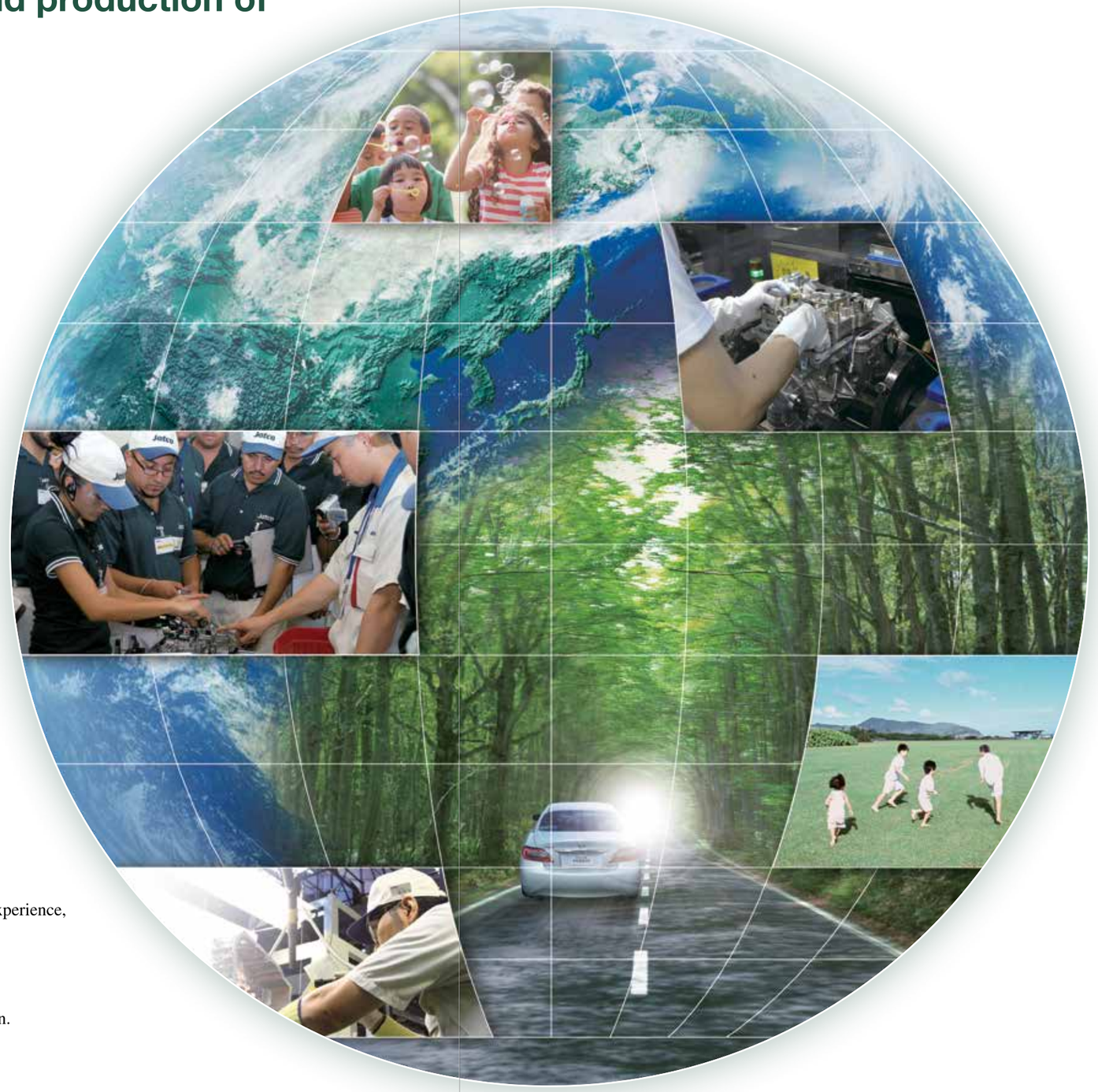
Jatco

Environmental & Social Report 2013

Gazing at the bright future of man and society through the development and production of transmissions

Connecting the engine to the drive wheel and delivering power smoothly to the road.
The transmission is the “unseen lead”, matching the driving conditions with the optimal gear change ratio,
which plays a major role in the car’s driving and environmental performance.
We, at JATCO, will strive to develop and produce transmissions that are smoother and more environmentally friendly.
Through this activity we not only support the global automotive industry, but also enhance people’s driving lives.



JATCO’s innovative ideas and ability to take on technological challenges have allowed us to continuously produce high-performance automatic transmissions that best meet the needs of our customers and society.

Not only do our products provide people with an enjoyable driving experience, but they also contribute to society and are environmentally friendly.

JATCO’s mission is to fully use the strength and power of our passion.
Passion is our mission.

The mission is passion. **Jatco**

Contents

Message from the top 03

FY 2012 Targets and Results
Commitment to Continually Improving Business Operations 06

Environmental Activities 07

Material Balance 09

Environmental Management System 11

Product Initiatives 13

Production Process 19

Distribution Efforts 25

Environmental Communication 26

Global Features
Environmental Conservation Activities Overseas 27

Social Activities 29

Responding to Emergencies 31

Working with Suppliers 33

Employees and our Workplace 34

Community Relations 37

Environmental Data from our Production Bases 39

Environmental Activities 41

Corporate Information 42

Editorial Policy

In this, the ninth edition of our Environmental and Social Report, we aim to foster a better understanding of JATCO’s approach to contributions to the environment and our society. This report is intended for all of our stakeholders, including customers, suppliers, employees and our local communities. Through this report, we hope to foster a better understanding of JATCO’s continued initiatives towards environmental and social improvements, and the contributions they have made. We also hope that your opinions and input will provide an opportunity for us to identify new challenges to address in our future initiatives. We look forward to receiving your honest comments and feedback.

<Website> http://www.jatco.co.jp/ENGLISH

From a key component of future automobiles, to a determining factor behind environmental performance —— the possibilities for the automotive transmission are endless.

As global environmental issues such as climate change and the depletion of natural resources garner stronger attention from society, expectations are growing as to how the automotive industry and transmission industry will help build a richly creative, sustainable mobility society.

The following is a discussion of how JATCO will achieve its vision of realizing a society where automobiles and the environment coexist in harmony at a time when novel technologies and innovations are constantly evolving.

Seiji Honda

Seiji Honda
COO and Acting President
JATCO Ltd

Environmental Initiatives

Q How do you view the future relationship between the environment, automobiles and transmissions?

Automobiles have a significant impact on the global environment. As a member of the automotive industry, JATCO has positioned measures to reduce CO_2 emissions as one of its most important tasks as a company.

In order to attain the target of improving the environmental performance of automobiles, the industry must not only modify the engine and body, but also establish advanced technologies that provide balance across the entire automobile. Automatic transmissions manufactured by JATCO fulfill an important role in creating this balance. The transmission remains a key automotive component, despite the diversification seen in automotive engines and motors, whose importance will only continue to grow going forward.

Automatic transmissions require driving performance, which enables the driver to start and accelerate according to their intention by efficiently transmitting power from the engine or motor to the drivetrain, and fuel economy, which helps reduce environmental loads by curbing fuel consumption. I believe how we can balance these conflicting performances at a high level is the key condition for customers in the selection process of our automatic transmission units.

At JATCO, we pursue the development of products that meet customer needs, driving us to continually push the boundaries of new technology development bearing in mind optimization of cooperative control between the engine and motors. This pursuit has realized products such as the Jatco CVT7 and Jatco CVT8 which increase fuel efficiency through delivering expanded gear ratio coverage in a more compact and lightweight unit with fewer friction. Our hybrid transmission, which utilizes one motor and two clutches, also delivers both high fuel efficiency and driveability. As a leading company in the industry, we will continue to promote the development of next-generation transmissions which deliver both further high-level environmental performance and driveability.

Social Initiatives

Q What type of initiatives is JATCO, as a company with global operations, taking in order to provide greater value to society?

Automobile market growth is beginning to shift from conventional developed country markets to emerging country markets. In order to respond to the needs of these new markets, JATCO is expanding its production bases globally.This is part of our aspiration to listen closely to feedback from local customers and provide high quality products that meet the demands of automakers from around the world in a timely manner. Production is already underway at JATCO Mexico and JATCO (Guangzhou) Automatic Transmission Ltd. in China, and in 2013, production also began at our third overseas base, JATCO (Thailand) Co., Ltd.

Expanding operations into a new region, however, is not an easy endeavor. Initiatives need to take into account national affairs, governments and local community, initiatives toward this, as well as our impact on society, such as our societal responsibility for hiring large numbers of people. For example, we must always take part in initiatives to ensure JATCO has made a positive impact on the global environment as well as the local community. To that end, we promote initiatives aimed at environmental conservation, such as green purchasing as well as energy-saving and resource-saving activities. We also recognize that it is our responsibility to society to prevent potential harm, such as environmental accidents. As a social contribution activity, I also believe that it is essential to continue with and constantly enhance grassroots activities in the local community using a volunteer effort in collaboration with the local community and government.

Monozukuri

Q Can you tell us about the Monozukuri mindset JATCO is aspiring to achieve globally?

The fundamental aim of a company is growth. However, simply making money is not good enough. A company must fulfill its responsibility to society and contribute to society's growth. Only with this commitment will a company achieve real and continual growth, I believe. The JATCO group currently has 12,000 employees, and the number is further increasing along with our global production expansion. Each and every one of our employees retains the ability to produce something from their differing thought processes and experiences. The diversity of our employees is a driving force behind JATCO's ability to maintain sustainable growth, and by having employees learn and enhance their skill set together through our business activities, JATCO is creating a value uniquely its own.

The automobile is facing a major turning point. In order for JATCO to continue to manufacture products that meet the needs of society with an even greater sense of urgency and speed, each and every employee must ask themselves what value is it that they provide and boldly take on the challenges associated with reform. This represents our mission embodied by the phrase "providing value to our customers, to automotive culture and to society." This also represents the approach to Monozukuri that JATCO is aspiring to achieve, I believe.

Future Aspirations

Q How will JATCO evolve going forward?

As awareness toward the environment grows in society, we can expect that the market for environmentally friendly products will expand in the automotive industry and the transmission industry. The diversification of novel technologies such as hybrid vehicles, electric vehicles and plug-in hybrids, will also continue to progress further. Amidst this constant evolution, JATCO stands committed to accurately grasping the needs of the market and tackling the challenges of Monozukuri to produce innovative products and technologies that exceed all expectations.

For example, the electric vehicle does not require the transmission to transmit torque as much as the conventional gasoline power automobile. However, this is not to say that an electric vehicle does not require a transmission. Today, the challenges faced by the electric vehicle include making their motors smaller and achieving greater battery efficiency. In the field of technological innovation that considers how smaller motors and higher capacity batteries can be used more efficiently to transmit power to the tires, or in other words transmit and manage energy, many possibilities for such a core component as the transmission will live on.

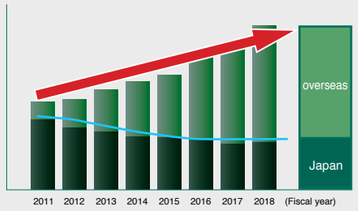
In addition, needs will continue to exist for both novel technologies and existing technologies alike. For example, next generation transmissions that achieve far superior environmental performance by enhancing the fuel efficiency to the maximum extent possible will be needed for engines powered by gasoline or diesel, while demand is expected to grow for low-cost high efficiency transmissions for emerging markets. JATCO will continue to further refine its technological capabilities, create products only made possible by JATCO, and make these products more widely used by more customers. I believe this represents our mission.

JATCO's ideal vision of society is a society where automobiles and the environment coexist in harmony. I firmly believe that our environmental initiatives aimed at achieving this environmental philosophy will make broad contributions to sustainable development. For the Earth and for our future generations, JATCO employees will always ask themselves what is our role in society, while the company as a whole will continue to evolve under the goal of creating a new future together with all of its stakeholders.

