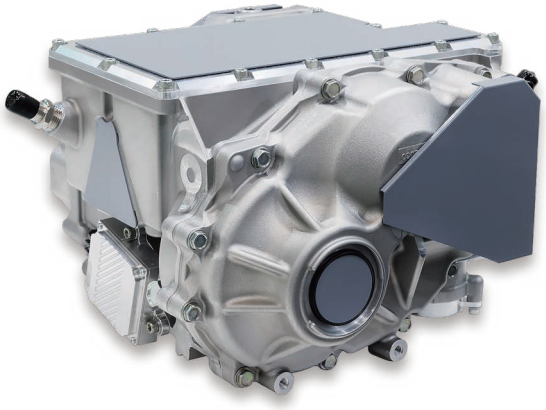
X-in-1 production line

This production line, for which we have revised the production methods from scratch, is nearing completion

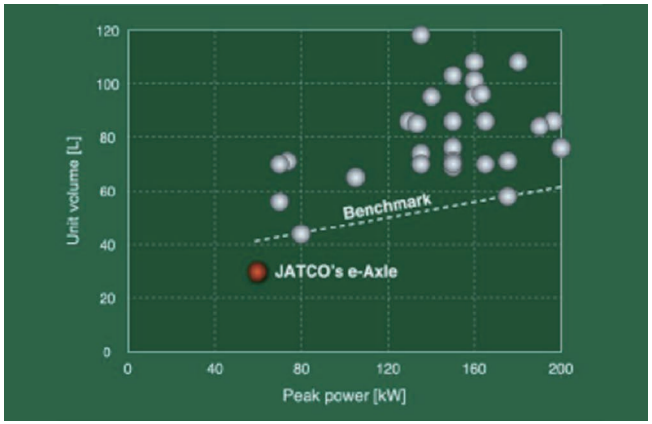
Contributing to Vehicle Electrification

JATCO's independently developed ultra-compact e-Axle

JATCO is advancing research and development on an original e-Axle. This unit is such an ultra-compact size that it can fit in the space of a laptop computer, yet generates sufficient output, boasting industry-leading size efficiency. In the independent development of the e-Axle, downsizing is one of the most important issues. The e-Axle is a size that can be installed in the vehicles of many of our customers, so we believe our business opportunities will expand. Going forward, we will continue to advance the development of our unique electric powertrains from the perspectives of both internalizing electrification technology and expanding our business.



Roughly the same size as a 15-inch laptop computer



Industry-leading size efficiency

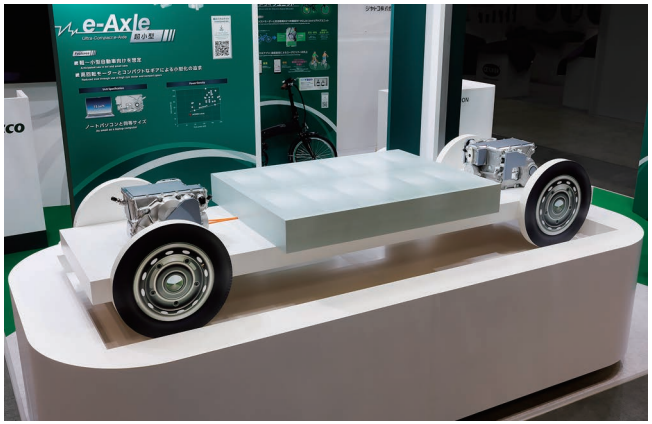


Image of installation in a light vehicle: exhibited in the Automotive Engineering Exposition 2024