Topics

Implementing Initiatives to Be a ¥1 Trillion Revenue Company

A company-wide objective of JATCO is to be a ¥1 trillion revenue company by 2018. We are executing a variety of initiatives to achieve this, including strengthening competitiveness in the global market, overhauling our product supply system in the ASEAN region, an emerging market, and improving responsiveness to new technologies, particularly for hybrid and electric vehicles.



Established "Jatco Future Technology Center"

The "Jatco Future Technology Center" was established in April 2012 as a new division to develop electric technology for vehicles. The center is aiming to accumulate technological expertise to lead the markets of tomorrow by conducting advanced research into technologies needed for future vehicles.

JATCO (Thailand) Co., Ltd. Begins Production

JATCO (Thailand) Co., Ltd., a production company in Thailand, was established in July 2011. Aiming to contribute to environmental preservation through the supply of CVTs with superior environmental performance in the ASEAN region where strong growth is anticipated, it began production in September 2013.

Strengthened Production Capacity in Mexico and China

In order to increase our competitiveness in the global market, we have established a second factory for JATCO Mexico, to begin production in the summer of 2014. We are also increasing production capacity at JATCO (Guangzhou) Automatic Transmission Ltd. In addition, we plan to begin producing our core products Jatco CVT7 and Jatco CVT8, and manufacturing the Jatco CVT8 HYBRID there.

Opened office in Russia

In accordance with the commencement of product supply to AvtoVAZ*, Russia's largest automaker, we have opened offices in Tolyatti, Samara Oblast (where the AvtoVAZ headquarters is located) in June 2012, and later in the capital Moscow in June 2013. JATCO is aiming for further business expansion in the Russian market as well.

*AvtoVAZ was established in 1966. In 2012, it produced approximately 610,000 vehicles.

FY 2012 Targets and Results

Commitment to Continually Improving Business Operations

Committed to continually reducing environmental load based on the PDCA Cycle.

At JATCO, we have initiatives each year to reduce environmental load. We call these initiatives "Environmental Objectives", and we strive to achieve them. By looking at the yearly results of previous initiatives, we are able to set goals for the following years, helping us to constantly improve our environmental performance.

Environmental objectives	Items	Targets	FY 2012 Results	Evaluation	FY 2013 Goals
Continued improvement of the Environmental Management System	Periodic reviews	■Periodic reassessment audit: Continue registration ■Internal environmental audits:1 ■Environmental Integration Committee meetings: 2 ■Management reviews: 1	■Periodic reassessment audit: Continue registration ■Internal environmental audits: 1 ■Environmental Integration Committee meetings: 2 ■Management reviews: 1	○	■Periodic reassessment audit: Continue registration ■Internal environmental audits: 1 ■Environmental Integration Committee meetings: 2 ■Management reviews: 1
	Internal environmental auditor training	■Required staff	■Training completed for 4 persons	○	■Required staff
Compliance with laws and preventive measures for environmental issues	Zero notices from the government and public offices	■Number of notices: 0	■Number of notices: 0	○	■Number of notices: 0
	Continued management of significant environmental aspects	■Percentage of periodic revisions: 100%	■Number of periodic revisions: 100%	○	■Number of periodic revisions: 100%
	Environmental law-related training	■Number of claims: 0	■Number of claims: 2	×	■Number of claims: 0
	Prevention of environmental incidents	■Class B accidents: 11	■Class B accidents: 16	×	■Class B accidents: 11
Effective use of resources	Implementation of energy-saving measures ■Energy per unit of net sales (CO_2 conversion)	■51.4t- CO_2/100 million yen	■51.1t- CO_2/100 million yen	○	■53.6t- CO_2/100 million yen
	Implementation of waste reduction measures ■Reduction of general waste emission rate	■2.0% reduction compared to FY 2011	■2.2% reduction compared to FY 2011	○	■2.2% reduction compared to FY 2012
	■Recycling rate	■Maintain 100% rate	■Maintain 100% rate	○	■Maintain 100% rate
Technological development to reduce environmental load	Eco-friendly design (contributions to environmental protection and automobile fuel efficiency improvements)	■Individual (product) challenge targets: 100% achievement rate	■Individual (product) challenge targets: 130% achievement rate	○	■Individual (product) challenge targets: 100% achievement rate
	Reduction and management of environmentally hazardous substances used in products	■Maintaining 100% product compliance with environmental laws and regulations	■Maintaining 100% product compliance with environmental laws and regulations	○	■Maintaining 100% product compliance with environmental laws and regulations
Coexistence with the local community, society, and nature	External disclosure of information	■Publication of Environmental and Social Report	■Environmental Report: published December 2012	○	■Publication of Environmental and Social Report
	Communication with local communities	■Number of events held: 8	■Number of events held: 10	○	■Number of events held: 8

Evaluation: ○ : Achieved target; × : Did not achieve target

Environmental Activities

JATCO
Environmental Policy

Environmental Policy

Realizing a society where automobiles and the environment coexist in harmony

◆Technology…Development of transmissions with high energy-transfer efficiency

◆Pollution Prevention…Preventing environmental problems and strict compliance with laws and regulations

◆Effective Use of Resources…Minimizing the use of resources and energy

◆Continuous Improvement…Improving the effectiveness of the Environmental Management System

Fulfilling the vision of a society where automobiles and the environment can coexist in harmony with eco-friendly products and equipment

JATCO technologies are hard at work in the fight to reduce the environmental impact of automobiles

Today, as debate takes place on the urgency of protecting our environment globally, a variety of initiatives are being implemented around the world in order to reduce the environment impact of human society.

One such initiative can be found in the environmental performance of automobiles, a mode of transportation that forms an integral part of our lives. Advancements in transmissions, and in particular continuously variable transmissions (CVT), both key to enhancing drivability and fuel efficiency, have garnered strong attention in this regard.

As a global leader in automotive transmissions and the only company offering a full line-up of CVTs, spanning from small to large vehicles, JATCO is helping to reduce the environmental impacts of automobiles on our planet by supplying transmissions with superior environmental performance to automakers throughout the world.

Being more considerate of the environment in our global business activities

JATCO is currently in the process of expanding its production sites globally in order to deliver a stable supply of transmission products to its automaker customers around the world. These production sites adopt the same environmental preservation measures that we use in Japan to help minimize their impact on the natural environment. They also proactively employ their own ideas when itscomes to safeguarding the environment. JATCO Mexico has already obtained ISO14001 certification for its environmental management system and soon our other production sites will follow suit.

This is because we want to produce eco-friendly transmissions using eco-friendly means. In this sense, we are firmly committed to rolling out a production style at all of our sites around the world that mitigates impact on the environment.

JATCO's role in the future of the automobile and environment

As people and society's awareness toward environmental preservation grows, car buyers are now more determined than ever to purchase an automobile that is fuel efficient and considerate of the environment. That is, a green car that has less of an impact on the environment and offers excellent fuel economy. JATCO continues to tackle the many challenges associated with building the ideal vehicle, one which balances environmental performance with driving performance. Our long-standing technologies and experience as a transmission manufacturer that continually researches about the environment and fuel economy are on full display in our Jatco CVT7 and Jatco CVT8 transmissions. We are also committed to the future of the automobile through our ongoing development of breakthrough technologies for hybrid vehicles (HEV) and electric vehicles (EV). Our unwavering commitment to *monozukuri* as part of our vision to achieve a society where automobiles and the environment can coexist in harmony remains unhindered and steadfast.

Material Balance

We strive to understand the emissions of the various substances associated with our business activities

JATCO generates a variety of waste by-products in the course of conducting its business.
To reach its goal of building a recycling-oriented society, JATCO is committed to the appropriate use of resources and the reduction of emissions.

INPUT

Water resources

- Water for industrial use: 2,770,000 m³/year
- Water supply: 105,265,000 m³/year
- Groundwater: 695,000 m³/year

Energy

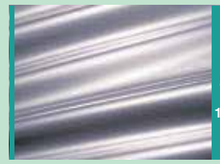
- Electricity: 639,065,000 kWh

- Natural gas: 12,977,000 m³
- LPG: 6,228 tons

Raw materials

- Kerosene: 14,689 kL/year
- Others: 249 kL

- Aluminum: 43,000 tons/year



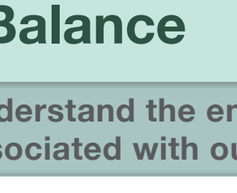
- Steel/ Steel plate: 106,000 tons/year

*Photographs for illustration purposes only

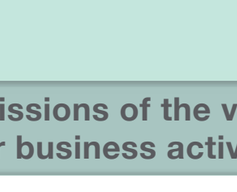
Jatco

Production plants (production process)

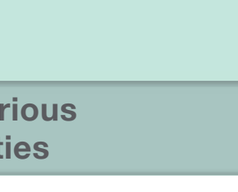
Offices | R&D | Procurement



Materials



Machining



Sub Assembly

Main Assembly

Final Test

Further details → Production Process P.23
Further details → Product Initiatives P.13
Further details → Working with Suppliers P.33

We conduct a consistently efficient and high-quality manufacturing process from raw materials to the assembled product.
Furthermore, we strive meticulously to reduce environmental load at every stage of the manufacturing process.

Further details → Production Process P.19

Product Transportation

- Truck
- Ship
- Air
- Rail

Further details → Distribution Efforts P.25

Delivery Destination

Global Automakers Assembly Factory

Users

OUTPUT

- CO_2 emissions: 363,028tons-CO_2

- Gas emissions manufacturing stage: 1,488,702,000Nm³

- Water discharge: 3,513,000m³

- Directly reclaimed waste: 171.46tons

*Photographs for illustration purposes only

*The values shown are based on global data in FY2012.

Environmental Management System

Building a system to identify and manage environmental load

We are stationing site supervisors in each region to promote regional management.
The Environmental Planning Subcommittee has been established and is considering the former's medium- to long-term environmental strategy.

JATCO Environmental Management

JATCO's headquarters and each of its domestic locations have obtained ISO14001 accreditation.

The staffing structure to promote the Environmental Management System (EMS) includes one Environment Supervising Manager and 12 Site Supervisors, and, based on the authority of the Environment Supervising Manager, is promoting the EMS in each production location and department.

In addition, for overall EMS promotion, the Executive Environmental Committee consisting of the Environment Supervising Manager and Site Supervisors carries out the overall review and evaluation. The committee also has the staff structure in place to make follow-ups regarding the EMS.

In this way, unifying the corporate direction and promoting cooperation by operating a shared company-wide EMS across multiple production locations and functions are the major features of the JATCO EMS. On the other hand, by establishing regional environmental committees in each production location, environmental activities that make the best use of the features of the region are also being carried out.

Among domestic group companies, JATCO Engineering has independently obtained ISO14001 accreditation.

Among overseas locations, JATCO Mexico obtained ISO14001 accreditation in 2011, and JATCO Guangzhou is working on building its EMS during FY 2013 in order to obtain ISO14001 accreditation.

JATCO's environmental policy is 'realizing a society where automobiles and the environment coexist in harmony', and based on this environmental policy:

- Technology: Development of transmissions with good transfer efficiency
- Pollution Prevention: Strict compliance with laws and regulations, preventing environmental accidents
- Effective Use of Resources: Promotion of energy saving, reduction of waste
- Continuous Improvement: Continuous improvement of the EMS

JATCO is proactively promoting environmental initiatives through environmental activities based on these four pillars.

Integration of Quality and Environmental Management

JATCO has integrated its quality and environmental management systems.

JATCO Voice

Changes to JATCO's management system

It is now the second year since JATCO integrated the two management systems, namely the environment and quality management systems. Although many may think that the management methods differ considerably between environment and quality, there are actually many points in common. JATCO has ISO14001 (environment) and ISO/TS16949 (quality) accreditations, and their requirements are similar in many ways, including process focus, effective use of resources and continuous improvement. This enables management to be carried out using the same system.

Environmental policy is also simplified using four pillars: technology, pollution prevention, effective use of resources and continuous improvement. As a company that is expanding globally, JATCO's standards have been globalized by making them easy to understand with the predominant use of flow charts. This enabled all our colleagues across the globe to approach their work with a unified perspective.
JATCO will continue to evolve and improve, so you can expect great things from us.

In charge of environmental energy

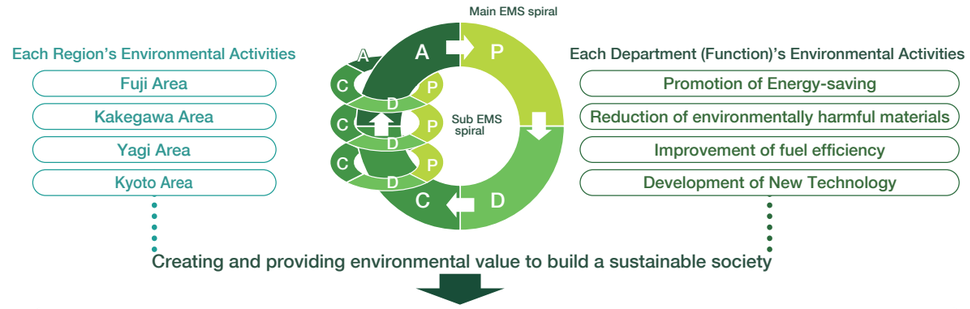
Motoyuki Takagaki
Production Administration Section
Production Administration Department

The fundamental concept behind our environmental activities

JATCO has established environmental committees in each region, carrying out environmental activities that suit the region.

JATCO interlinks two types of PDCA spiral, being the overall PDCA cycle (the main EMS spiral) and the PDCA cycle by region/department (function) (the sub EMS spiral), providing consistency in the direction of each initiative. By carrying out continuous improvements to enable increasingly effective activities, JATCO aims to create and provide environmental value for stakeholders. We consider that this is the role JATCO should fulfil in order to work towards realizing a sustainable society.

■ Overview of JATCO's Environmental Activities

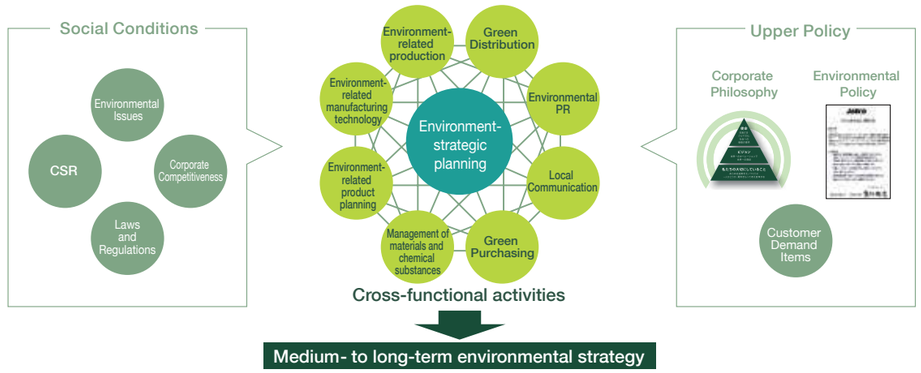


JATCO Environmental Planning Subcommittee

In 2008 JATCO established an Environmental Planning Subcommittee to review the company's mid- to long-term environmental strategy. Its role is different from the regional environmental management conducted by the EMS in that this subcommittee is tasked with considering such things as social conditions and top policies before it must review and promote the company's mid- to long-term strategy.

Within this subcommittee, there are eight smaller subcommittees, each one being used to expand environmental management based on its functional hub. These represent each of JATCO's eight business units, including product development, manufacturing and procurement. From a high-level perspective, we aim to implement planning and management across JATCO's entire organization. Among these, the Environmental Planning Subcommittee focuses on the three most important issues, which are the prevention of global warming, environmental preservation, and the efficient use of our resources. We also support the planning and management of environmental activities at our overseas bases.

■ Medium- to Long-Term Environmental Strategy / Promotion Diagram



Product Initiatives

Ongoing development of products with less environmental load

JATCO is dedicated to making products with reduced environmental load by reducing fuel consumption further.

Aiming to improve CVT's environmental performance

The world's only manufacturer offering a full line-up of CVTs

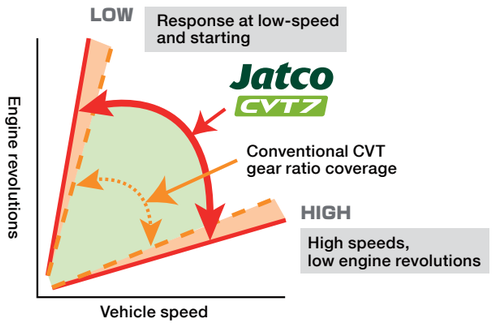
The most crucial issue in recent years to control global environmental changes caused by CO_2 emissions is improved automobile fuel economy. In response, we started developing CVTs from an early stage, and through repeated improvements, we have achieved a full line-up of CVTs that covers mini vehicles to 3.5-liter class vehicles. JATCO produced approximately 3.4 million CVTs in FY 2012, bringing the total number of vehicles in the market equipped with JATCO's CVTs to over 20 million.

Jatco CVT7, aiming to further reduce fuel consumption

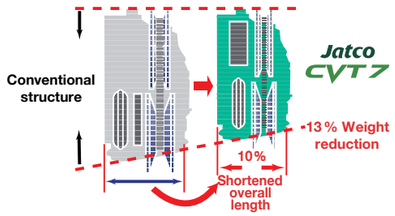
Through fresh, out-of-the-box thinking, JATCO developed its next-generation JATCO CVT7 with the world's highest gear ratio coverage. To endow this transmission with revolutionary environmental performance, we worked to produce a new auxiliary gearbox structure that allows expanded gear ratio coverage, and friction-reducing technology that results in better fuel efficiency and a more pleasant drive.

< Features of the Jatco CVT7 >

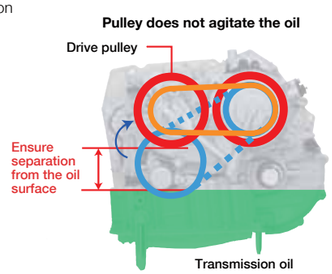
■ Improves start-line and acceleration performance using the world's widest gear ratio coverage



■ Reduced the overall size and weight of the unit by making pulleys more compact



■ Improves fuel economy and transmission efficiency through reduced friction



Idling stop control

Vehicles equipped with the idling stop feature automatically turn off the engine when the car is stopped, to reduce CO_2 emissions. An auxiliary pump is needed to maintain oil pressure through the transmission, which also ensures that the engine re-starts smoothly, and engages the clutch to stop the car from rolling back when starting on an incline.

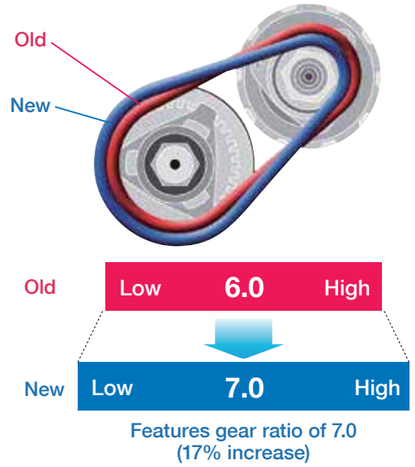
– balancing environmental performance with poweronmental performance with power

Jatco CVT 8 – balancing environmental performance with power

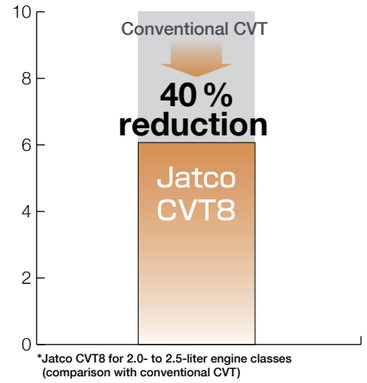
We developed the Jatco CVT8 for a wide range of engine classes, spanning from 2.0 through to 3.5 liters. This CVT model offers the perfect blend of far superior environmental performance and power all in a compact design that retains the smooth and seamless shifting of a CVT. This performance is made possible by its best-in-class gear ratio and significant reduction in friction thanks to greater efficiency achieved throughout its design.

< Jatco CVT8 features >

■ Increases gear ratio in 2.0- to 2.5-liter class engines to a world leading 7.0, providing powerful, responsive starts as well as improved fuel efficiency and less noise at highway speeds

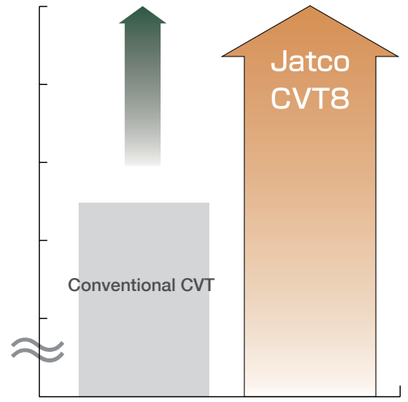


■ 40% reduction in friction compared to similar engine class CVT, the CVT8 provides enhanced transmission efficiency and improved fuel economy.



*Jatco CVT8 for 2.0- to 2.5-liter engine classes (comparison with conventional CVT)

Greater than 10%* improvement



*Results of evaluation at US Comb (comparison with our conventional CVT of the same class)

JATCO Voice

Product planning that accommodates CO_2 reductions and a wide range of market needs

We apply a comprehensive process to our goal of contributing to environmental protection. We pay close attention to how vehicles are used in the market and laws and regulations, and listen carefully to feedback such as from manufacturers and the customers who actually drive the vehicles. In order to respond to their needs, we work on planning, developing, and selling transmissions which enable better fuel efficiency and lower CO_2 emissions. Ultimately, we hope that more and more customers will choose and use our transmissions based on their kinder impact to the environment.

In charge of product planning

Jun Shinozaki
Product Marketing Strategy Office

Product Initiatives

Ongoing development of products with less environmental load

JATCO is dedicated to making products with reduced environmental load by reducing fuel consumption further.

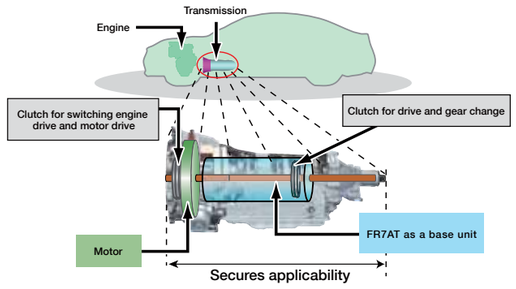
Creating a specialized transmission to meet market needs

A hybrid transmission using our proprietary system

To meet the needs of the growing hybrid car market, JATCO has developed a hybrid transmission unit for large RWD and FWD vehicles.

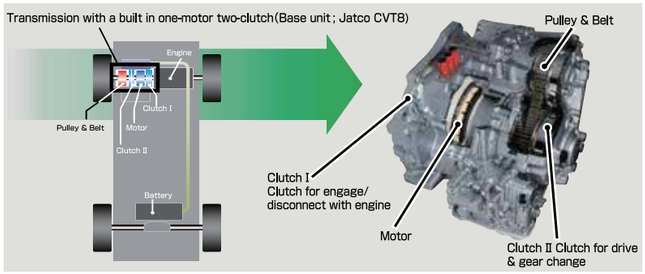
＜Jatco CVT8 HYBRID (hybrid transmission for FWD vehicles)＞

- Improves fuel economy in the city with the use of a proprietary 1-motor 2-clutch system
- Jatco CVT8 technologies help improve fuel efficiency and reduce noise at highway speeds
- The combination of CVT and motor provides a quick response and direct feeling of acceleration
- Clutch and motor replace the torque converter, making the unit lighter and more compact, providing for easier installation



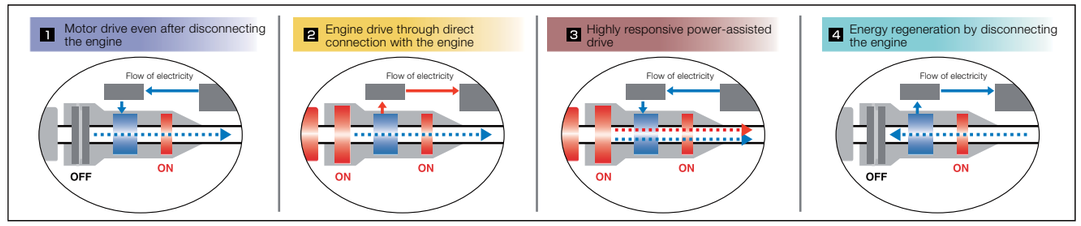
＜Hybrid transmission for RWD vehicles＞

- Improves fuel economy in the city with the use of a proprietary 1-motor 2-clutch system
- Advanced control of the clutch system made possible by our long-standing automatic transmission development experience improves transmission efficiency during motor use
- Clutch and motor replace the torque converter, making the unit lighter and more compact, providing for easier installation



Working pattern of transmission

Realizes the following operations by using a motor and two clutches for driving and regenerration.