Building a Recycling-Oriented Society

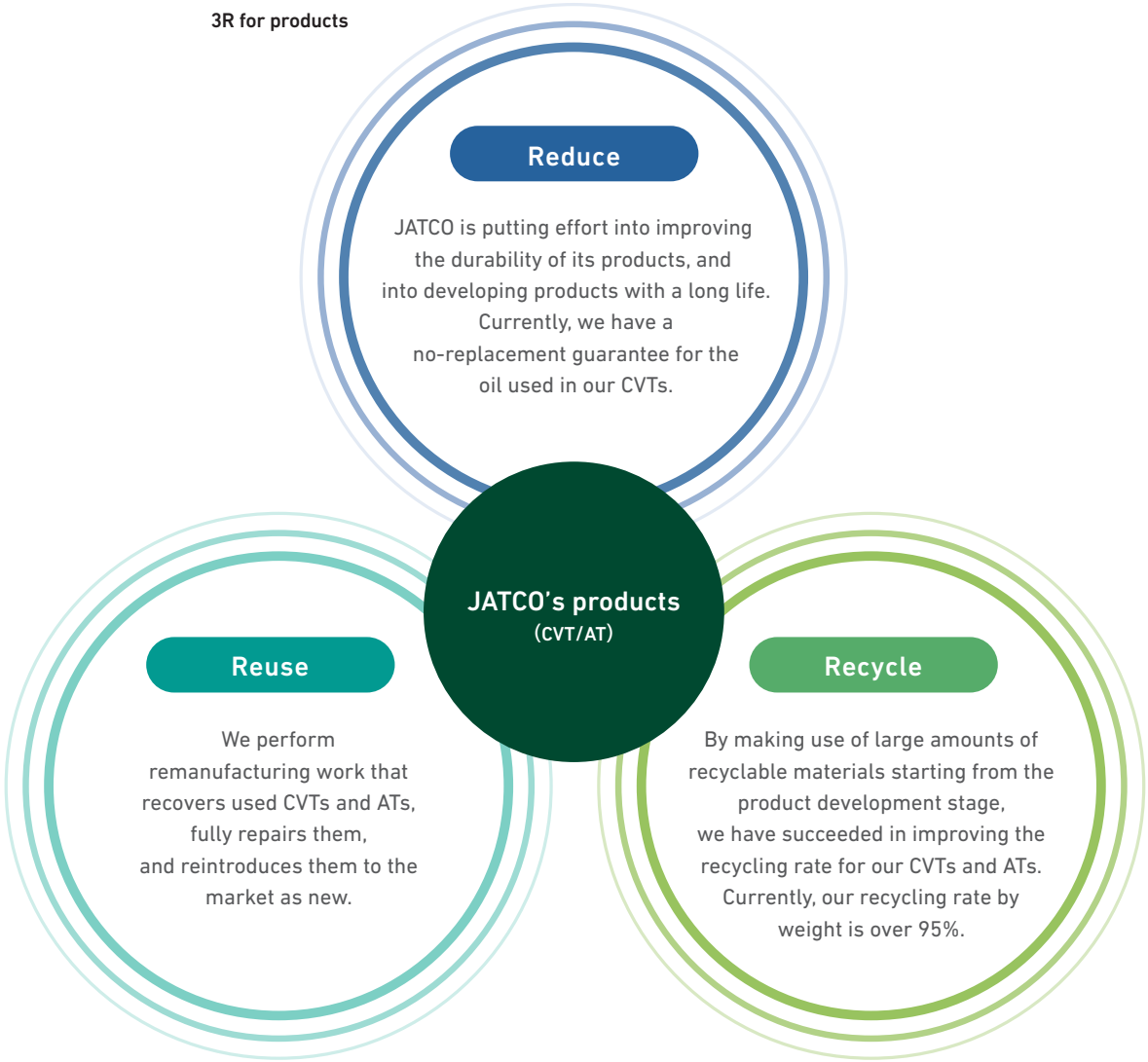
JATCO Circular Economy Concept

As a manufacturing company, JATCO believes that it is important to make effective use of limited resources. For some time now, we have promoted a manufacturing style in which we collect used ATs/CVTs manufactured by us and then remanufacture and reuse them. Going forward, we will also focus on further promoting the circular economy. We will work to build effective mechanisms for a circular economy across our products and business activities, including minimizing resource dependence and reducing waste.