Fuel efficiency improvement of the step AT

Multistepping and wider range of gear ratio

We are working to improve the fuel efficiency of step ATs, with their fixed step design, to add multistep and wide range. In the RWD 7-speed AT the gear ratio has been widened, so that the transmission is smooth and fuel-efficient at every stage, when starting, accelerating or cruising at high speed.

Further measures to reduce CO_2 emissions

We will pursue further technical innovations in transmissions to reduce CO_2 emissions.

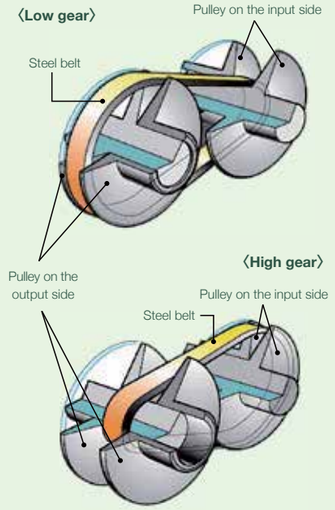
- Improvements to the belt CVT
  Improved transmission efficiency, wide-range conversion, lightweight
- Improvements to the step AT
  Multi-stepped AT, wide-range conversion, lightweight
- Control technology improvements
  Expansion of lock-up area, neutral idling control, idling stop control
- Measures for hybrid systems
  Optimized transmission for hybrid cars

What is a CVT?

Characteristics of a CVT

The CVT can take advantage of its stepless design to choose the gear ratio that best suits the driving situation; thus, it is constantly matching the ideal gear ratio to run the automobile in the most fuel efficient way.

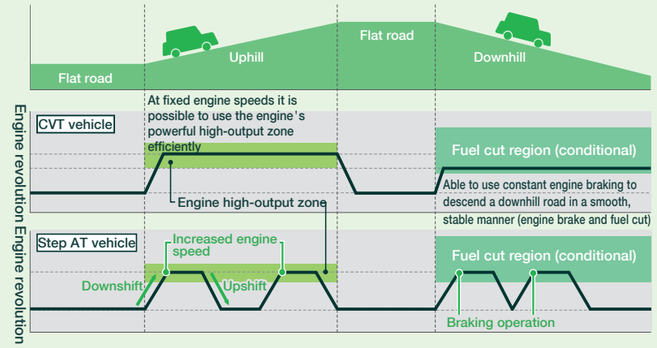
■ Belt CVT mechanism



■ 4-speed AT and CVT efficiency range

CVTs and Engine Coordinated Control

CVTs can easily select the most suitable gear for the driving conditions, making it possible to adjust flexibly to differing driving styles, reducing fuel consumption.



Product Initiatives

Promoting the reduction of environmentally hazardous substances and the "3Rs" in our transmission units

JATCO is dedicated improving its recycling and reuse ratios by reducing the use of enviromental load substances from the development stage.

Reduction and thorough management of environmentally hazardous substances

Management of chemical substances according to JATCO technical standards

We manage environmental load substances in transmissions according to our internal technical standard "JES M9001." JES M9001 governs the use of some 150 substance groups (2,700 substances) based on GADSL*1 a list of controlled chemical substances common to the auto industry in Japan, the U.S. and Europe, and the Chemical Substance Control Law*2 together with legislations from various countries. JATCO carries out appropriate reviews more than once a year to stay ahead of global environmental laws and promote the reduced use of environmentally hazardous substances.

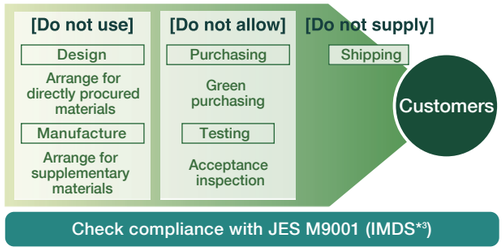
Activities to raise environmental awareness internally and externally

The management and reduction of environmentally hazardous substances is a key supply chain-related measure involving suppliers. In order to further raise environmental awareness, JATCO is stressing the importance of green purchasing and initiatives to reduce environmental hazards through such channels as the JATCO Quality Forum, which involves both internal and external stakeholders.

Efforts to reduce the use of environmentally hazardous substances

In pursuing such reductions, it is important that we "do not use" controlled substances under JES M9001 in the design and manufacturing divisions, "do not allow" these in the procurement and inspection divisions, and "do not supply" these in the production and shipping divisions.

■Key points in initiatives to reduce use of environmentally hazardous substances



■Status of efforts to reduce the use of environmentally hazardous substance

Regulated Substances	Situation
Lead	No longer in use (excluding exemptions)
-Lead solder (platforms)	Currently reducing usage
Hexavalent chrome	No longer in use
Mercury	No longer in use
Cadmium	No longer in use
Asbestos	No longer in use
Approved substances	Currently reducing usage

JATCO Voice

Easy-to-understand environmental law and regulation compliance

The restrictions on chemical substances through CSR*4 and various national environmental laws and regulations such as EU-REACH are being tightened every year. We are also working on management through IMDS, and reduction initiatives and supervision of environmentally hazardous substances contained in products through internal information dissemination, but I often hear comments such as "environmental laws and regulations are difficult to understand" and "I don't know how to approach the issue". By making the desired information easily accessible to everyone through simple searches of existing materials, related standards, and internal information websites, we want to bring about a change in awareness to 'easy-to-understand environmental law and regulation compliance'.

In charge of IMDS
Tomohiko Saduka
R&D Management Department

Glossary

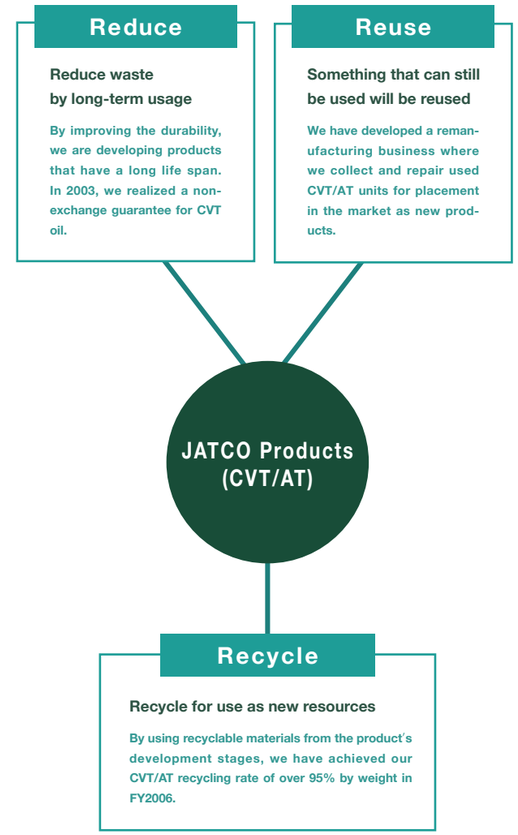
*1 GADSL: Global Automotive Declarable Substance List *2 Act on the Evaluation of Chemical Substances and Regulation of Their Manufactur e, etc
*3 IMDS: Inter national Material Data System *4 CSR: Customer Specific Requirements, items requested by individual customers

Promotion of reuse of resources that had been discarded

The "3Rs" of our products

The "3Rs" represent three key words necessary to create a recycling-oriented society. Reduce, Reuse, and Recycle. JATCO's approach to 3R activities is in the diagram below.

■ "3Rs" of production

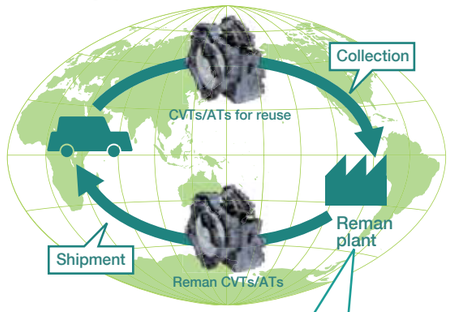


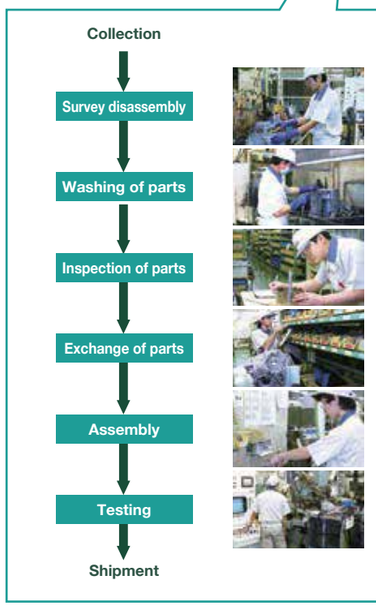
Remanufacturing system

Since 1989, Remanufacturing Operations ("Reman") has been collecting CVT/AT units from the market for disassembly, repair and quality assurance to supply to the market once again. Through this business, we help to preserve the global environment by reusing necessary resources.

Remanufacturing Operations bases are located in Japan and Mexico; furthermore, we have negotiated a technical assistance agreement with a local repair company in China to repair products collected from the market. We will continue to improve the recycling rate for products that we have collected for environmental preservation.

■ Remanufacturing Operations Process





Production Process

Aiming to be the "World's No.1 in Monozukuri", JATCO is advancing with upgrades of technologies and facilities

JATCO aims to balance the need for reductions in environmental load during production with the need for efficiency, as well as introduce energy and resource saving equipment. We are also taking measures to properly manage chemical substances and reduce waste.

Aiming to be the World's No. 1 in Monozukuri

JEPS (JATCO Excellent Production System)

JATCO strives to become the top Monozukuri company for quality, cost and delivery. Our JEPS (JATCO Excellent Production System) is a no-waste system where each process of "purchasing materials, machining, assembly, and shipment" flows smoothly and promptly in a streamlined manner.

■ JEPS Activity Conceptual Diagram

Target of JEPS

The target of JEPS is to achieve the following two "unlimited" features within the entire supply chain.

(1) Unlimited synchronization with our customers - QCD

Q: to synchronize QUALITY that emphasizes the value desired by our customers;
C: to synchronize COSTS by offering reasonably price products;
D: to synchronize the time of DELIVERY to our customers, reducing production lead time.
JATCO are in pursuit of these three synchronizations.

(2) Visualization of unlimited challenge and innovation

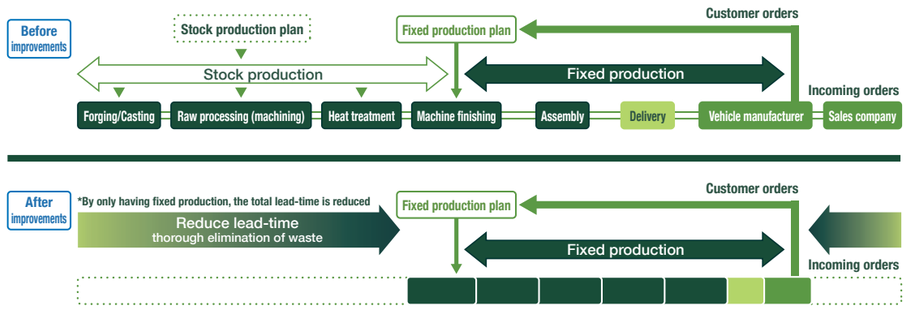
To recognize the gap between the ideal state of Monozukuri and the current situation, visualize the hidden weak points and actively make improvements. By repeating these improvements and innovations, we can raise the level of efficiency and process efficacy of production.

JEPS Innovation

JATCO is continuing with innovations to its Monozukuri processes in pursuit of achieving the two "unlimiteds". In FY 2012, JATCO integrated the Environmental Management System and the Quality Management System to improve management efficiency by emphasizing easy-to-understand work flows and simplifying shared management and distinctive arrangements.

Based on the rebuilt system, JATCO will deploy its Monozukuri in the global supply chain, including for overseas facilities, using JEPS as the standard. At the same time, JATCO aims to optimize the flow of goods and information by increasing the effectiveness and efficiency of manufacturing processes so as to promote savings in energy and resources and in turn contribute to automotive culture and society.

■ JATCO's Monozukuri



Striving to improve processes for energy efficiency and resource conservation

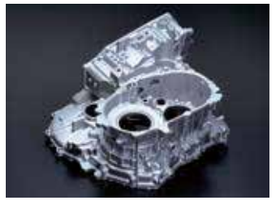
Environment-responsive production technology

Integrated production from raw materials to completed unit is performed at JATCO where the Production Technology Division considers the limits of the Earth's resources at each stage of new product and technology developments.
Top priorities include reduced CO_2 emissions through new technology, reduced environmental load (management of hazardous materials), and utilization of idle facilities to effectively use (recycle) our resources. We are developing highly efficient, load-reducing methods and innovative methods to reduce production processes as well as introducing and converting to energy and resource-saving equipment.

CO_2 reduction through the usage of compact, lightweight parts

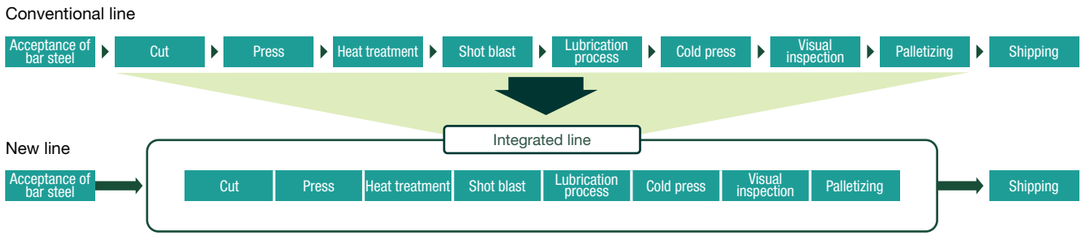
In FY 2012 CO_2 emissions	68 tons

JATCO has employed lightweight casing parts in the next-generation CVT announced in FY 2012. During the development of this new CVT, the R&D Division and Production Technology Division collaborated intensively on 'production design' from the very beginning. By reducing the general thickness on using the optimum configuration and clearance of limits during production, a weight saving of 5% was achieved compared with previous CVTs in the same class. CO_2 emissions generated during parts production were thus substantially reduced, and an emissions reduction of 68 tons per year was made possible.



Reduced thickness transmission case

■ Forging process integrated line



CO_2 reduced by approximately 130 tons / year

CO_2 reduction to the machining/heat treatment line through production design

In FY 2012 CO_2 emissions	3,260 tons

The Production Technology Division was involved in the product design of Jatco CVT 7 from its early product development stage. This new CVT went into production in 2009, and production is now being largely expanded due to its popularity. From the production design phase it became possible to drastically reduce the number of machines and to shorten the cycle time required in the pulley machining line, by reducing machining points to minimum. The cycle time was then further reduced when the necessary conditions for the heat treatment line were refined. As a result, we have succeeded in reducing CO_2 emmissions by approximately 860 tons per year.

■ Reduction in CO_2 emissions by production design

Machining line	Conventional line	New line	
Number of machines	49 units × 3.5 modules	27 units × 3.5 modules	▲ 43%
Annual CO_2 emissions	2,919 t / year	1,740 t / year	▲ 40%

Heat treatment line	Conventional line	New line	
Cycle time	100%	66.6%	▲ 33%
Annual CO_2 emissions	6,244 t / year	4,164 t / year	▲ 33%

Reduced CO_2 emissions using residual heat from the forging process

In FY 2012 CO_2 emissions	130 tons

In the past, we have cooled the work after hot forging and reheated it to process rough materials. However, we are now changing to a heat treatment method (self-annealing) that uses the heat remaining from the forging process. By doing so, it is now possible to use one line instead of two for heat treatment. This has eliminated physical distribution between lines and reduced annual CO_2 emissions by approximately 130 tons per year.

Production Process

We are making improvements to our production technology in order to create a production line with lower environmental load

Not only are we making improvements to the products themselves, we are also streamlining the production process, expanding our energy efficiency and resource conservation activities throughout the entire organization.

We are working to reduce overall environmental loads throughout the production process

CO_2 reduction by reducing the final tester and valve tester

In FY 2012 CO_2 emissions reduced by approx.	130 tons

The involvement of the Production Technology Division in the 'production design' process from the very beginning of product design is part of the proactive way that we enable improvements to both product performance and productivity. As a result, we can now drill down product performance to the accuracy of individual parts, and reduce product performance tests by front-loading (conducting in-process) the assembly accuracy testing, shortening the final tester/control valve tester cycle time. The number of testers required has been reduced, reducing CO_2 emissions by 130 tons annually.

Environmental improvements by converting from hydraulic to servo press fitting

Hydraulic press fitting is the conventional press fitting method used during the assembly process. Hydraulic press fitting machinery requires a pump to maintain oil pressure at all times, consuming a lot of electricity, creating noise and producing a lot of heat even when not being used. By converting to electric servo motors, which by not having a pump running constantly consume less power, and create less heat and noise, we are contributing to a better environment.

Shortening the lead time of our next generation CVT units and reducing CO_2 emissions

We are making changes to the processes and methods used to manufacture our next generation CVT units in order to significantly reduce lead time, which in turn will also help us further curb our CO_2 emissions.

We are aiming to achieve a higher target through bold proposals for all parts the Production Technology Division handles and by collaborating with the R&D and Production divisions.

Utilizing direct mold carving to reduce environmental load

In FY 2012 CO_2 emissions reduced by approx.	70 tons

The molds used by JATCO for die casting and forging involve complex shapes, so electro-discharge machining (EDM) has been the conventional manufacturing method. This method consumes a lot of power, and the graphite used as electrode material and the sludge generated during EDM become industrial waste. Therefore we are currently promoting the process of direct mold carving directly at the Machining Center. At the Machining Center, reductions in machining time through improvements in machining programs and cutting conditions has resulted in reductions of CO_2 emissions of 70 tons annually, and has significantly reduced the amount of industrial waste.

Die-casts fabricated using the direct mold carving process

Pursuing groundbreaking technological development

The Production Engineering Division is constantly searching for new technological breakthroughs as part of its plans to reduce greenhouse gases emissions 50% by the year 2050. These measures include purchasing molten metal for die casting, eliminating the shaving process for gear parts, developing next-generation vacuum carburizing furnaces, and reducing CVT unit weight through thin-wall die-casting and new materials.

The scope of technological development is not limited to production lines but also includes activities to develop elemental technologies for bringing about innovation in parts and units. The division aims to successfully develop the next version of units as well as highly efficient next-generation units based on these activities. Product development from the Production Division can also contribute to reduction in environmental loads.

JATCO Voice

New initiatives to reduce the environmental impact in the founding process

To prevent burning between the metal mold and the part during the founding process, a water-soluble mold releasing agent is typically used.

I am working on the challenge of developing technology to change the mold releasing agent to an oil base. Oil-based mold releasing agents have various advantages.

- As the air blowing after application to remove the water content is no longer necessary, cycle times can be sped up.
- By eliminating the air blowing, saving energy and reducing noise is also possible.
- By not using water, the amount of gas in the product decreases, increasing product quality.
- Moreover, as the volume of mold releasing agent is reduced by a factor of 150 to 1, the surface temperature of the metal mold can be reduced, extending the life of the metal mold.

By taking up a new challenge without being restricted by industry customs and preconceptions, we are achieving cycle shortening and improving of final products. As a result, the amount of electricity used and CO_2 emissions are being reduced. In future, we will deploy oil-based mold releasing agents on a global scale to realize greater effects.

In charge of Production Technology

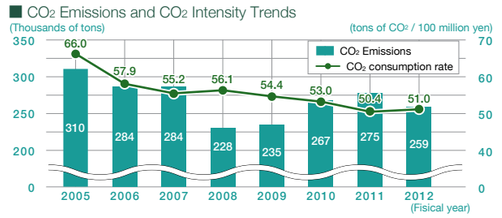
Takao Kondo
Parts Process Engineering Section No.1

Energy efficiency activities undertaken at facilities

CO_2 reduction targets

In FY 2012 CO_2 emissions were approx.	259,101 tons

JATCO carries out an prior evaluation when installing new equipment. For equipment in operation, we are taking steps to switch to energy- and resource-saving equipment that has low environmental impact. We will continue to actively pursue technological innovation to reduce the environmental impact at all our facilities and plants. JATCO's domestic business activities in FY 2012 resulted in CO_2 emissions of approximately 259,101 tons. The CO_2 consumption rate*1 was approximately 50 tons / 100 million yen. Using FY 2005 levels as a standard, this is an improvement of 22.6%. Our aim for FY 2020 is to achieve 46.2 tons of CO_2 / 100 million yen.



Energy-saving activities at all sites

In FY 2012 CO_2 emissions were reduced by approx.	14,586 tons

JATCO sets CO_2 emissions reduction targets for each site, and not only those in charge of environmental conservation but a large number of employees come up with and implement energy-saving ideas. The ideas that were actually put into practice and proven to be significantly effective are featured on the internal environmental website (see p.23 for details) for sharing as well as for boosting employee motivation. The energy saving ideas implemented in FY 2012 resulted in CO_2 emission reduction of approximately 14,586 tons.

CO_2 emission reductions through lighting improvements at various factories

In FY 2012 CO_2 emissions were reduced by approx.	117 tons

CO_2 emissions reductions made through lighting improvements are one of JATCO's core energy saving measures that have been implemented systematically. Lighting is a typical "little things make a big difference"-type energy and accounts for a rather significant share of energy consumption at the company as a whole including factories. We have therefore made improvements to ceiling lighting in our factories. We switched to energy efficient lighting, carried out light thinning and turned off certain lights, while ensuring a bright enough environment. In FY 2010, these efforts resulted in savings of 2,059,000 kWh in power consumption, while CO_2 emissions were reduced by approximately 770 tons.

Collaboration with companies in other business fields

As a new global environmental conservation approach for JATCO, we have been actively promoting collaboration with companies from different industries. We have been working with The Tokyo Electric Power Company, Incorporated since FY 2005 to install NAS battery equipment*2. The NAS is charged at night, when demand for electricity is at its lowest, and the power is used during the day, when demand for electricity is at its peak. This helps the power plants control output and enables an efficient use of electricity.

In FY 2007, we collaborated with CHUBU Electric Power Co., Inc. to observe the combustion conditions of an aluminum-melting furnace in real time and implemented a system to sustain the most suitable state of combustion. Presently, we are promoting the same activity for the entire company.

JATCO Voice

Providing documents that lead to energy cost reductions

The heat this summer was intense, with record-breaking temperatures and numbers of days of heat waves. Every day there was news of people being taken to the hospital due to heatstroke.

Despite this harsh environment, our family of three including my 20-year-old daughter and two cats slept in the same room and managed to use just one air-conditioning unit in our house. We also managed to keep the temperature setting at 28°C by also using an electric fan.

Even when we were not going to sleep, my family stayed in the living room most of the time so that we only had one air-conditioning unit running. It is ideal to keep our economy going while using less energy.