Taking action to realize a recycling society

The term "3R" is derived from the first letters of the three keywords for building a recycling society—reduce, reuse, and recycle.
JATCO designs and develops its products to ensure that they can be used for as long as possible, thus aiming for reductions in waste. JATCO also reuses usable parts from products that have been recovered from the marketplace. Finally, JATCO uses recyclable materials then recycles them into new resources. By doing so, JATCO ensures that it is contributing to the realization of a recycling-oriented society.

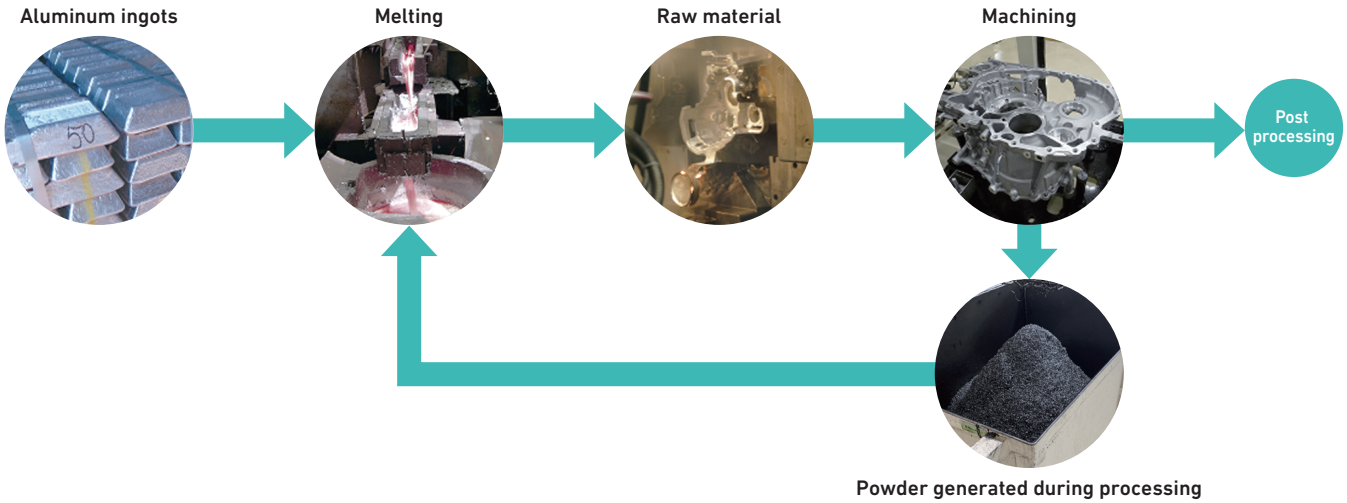
3R for products



Building a Recycling-Oriented Society

Recycling of aluminum scrap

When cutting aluminum raw materials in the production process, aluminum shavings (powder) are generated.
JATCO collects this generated powder in-house, melts it again, removes impurities, and then reuses it in products through the raw material processing process. Recycling aluminum powder not only reduces new resource input and reduces waste, but also contributes to energy conservation and the reduction of greenhouse gas (CO_2) emissions.

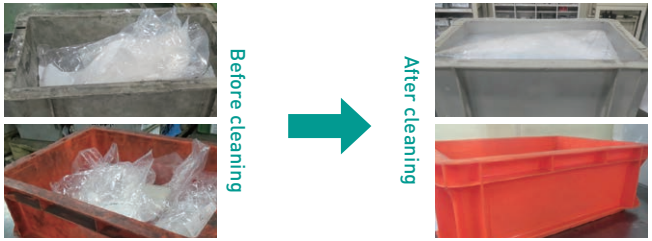


Packing density improvements and reuse of packaging materials

As part of our efforts to improve our loading ratio, which contributes to a reduction in the number of trucks used, JATCO is taking steps to improve the packing density of purchased parts for delivery.
Plastic containers and plastic cushioning material used to protect products during transportation and storage that had become unusable as a result of deterioration or product changes had previously been disposed of as industrial waste. However, after 2004, JATCO began reusing this material for other products. We have also gained the cooperation of companies engaged in the production of plastic to help us further reduce the waste we generate, such as by recycling our plastics into raw materials.