While JATCO will expand globally, domestic production will scale down. We will revamp our facilities to meet this trend and promote energy saving.

In charge of environmental energy

Tadahiko Jingu
Production Administration Section
Production Administration Department

Glossary

*1 CO_2 consumption rate: CO_2 emissions per sales (100 million yen)
*2 NAS battery: a liquid sodium and liquid sulfur storage battery using a special ceramic

Production Process

We are making improvements to our production technology in order to create a production line with lower environmental load

Not only are we making improvements to the products themselves, we are also streamlining the production process, expanding our energy efficiency and resource conservation activities throughout the entire organization.

Conducting various environmental activities

Installation of solar power generation system and rooftop greening

In FY 2012 CO_2 emissions reduced by approx.	5.0 tons

On the roof of the head office building we have installed a 10kW solar power generation system that takes advantage of the sun's renewable energy. This energy is used to power the building's air conditioning. The introduction of this system has cut annual CO_2 emissions by approximately five tons per year. In addition, we used the inherent nature of plants to lower the temperature to implement a green roof that has helped to lower the building's temperature, reducing the power requirements of the air conditioning in summer.

Rooftop solar panel array

Green roof

J-ESCO activities

JATCO is promoting energy saving with its energy efficiency audit team called J-ESCO (JATCO Energy Service Company). J-ESCO is a team that investigates such things as the condition of factory equipment and the loss of energy. They then make improvement proposals to the divisions, and support them in their efforts to reduce CO_2 emissions. Five members on the team are appointed from among JATCO and JATCO Plant Tec's environmental energy staff. By having efficiency experts perform audits and provide support, we are also sharing energy-saving knowledge within the company.

So far the team has been supporting energy efficiency-related efforts at factories. It is currently working on ascertaining the status of energy usage at offices.

Conservation activities in the office

Implementation of Cool Biz and Warm Biz

As part of our energy conservation efforts, we raise temperatures in our offices between June and September, and encourage our employees to wear Cool Biz friendly light clothing. From December to March we participate in Warm Biz, encouraging our employees to wear more clothes if they feel cold, and allowing us to lower the set air-conditioning temperature.

Visualization of power consumption to promote voluntary energy-saving activities

JATCO has begun announcing the previous day's power consumption within the company in a bid to promote energy-saving activities by visualizing our actual power use. This allows all employees to easily check the power consumption in the various regions and serves as a guide for energy saving. With this initiative, we aim to promote voluntary energy-saving activities by individual employees.

Employee awareness activity through the environmental website

We launched a dedicated environmental intranet site to raise environmental awareness among employees. This website is updated with internal and external event information, as well as content such as JATCO eco test and Ecodrive test that help employees learn more about environmental issues.

To raise awareness of energy efficiency, we posted on the website a case study conducted in the company titled "Energy Efficiency Case Study Presentation 2010". The knowledge gained from this is being spread throughout the whole company.

Setting easily practiced rules for separating waste

We are implementing internal activities to reduce waste by assessing whether it can be reduced, reused or used in other ways and devising ways to do this. There are some waste materials that we have no option but to dispose of. Such waste is disposed of in accordance with the established separation criteria so that it can be recycled.

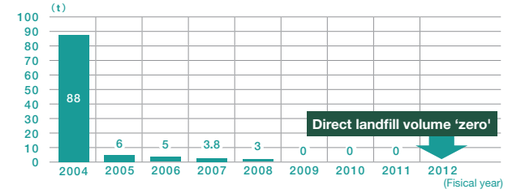
Waste reduction activities

"Zero emission" activities

In FY 2011 achieved direct landfill waste was	zero

By incorporating "zero emission of waste" into the waste reduction promotion management of the Environmental Management System (ISO 14001), we are promoting activities to achieve this goal. As a result of these efforts, we were able to cut the amount of landfill-bound waste to zero at our business sites in Japan.

■ Trends in direct landfill waste (Japan)



Achieved 100% recycling rate

In FY 2012 achieve recycling rate was	100%

As part of its "zero emission" initiatives, JATCO is driving forward with efforts to avoid the incineration or landfill of waste and instead take measures such as thermal recycling and material recycling. Also, to effectively collect waste for use as resources, we have strict measures for separating our waste. Through these activities, we achieved a recycling rate of 100% at our business sites in Japan.

All employees participate in waste reduction

In FY 2012 total waste was reduced by	14% (vs. FY 2005)

To reduce CO_2 emissions at each of our business sites, we are taking various energy-saving measures. Each business site sets its own targets and each worksite posts its own ideas that have been implemented to raise motivation and share methods for energy preservation.

Chemical substance management activities from production processes

Managing Volatile Organic Compounds

In FY 2012 VOC emissions were reduced by	99% (vs. FY 2000)

As a volatile organic compound (VOC) measure, activities based on the action plan of Japan Auto Parts Industries Association (JAPIA), aiming for VOC 30% reduction in emissions by the year 2010 (compared to FY 2000) were conducted. As a result, we were able to achieve a 98% reduction by FY 2006 and a 99% reduction in FY 2010.

Measures against soil and groundwater contamination

As a measure to protect against soil and groundwater pollution, the use of chlorinated organic solvents was abolished. As these solvents had been used in the past, JATCO is currently monitoring its records and the environment for any signs of impact.

Eliminated the use of 3 hazardous air polluting substances

In FY 2012 3 hazardous air polluting substances were eliminated by	100% (vs. FY 2000)

In FY 2006 JATCO achieved a 100% elimination of the emissions of 3 hazardous air polluting substances*1 and maintained that success in FY 2012.

PRTR substances management

The amount of chemical substance emissions and transfers subject to PRTR*2 handled at JATCO's production sites in Japan are shown in the graph below. In FY 2010, N,N-dicyclohexylamine, 1,2,4-Trimethylbenzene, and n-hexane were added to list of controlled chemical substances based on revisions made to Chemical Substance Control Law.

■ PRTR substance handling and emissions volumes (FY 2012)

Classification	Chemical substance	Amount handled	Emissions volume			Amount of waste transfers
			atmosphere	water	soil	
Specified Class I Designated Chemical Substances	dioxin (mg-TEQ/year)	—	67.7	0	0	0.001
	benzene	943	1	0	0	0
Class I Designated Chemical Substances	ethylbenzene	3,031	7	0	0	0
	xylene	142,508	51	0	0	0
	1,2,4-trimethylbenzene	104,708	0.3	0	0	0
	1,3,5-trimethylbenzene	1,978	22	0	0	0
	n-hexane	1,779	5	0	0	0
	toluene	43,569	29	0	0	0

Unit: kg / year (dioxins mg-TEQ / year)

Glossary

*1 Hazardous air pollutants: dichlor omethane, trichloroethylene, tetrachloroethylene

*2 PRTR: The Pollutant Release and Transfer Register, a law to promote improved management of emissions of specific chemical substances into the environment

Distribution Efforts

Reducing the environmental loads associated with transportation

JATCO is moving forward with the rationalization of its logistics system as a means to reducing its impact on the environment from the transport of transmission components and units.

Switching to improved transportation systems

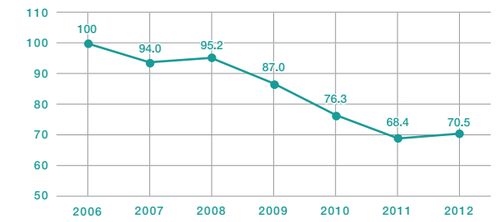
CO_2 reduction in transport

In FY 2012 CO_2 emissions were reduced by	30% (vs. FY 2006)

JATCO has established a green logistics target to achieve a greater than 1% average annual reduction in its CO_2 emissions rate over the past five years. This target covers logistics in Japan only. In 2012 our CO_2 consumption rate deteriorated by 3% compared to 2011 due to the decline in shipments caused by issues such as disputes with China over the Senkaku Islands. However, the average for the last five years has been a 6.5% reduction per year, meaning we have been able to achieve our target by a wide margin.

*CO_2 emissions (t-CO_2) ÷ Shipment Volume (t·km)

■ Trends in the CO_2 emissions rate (index)



Modal shift

To reduce CO_2 emissions that accompany distribution processes, we are improving our transport methods and have implemented a modal shift since 1994 with the help of our domestic customers.

Specifically, the transport of products to our customers in the Kyushu area is now done by ferry instead of truck, thus reducing CO_2 emissions by 75%.

In FY 2005, we switched from truck to train for the distribution of JATCO's supply parts from the Hiroshima area. Furthermore, in early 2006, we switched to using trains for the Okayama area and further expanded our modal shift system. The supply parts that were delivered from the Shizuoka production base by truck to the Hiroshima (780 km) and Okayama (680 km) areas were subject to this change. As a result, the daily shipment volume of seven 10 ton trucks was reduced to 16 containers, cutting CO_2 by 83.3%* annually. We will continue to promote this modal shift and reduce the number of trucks required to achieve load efficiency.

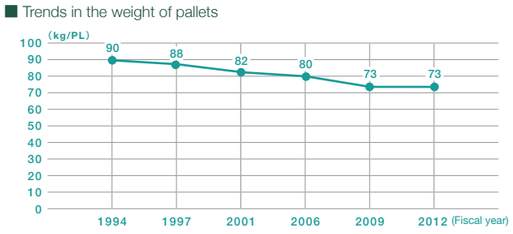
*The comparison between truck transport of 3,276 tons-CO_2 and JR train transportation of 546 tons-CO_2 (research conducted by the Japan Freight Railway Company).

Promoting the improvement of shipping and packaging materials

Reducing packaging weight, simplifying packing materials

In 1997 we moved away from steel returnable pallets to resin dunnage (trays) as a way to reduce fuel consumption when transporting deliveries mainly to customers. This helped to reduce weight by approximately 21%. As for the packing materials, including plastic bags and dividers, used to protect the products in transit, we have been able to reduce the amount of trash created by using materials that are simple, returnable and recyclable.

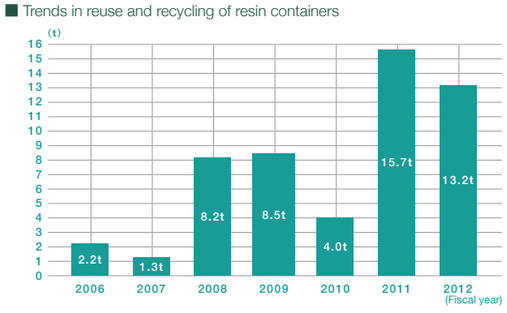
■ Trends in the weight of pallets



Reuse and recycling of resin containers

Traditionally, resin containers and protective resin cushioning materials are used to protect products from damage during transportation and storage. When these have become unusable due to deterioration or age, in the past we had discarded them as industrial waste. However, since 2004 we have been reusing the materials in other products, and have received assistance from the resin manufacturer to recycle the base material and reduce waste.

■ Trends in reuse and recycling of resin containers



Environmental Communication

Making the environment the origin of our communication

JATCO uses various communication channels to help people understand its approach to the environment.

JATCO actively shares its commitment to the environment

Publication of Environmental and Social Reports

The company has been publishing its Environmental Report every year since 2005 in an effort to help people understand its broad environmental commitment.

From 2009 this report was renamed the Environmental and Social Report, of which the social pages covering our social activities, were given more focus.

Disclosure in the website

The various initiatives contained in the Environmental and Social Report can be downloaded at the following JATCO website.

http://www.jatco.co.jp/ENGLISH/society/reports.html

Communication activities centred on interaction

Co-sponsor of the Shizuoka Environmental Caravan

JATCO is an annual co-sponsor of the Shizuoka Environmental Caravan. These activities involve mascot performances and the handout of environmental picture books at mainly kindergartens and day cares in Shizuoka Prefecture in order to foster greater awareness toward the environment in children. Our involvement in this fun and enlightening program is part of our commitment to help children think more about the natural environment.