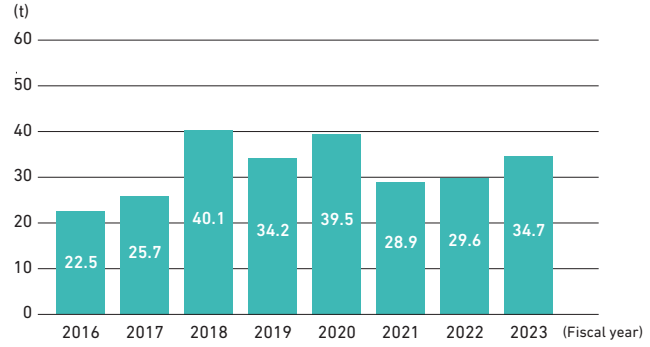
Improving the packing density of parts purchased

Eliminating wasted space not only improved transportation efficiency, but also made handling goods safer



Employees are also encouraged to keep containers clean

Trend in amount of plastic containers recycled or reused



Building a Recycling-Oriented Society

Initiatives for waste management

Efforts to sort waste thoroughly for recycling

JATCO is endeavoring to recycle waste with thorough sorting in order to use resources efficiently and sustainably. As its waste treatment method, JATCO has eliminated waste disposal through simple incineration and landfills and is implementing material recycling (reuse and recycling) and thermal recycling (conversion to fuel). Due to this, we have attained a 100% recycling rate for waste in the production stage at our locations in Japan.

Recycling rate

100% attained

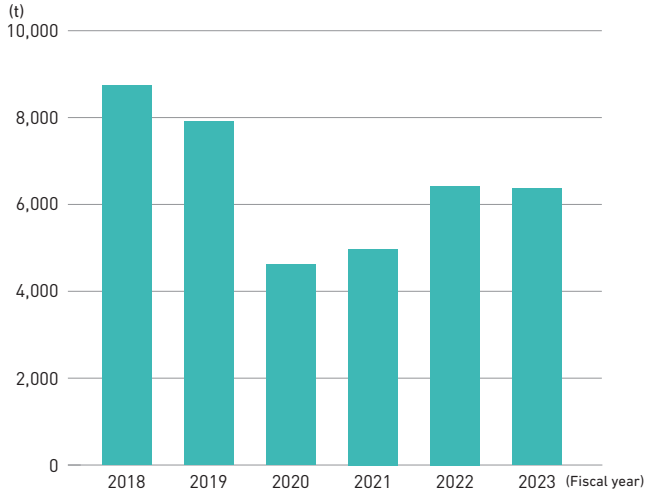
Initiatives to reduce waste through companywide participation

JATCO employees are always working on waste reduction from the perspective of the 3Rs.
At each location, we establish waste reduction targets, register ideas for initiatives implemented at each workplace, and share information on reducing waste to improve employee motivation at each workplace. The amount of waste in 2023 was 6,375 tons, a reduction of 67.8% compared to 2006.

Total waste generated in FY2023

67.8% reduction (Compared to FY2006)

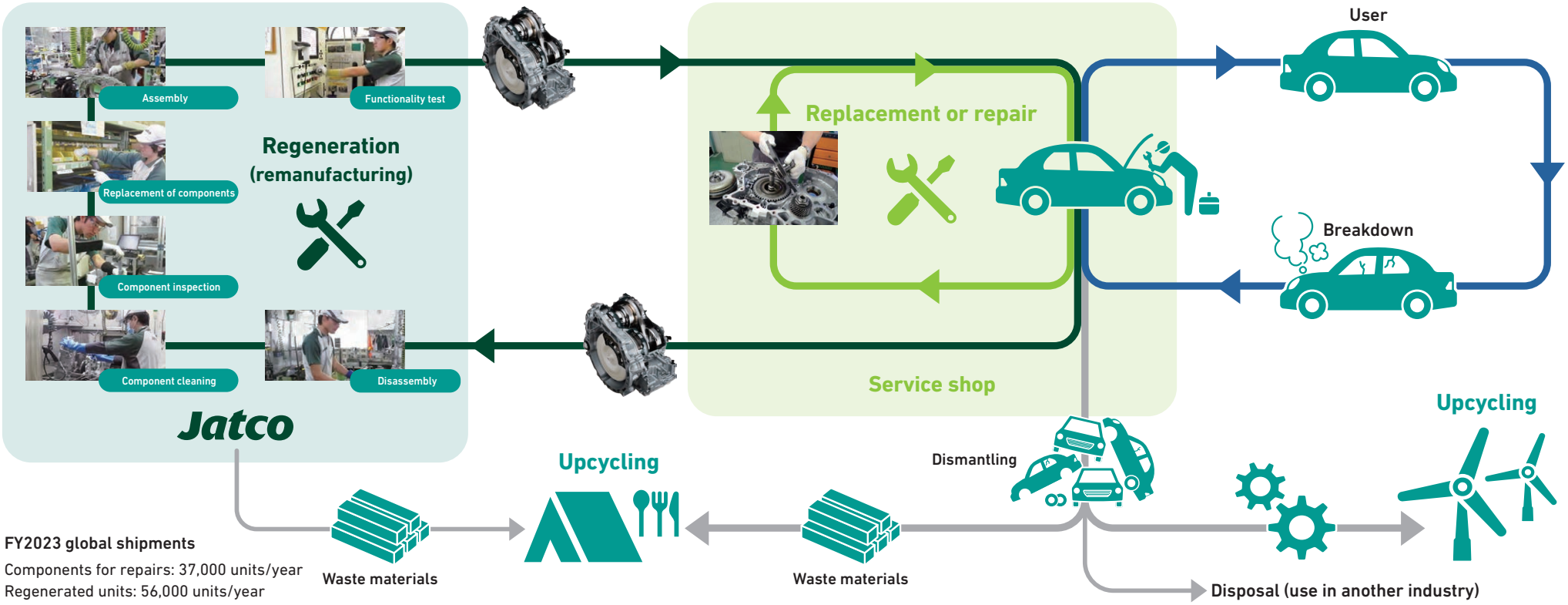
Waste generation



Building a Recycling-Oriented Society

Initiatives for unit repair and regeneration

From the perspective of minimizing resource dependence and reducing waste, JATCO has been developing repair technologies for units released on the market and working on the reuse business.
When a CVT/AT produced by our company breaks down, we first identify the breakdown area and, whenever possible, replace or repair the broken component on the spot.
In the case that it is difficult to replace the component, we recover the unit, disassemble it, clean it, inspect it, replace it, reassemble it, and carry out a functionality test before regenerating it as an after-sales service component that is no different in quality from a brand-new product and providing it to the customer.
Furthermore, we advance the reuse as materials of units that are difficult to regenerate as CVTs/ATs.
Through these activities, we will explore further possibilities for reusing units and components, including upcycling, and work to build effective mechanisms for a circular economy.