Performance by the Shizuoka Environmental Caravan

Exhibit at the Automotive Engineering Exposition 2012

JATCO exhibited a booth at the automotive technology exposition 'Automotive Engineering Exposition 2012' held at the Pacifico Yokohama from May 23 to 25, 2012. By exhibiting its CVT line-up from models for mini vehicles through to 3.5 liter-class large passenger vehicles such as the Jatco CVT7 and Jatco CVT8, transmissions for hybrid vehicles, and introductions of initiatives regarding CVT performance improvements and environmental impact reductions, JATCO attracted a great many visitors to its booth.

Exhibition Booth at the Automotive Engineering Exposition

Ayu (sweetfish) baby fish released into rivers (Fuji area)

Every year since 1999, we have been inviting local kindergarten students to help release baby Ayu fish into the Tajuku River as a way to restock the fish population. This year's event, the 14th, took place at the Sakaemachi Children's Playground. A large number of kindergarten children participated in the event and helped to release around 400 fish. The baby fish were purchased with the proceeds from an in-house aluminum can recycling program.

Children releasing baby fish into the river

Distribution of plants (Kambara area)

At JATCO's Kambara area site, JATCO has been participating in initiatives run by the local government to help clean up Koike River, as well as giving away potted plants to local children, since FY 2004. These activities were performed on July 1, 2012 with many employees participating as volunteers. The funds used to purchase the plants also came from the sale of recycled aluminum cans collected in-house.

Distribution of plants

Environmental Conservation Activities Overseas

JATCO's sites around the world are each joining in initiatives to reduce our environmental load.

Mexico

At JATCO Mexico, employees are highly motivated to address global environmental protection issues as a key social responsibility of the company.

JATCO Mexico's environmental management system

Since its establishment in April 2003, JATCO Mexico has been engaged in a variety of environmental activities, including establishing environmental policies, conserving energy from the power supply side, and improving the company's recycling rate through waste sorting. In particular, starting in 2009 the company worked to construct an environmental management system, which underwent a review in March 2010 and obtained ISO14001 certification in May 2011. From this point forward, JATCO Mexico will operate this system as it strives for continuous improvement and works to achieve "a society where the environment and automobiles coexist in harmony".

The company has set up three committees to operate its environmental management system: the Environmental Committee, the Environmental Legal Requirements Subcommittee, and the Energy Conservation Subcommittee.

The Environmental Committee is composed of representatives from each department and is headed by the company President and Vice-President. The Committee comprehensively debates, assesses, and tracks activities related to the environment. The Environmental Legal Requirements Subcommittee is comprised of managers in charge of the environment as well as members drawn from production, occupational safety and health, finance, and other departments. The Subcommittee determines, assesses, and applies legal and other requirements pertaining to the environment. Finally, the Energy Conservation Subcommittee deliberates and promotes the efficient management of electrical power, water, gas, and other power sources at each shop.

ISO14001 certificate

Key members behind construction of the environmental management system

Continuous improvement initiatives at JATCO Mexico

JATCO Mexico establishes environmental objectives every fiscal year as the company seeks to reduce its environmental load. The company also subjects its environmental management system to continuous improvements, conducting an annual review and setting objectives for the next fiscal year.

Items	Base year performance (base FY)	2012		Evaluation
		Targets	Results	
Determination of applicable legal items	—	100%	100%	○
Reduction in general waste generated per unit*	0.45 Kg (2009)	—	51.4% reduction 0.219 Kg	○
Reduction in industrial waste generated per unit*	79.44Kg (2008)	—	70.2% reduction 23.72 Kg	○
Efficient use of electricity per unit*	153.17kwh (2008)	148.5 kwh	4% reduction 147.02 kwh	○
Reduction in volume of water consumed per component in the casting process	0.063 m^3 (2008)	3% reduction (compared to base FY) 0.0611 m^3/pza	12.69% reduction 0.055 m^3/pza	○

* Units produced: Generated per unit of CVT produced

Evaluation/○:Achieved target: ×:Did not achieve target

China

JATCO Guangzhou conducts environmental assessments for new equipment and construction taking place at the plant to preserve as much beautiful nature as possible for future generations. The company also adheres to Guangzhou Environmental Protection Agency regulations.

We conducted environmental assessments to achieve a factory with low environmental burden.

To meet the ever-increasing demands for CVTs in China, JATCO Guangzhou has carried out three expansion projects so far since the construction of the new factory in 2009. At each expansion stage, the company conducted environmental assessments to understand the factory's impact on the local environment. The assessments investigated elements including factory wastewater, exhaust gases, and environmental loads arising from production processes. With the subsequent approval of the Guangzhou Environmental Protection Agency, JATCO Guangzhou drew upon the results of the assessments during construction at the factory. Since the first expansion project, the company has worked particularly hard to introduce energy efficient equipment in every building, starting with high-efficiency lighting.

Moreover, recently the company has been tackling energy conservation not only in the development of infrastructure but also as a day-to-day improvement activity, launching improvements such as reducing unnecessary lighting in offices and managing the temperature of air conditioning.

In this way, JATCO Guangzhou will achieve clean operations in line with China's regulations.

In addition, JATCO Guangzhou launched a recycling system along with the construction of its factory, to address waste such as aluminum spent chips, plastics, and cardboard. As a result, the company has been able to achieve its current 70% recycling rate. At present JATCO Guangzhou is pushing forward with activities that deal with the new increase in waste accompanying factory expansion.

Thailand

JATCO Thailand, where production began in 2013, aims to lessen its environmental impact through measures under the banner JATCO Thailand Green Action, as follows.

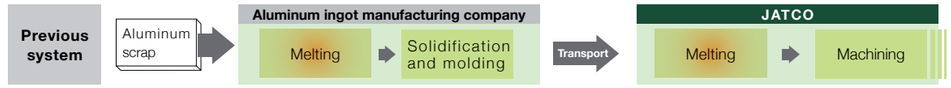
1. Purchase molten metal instead of aluminum ingots
2. Introduce vacuum carburizing heat treatment equipment
3. Treat plant wastewater
4. Recycle resources through separation and collection
5. Maximize greenery on plant grounds

Among these, the purchase of molten aluminum is particularly unique. JATCO Thailand takes advantage of ingots from an adjacent ingot casting company. By using the molten metal as-is in plant's equipment, the scheme reduces CO_2 that would otherwise be produced during the re-melting process.

In this way, JATCO Thailand is striving for environmentally friendly improvements together with local businesses.

■ Purchasing system for molten aluminum ingots

Aluminum molded by an aluminum ingot manufacturing company was re-melted by JATCO and used to make components.



JATCO purchases molten aluminum still in a liquid state from the aluminum ingot manufacturing company, which conserves energy by eliminating the need to solidify and re-melt the same aluminum.

Corporate Vice President Takeshi Kitajo

[JATCO's various stakeholders]

JATCO Recognizes the Importance of its People in Continuing to Provide Value-Added Transmission Units that Meet the Needs of Global Markets

The growth of each and every employee produces a relationship of trust

As demands today call for a higher level of environmental performance from automobiles, JATCO's transmission units are required in many markets around the world, including developed countries and emerging countries alike. In order to continually meet the expectations of these markets, it will be critical to provide superior transmission units at a lower cost and in a speedier manner. To that end, JATCO must continue to tackle even greater challenges.

JATCO values its employees so much that it refers to them as "human assets." We also value the diversity of each and every individual that is part of the JATCO family, and we strategically promote building positive workplace environments so that we can utilize the strengths of every employee to the maximum extent possible in striving to achieve the shared goal of sustainable growth. We believe that the constant evolution and spirit to take on challenges exhibited by our employees will provide the impetus for JATCO to achieve sustainable growth and by extension foster relationships of trust with its stakeholders.

Building relationships with the local community first begins by making employees proud of the company

In order to build relationships of trust with our stakeholders, it will also be equally important to develop positive relationships with the local community as a good corporate citizen. For JATCO to be a company that is well regarded by the local community and local residents, however, first we need to be a company that our employees are proud of. Employees that have pride in their company and that are active as good corporate citizens with positive character in the local community will help foster a relationship of trust with society, I believe. JATCO actively supports the social contribution activities of each and every one of its employees by providing facilities for these activities and giving plant tours and sponsoring hands-on events, in essence undertaking uniquely JATCO social contribution activities that leverage the resources cultivated from our business activities. Going forward, we wish to contribute to the sustainable development of society in order to pass on a rich and diverse world to future generations.

Keys to making further progress

Collaboration with our suppliers, which provide us with components, as well as our automaker customers is absolutely essential to our business activities. The Great East Japan Earthquake that struck Japan on March 11, 2011 brought about significant damages to the plants of JATCO's supplier and customer companies. JATCO strived to provide information on production and to ascertain the damages of each of its business locations as well as to provide assistance to restore the operations of damaged companies. In the earthquake that struck Eastern Shizuoka Prefecture later in March 2011, this time JATCO's facilities suffered heavy damages and its customer as well as supplier companies came to the rescue to provide significant amounts of assistance to restore operations at our affected plants. As a member of the supply chain, today I now feel a renewed sense of importance in inter-company collaboration.

During this disaster, we implemented the response plan (BCP) formulated to allow operations to continue smoothly in the case of a major disaster, and our employees came together as one to take initiatives to enable prompt product supply. The bond of solidarity and experiences in overcoming these crises will without a doubt act as an important foothold for our future progress. Going forward, together with its stakeholders JATCO will continue to promote the growth of its people in order to provide value to its customers, automotive culture and society.

Responding to Emergencies

Planning for accidents and disasters to create thorough readiness

Preparing for emergencies

JATCO has prepared countermeasures against major impacts on production and supply caused by disasters such as earthquakes, as well as epidemics, accidents, and other unforeseen troubles.

Initiatives toward BCM*

Dealing with major earthquakes

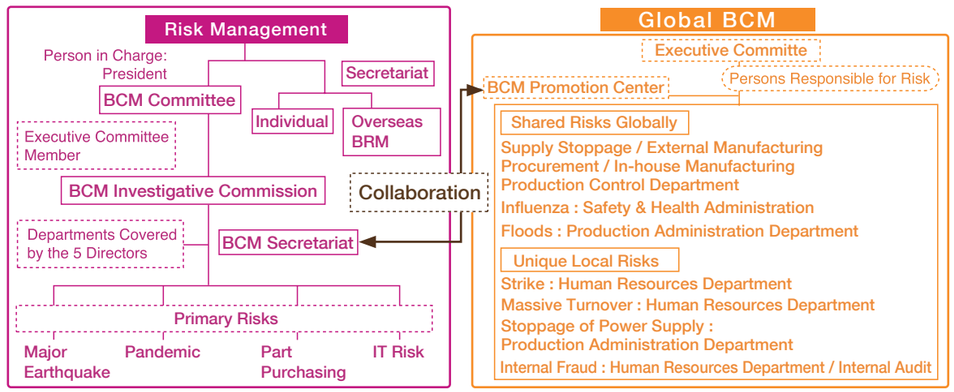
As one component of BCM, JATCO conducts disaster prevention activities aimed at first-response rescue, secondary disaster prevention, and speedy and effective recovery, all directed toward major (seismic intensity 6 or higher) earthquakes feared to strike sometime in the near future.

As a first-response measure, in March 2010 we completed preparations for an emergency earthquake notification system. We further enabled a system in workplaces to confirm employees' safety after an incident, and worked to shorten the time required to complete confirmations. Moreover, the disaster training we conduct every year incorporates the activities of our in-house firefighting team and involves participation by all employees.

As one recovery measure, from FY 2008 we have conducted BCM training for all relevant divisions. In this training, each division coordinates among themselves to find solutions to anticipated problems facing business recovery, based on damage assumptions from an earthquake. This includes dealing with automobile manufacturers, suppliers, the community, and the media. Through repetition of such training, we aim to ensure a rapid response. To roll out our BCM more smoothly, in 2011 we expanded our BCM room, further strengthening our ability to respond to business continuity risks including emergencies. In addition, experiences gained from this BCM development process are also utilized in the BCM development process of our overseas production bases including Mexico and China, indicating that the JATCO Group is steadfastly committed to implementing BCM across all of its operations globally.