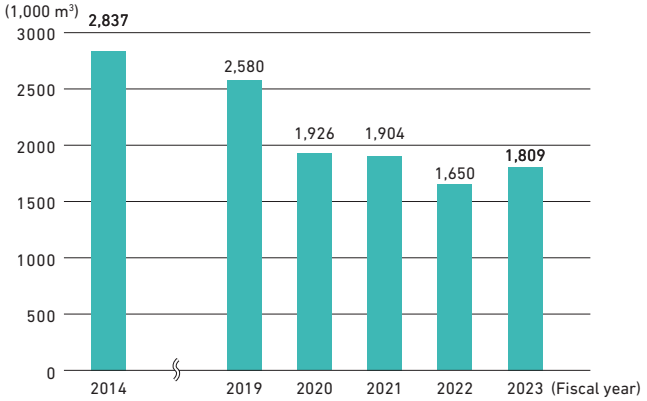


Air, Water and Soil Conservation

Annual water consumption reduction target of 2%

JATCO tracks the amount of water used for production at our plants and is working to reduce it. In accordance with the "Nissan Green Program" formulated by our parent company, Nissan Motor Co., Ltd., we have been working on a comprehensive reduction of our water consumption since fiscal year 2014 as a countermeasure against global water depletion. With the goal of reducing the amount by 2% every year, we achieved a reduction of 36% in fiscal year 2023 compared to fiscal year 2014.

Water usage



Maintaining high standards of purification

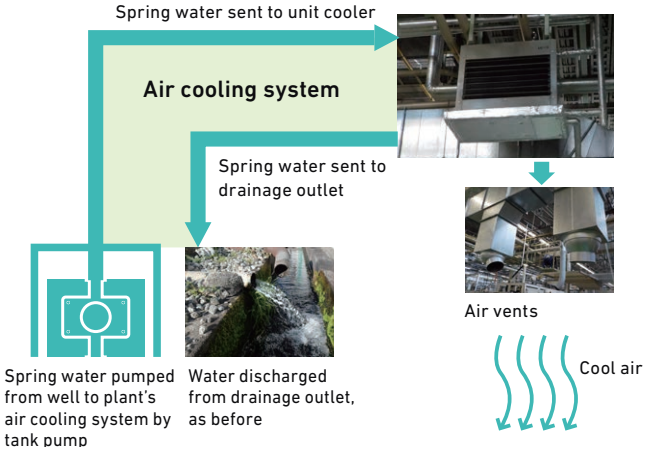
JATCO's production plants not only comply with the standards for water discharge established by national and municipal governments, but have also drawn up even more stringent purification standards for internal use. By combining facilities for activated carbon adsorption, ultrafiltration, high-speed aggregation precipitation, contact oxidation, sand filtration, and pressure flotation, we continue to maintain a high level of purification quality.

Furthermore, we have installed water-saving valves on the water faucets at each of our domestic offices to reduce our water usage.

Water treatment facilities

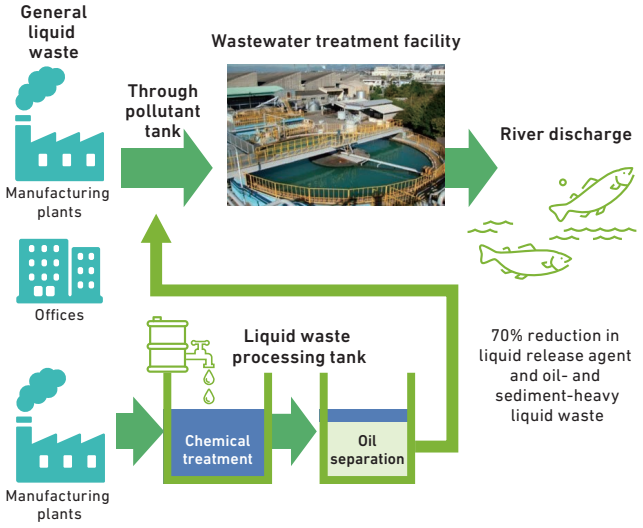
Mt. Fuji spring water cooling

There is a natural spring within the grounds of Fuji Area 1 Plant at the foot of Mt. Fuji. This water used to be discharged through a drainage outlet, but since the temperature of the spring water stays at 15–17 degrees Celsius all year round, we use it as a natural cooler via the plant's air cooling system.



Reduce liquid waste from manufacturing plants

Wastewater discharged from our manufacturing plants and offices is sent to in-house water treatment facilities, treated into safe water, and then discharged into rivers. However, liquid release agent or liquid waste with large amounts of oil or sediment, cannot be treated to safe levels at water treatment facilities, so they have been processed externally as waste.
Therefore, to make it possible to treat the liquid waste, we repeatedly reviewed the chemicals used and our purification methods, and reduced the amount of liquid release agent and liquid waste with large amounts of oil or sediment by 70%.



Air, Water and Soil Conservation

Reusing discharged water through the adoption of cold water circulation equipment

JATCO promotes the reuse of discharged water, and has adopted the use of cold water circulation equipment to purify the water used for the cooling and cleaning of production equipment, as well as for the thinning of cutting oil.

Cold water circulation equipment at forging facilities

Implementation of rainwater measures

Rainwater that falls on the premises of our production plants is discharged through drainage outlets directly into rivers. Employees use cameras to monitor the drainage outlets at all times to prevent rainwater that has been polluted by oil and grease from roads and buildings on the premises from flowing into rivers.

To enable prompt identification of the drainage outlets, employees have manually color-coded the outlets. This not only prevents the accidental use of these drains for polluted water, but also raises awareness among all employees that these drainage outlets lead to rivers.

In the unlikely event that oil leakage from employees' cars or from vehicles transporting parts and products within the premises should flow into the drainage outlets, gates have been installed where the drains connect with rivers in order to prevent these pollutants from flowing through.

Color-coding of drainage outlets by employees

Safe and reliable transportation of polluted water

JATCO not only takes steps to reduce the incidences of water pollution, but also considers safety when transporting polluted water to treatment facilities. Measures have been put in place at the facilities where parts are cleaned to enable the repeated reuse of water after pollutants have been removed from it. After reusing this water for several months, it is then transported to a treatment facility by truck.

Given the fact that transportation of polluted water to treatment facilities through underground pipes and gutters is method that is easily impacted by the passage of time and has reliability issues, we are also making improvements by switching to transportation of this water using aboveground pipes that are visible to employees.

Transportation to a treatment facility via a dedicated waste transportation truck

Air, Water and Soil Conservation

Management of chemical substances

Management of volatile organic compounds

We implemented volatile organic compound (VOC) countermeasures to achieve our target of reducing total VOC emissions by 30% (compared to FY2000) by FY2010, based on the action plan formulated by the Japan Auto Parts Industries Association (JAPIA). As a result of these countermeasures, we were able to reduce VOC emissions by 98% by FY2006, 99% in FY2010, and 99% again in FY2023.

VOC emissions for FY2023

(Compared to FY2000)

99% reduction

Soil and groundwater pollution countermeasures

As part of our soil and groundwater pollution countermeasures, we completely abolished the use of organic chlorine-based solvents, and are currently monitoring our past usage of organic chlorine-based solvents and their impact on the environment.

Emissions of three major hazardous air pollutants

We were able to eliminate our emissions of three major hazardous air pollutants*1 in FY2006, and we have successfully prevented further emissions through FY2022.

FY2023 emissions of three major hazardous air pollutants

(Compared to FY2000)

None

Management of PRTR*2 substances

The amount of PRTR chemical substances handled by JATCO, calculated as the amount discharged and transported by domestic production facilities, is shown in the following table.

Amount of PRTR substances handled and discharged (FY2023)

Classification	Chemical substance	Amount handled	Amount discharged			Transported
			Air	Water	Soil	
Specific Class I Designated Chemical Substances	Dioxin (mg-TEQ/yr)	0	4.3	0	0	0
	Benzene	0	0	0	0	0
Class I Designated Chemical Substances	Ethylbenzene	0	9.8	0	0	0
	Xylene	26,000	30.4	0	0	0
	Trimethylbenzene	73,000	11.3	0	0	0
	N-hexane	0	2.1	0	0	0
	Toluene	9,500	45	0	0	0

Unit: kg (mg-TEQ/yr for dioxins)

*1 Three major hazardous air pollutants: Dichloromethane, trichloroethylene, and tetrachloroethylene

*2 PRTR: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Amount of PRTR substances handled (t)