BCM activities at the time of the earthquake in March 2011

■BCM Promotion Organization



Glossary

*BCM: An abbreviation for "Business Continuity Management," which refers to creating a business continuity plan (BCP) and conducting training exercises under this plan in preparation for addressing a situation where the company can no longer continue to operate due to a large-scale natural disaster or pandemic.

Safeguarding our employees and equipment

Earthquake countermeasures for buildings and equipment

We have instituted a wide range of earthquake countermeasures at our primary production sites in Japan to prevent damage or injury to employees, equipment and buildings as well as ensure plant functions can be quickly restored. These measures include seismic retrofitting of our buildings, securing production equipment in place, and making sure that nothing can fall from the ceiling or cranes. As a member of the supply chain, we are also constantly thinking up new measures so that any impacts on our customers' production are kept to a minimum.

Newly installed brace

Ensuring the safety of our employees

JATCO has developed detailed procedures on evacuation sites and evacuation methods in order to ensure the safety of its employees in the event of a large earthquake.

We also regularly hold training drills based on a wide range of scenarios, including disasters striking during the daytime or nighttime, to make these procedures known to all employees. In addition, we maintain stockpiles of supplies at our sites, such as water, food, helmets and blankets, to prepare for an emergency event where employees may not be able return home on the same day.

Disaster relief supplies stockpiled at one of our sites in Yokohama.

Earthquake countermeasures at our overseas sites

To prepare for unexpected earthquakes and other major disasters, BCM activities similar to those undertaken in domestic bases are expected to be deployed into JATCO's ever-expanding overseas bases. In addition, JATCO Thailand, which began its operation in July 2013, have taken on the lessons from the serious flooding in 2011, and have increased the banking (the foundation of the buildings) height by 50 cm in order to be more robust against tsunami and water damage.

The increased foundation height of the construction site.

Cooperating with local safety enhancements

Assisting with the evacuation of local community members

We have made plans to provide local community members with a place of refuge at our sites if they have no other evacuation site to go to following a large-scale natural disaster. As a member of the local community, we are always committed to helping those in need.

Activities to promote BCP (Business Continuity Planning)

From FY 2008, we have undertaken efforts to promote the spread of BCP through training sessions aimed at local small and medium enterprises in Fuji City. JATCO supports the program by providing instructors.

Working with Suppliers

Aiming for a partnership of mutual growth

Building upon a foundation of trust with our suppliers, we are working to maintain and strengthen cooperative relationships based on equal footing and aimed at mutual growth.

JATCO's commitment to maintaining and strengthening its cooperative relationships with suppliers as well as contributing to the development of society

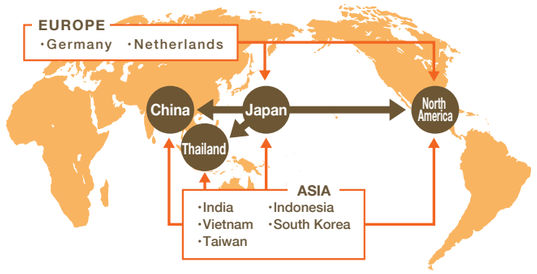
Based upon our relationship of trust with our suppliers, JATCO is working toward our shared growth and the achievement of a society where automobiles and the environment coexist in harmony.

Cooperation under fair, even, and transparent standards is vital to the achievement of those goals. That is why we implement and follow clear rules (as exemplified by Green Purchasing) for supplier selection and commendation of excellent suppliers.

In the future, as we expand our procurement from the global marketplace, JATCO will undertake the sharing of CSR (Corporate Social Responsibility) and continue contributing to the sustainable development of society.

Procurement in the global marketplace

With the expansion of production in Mexico, China and Thailand, JATCO will promote local production and LCC in order to secure fairness and to shorten the distance of parts transport in a global market.



Environment-related initiatives

Managing environmentally hazardous substances

JATCO manages substances with environmental loads in its products based on the JES M9001 technical standards that regulate the use of specified substances. In FY 2010, we continued to pursue activities under this program together with suppliers, centered on the three items discussed below.

1. **Global implementation of JATCO's Green Purchasing Guidelines**
   We manage substances with environmental loads on a global basis including the Japanese headquarters and overseas affiliated companies.
2. **Standardizing the application of Green Purchasing to new suppliers**
   We promote management of substances with environmental loads at new suppliers by asking them to submit Green Procurement-related documents.
3. **Conformance with the EU-REACH Regulation**
   We have expanded the scope of items under management to include not only the data on chemical substances in products but data on chemical substances in shipping parts and in packaging materials for transport and more recently supplies used in the production process (such as stationery including magic markers). We will continue with our persistent efforts to reduce the use of environmental load substances.

Collaboration with suppliers

We will further promote Green Purchasing activities in response to rising environmental consciousness around the world.

In addition, we provide awards to recognize suppliers which have made particular efforts towards JATCO's aspiration to achieve a society where "automobiles and the environment coexist in harmony" and cooperate in our endeavors. Since FY 2011, we have also been recognizing suppliers which made contributions to business locations in Japan, Mexico and China, in addition to our global awards. We will continue to undertake environmental initiatives while deepening the relationship with our suppliers.

Outline of Green Purchasing

The Green Purchasing activities for which we are asking your cooperation at this time, are the activities to promote environmental conservation through the products purchased from our suppliers. Important activities include the following three items:

1. **Confirmation of intention toward Green Purchasing**
2. **Development of an environmental management system**
3. **Reporting on the usage conditions environmental impact substance**

We favor those suppliers who aggressively promote Green Purchasing activities in product purchasing. We also ask our suppliers to favor their suppliers who are aggressively promoting Green Purchasing activities in product purchasing.

JATCO News

Supplier commendations and promoting a common vision

Every year JATCO awards a select number of its suppliers at an awards ceremony to express its thanks and recognize the continuing partnership.

Although there were many ways in which these suppliers contributed, including new product development and production capacity expansion, JATCO and each of its suppliers always share the same vision that, through transmission units, help achieve a society "where automobiles and the environment can coexist in harmony".

Picture of the 2012 awards ceremony

Employees and our Workplace

Aiming for safety first in the workplace

Through workplace risk assessment activities and employee health care, we are creating workplaces in which all employees can perform their jobs safely and comfortably.

Ensuring occupational safety

Under the motto "All safety activities run through risk assessment activity," JATCO undertakes safety programs centered on observation of the workplace. This includes SES I,[*1] 5S patrols, factory (or section) safety patrols, open work observation, and safety-focused observation, beginning with our "Risk Disclosure Group" that unearths on-site risks from a wide variety of perspectives. We are emphasizing an elimination of processing glitches in particular, as they not only are associated with high risk of occupational accidents but also decreased production activities.

All risks uncovered through various activities are recorded for determination of appropriate response and prioritization of response according to risk severity. By speedily implementing hardware measures such as equipment improvements and software measures such as education or instruction, we are seeking to achieve our goal of "Zero dangers from zero accidents".

Risk Disclosure Group activities

Ensuring employees' health (occupational health)

Mental health initiatives

To maintain the health of employees in both body and mind, we have partnered with an EAP[*2] specialist organization to offer consultation, examination, and counseling to employees and their families.

Improving lifestyle habits of employees

To counter metabolic syndrome and other lifestyle-related illnesses, JATCO offers health guidance to employees who are identified as in need based on health check-up results. We provide various forms of guidance, such as continuous support including follow-up after interviews, to steadily improve their health condition and to achieve their health goals.

Guidance on preventing lifestyle-related illnesses

Anti-smoking initiatives

In addition to the existing anti-smoking measures such as reducing smoking areas, the setting of smoking times and discontinuation of in-house tobacco sales, JATCO set forth a monthly no smoking day in FY 2011 by following the lead of the World No Tobacco Day on May 31, to raise employee awareness about non-smoking. JATCO also holds workshops for quitting smoking and offers treatments using smoking-cessation aids.

No smoking poster

Dealing with new strain of influenza

When a new strain of influenza broke out in 2009, we were able to minimize the outbreak among employees by drawing up and disseminating employee activity guidelines. We gave a report on this activity during the 83rd Japan Society for Occupational Health.

To address highly contagious new strains of influenza, we have compiled a manual detailing our response to outbreaks and ensure the smooth continuation of our business activities by following the basic policies of human life first, preventing the spread of the virus and ensuring business continuity outlined in our action plan and other documents.

Glossary

*1 SES Ⅰ: An abbreviation for Safety Evaluation System, this is a system for quantitatively evaluating the level of safety in workplaces (JATCO safety evaluation standards). *2 EAP : Employee Assistance Program

Employees and our Workplace

Aiming for workplaces that support individual growth

JATCO practices respect for diversity along with human resource development matched to the times. Our goal is to create workplaces that spur motivation to work and allow employees to experience growth as individuals.

Efforts to develop human resources globally

Dealing with globalization

Human resource exchange program with our overseas locations

To help young employees grow quickly as global human resources able to respond to our expanding overseas markets, JATCO operates a human resource exchange program with its overseas locations. This program aims to instill a global mindset in participants, not only through work but also diverse experiences that include everyday living.

Global Education Program

This program offers not only language study (English, Chinese, Thai, etc.) but also communication training (assertiveness, debate, etc.) and overseas intercultural training to enhance the skills and mindset needed for globalization.

Training assistance that supports overseas production sites

JATCO promotes training of its local personnel as part of the company's efforts to transfer site management knowhow and specialist skills that were instilled over many years in Japanese production sites into each overseas base so that the same ideas and processes are utilized to run the overseas bases.

Personnel training identical to those carried out in Japan has already been carried out in JATCO Guangzhou in China by sending our staff from Japan. In FY 2013, we have expanded our training initiatives by sending six of our instructors to JATCO Mexico for over two and a half months to train Mexican supervisors into trainers of various seminars. We also have plans to expand similar activities into JATCO Thailand. Through the growth of local trainers, we aim to develop and the skills of all our JATCO staff around the world.

Training at our Mexican base

Respecting the independent growth of each individual

Nurturing personnel with independence

To enable new employees to thrive in whatever division to which they are assigned, we implemented our Freshman Leader system. Under this system, the senior employees who will directly supervise new employees in their assigned divisions offer guidance and advice to ensure a smooth entry into work and company life.

Fostering the desire to learn

To support employees that have a desire to learn on their own, JATCO has prepared educational courses that employees can take on their own. The program provides opportunities to take a variety of courses, ranging from job-related content to personal development programs not immediately related to work.

Working toward a corporate culture of recognition and praise

Thanks Card System

"Thanks for the quick response on..." "Thank you for always brightening the workplace with your cheerful greetings..." These are the expressions of gratitude we write and exchange by card under the Thanks Card System introduced by JATCO. Through on-the-spot expressions of gratitude, we aim to promote a culture of praise and boost employee motivation to be proactive.

Thanks Award recipients

Commendation System

JATCO awards the President's Commendation and Corporate Officers' Commendation for meritorious deeds and conduct that enhance the company's results or its honor. By properly evaluating, recognizing, and commending such deeds and conduct, we create an environment where employees gain motivation to undertake their work.

President's Commendation

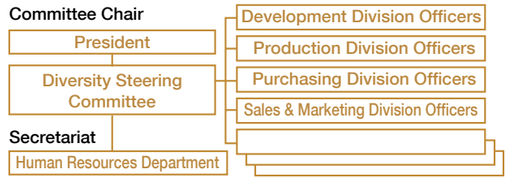
Respecting employee diversity

Undertaking diversity as a management issue

To develop our business globally and continue providing good value to customers while responding to changing times, we recognize the importance of creating new values that incorporate diverse perspectives. With that in mind, JATCO has positioned diversity as a management issue and has launched a variety of related initiatives.

In FY 2008 we established the Diversity Steering Committee, staffed by management personnel and headed by the President, to actively promote employment and human resource deployment without gender, nationality, or other bias.

■Organizational chart of the Diversity Steering Committee



Encouraging the activities of multinational human resources

As one of its diversity initiatives, JATCO promotes employment opportunities without concern for nationality. The company already has employees from many nations, including China, South Korea, and Mexico among others. We also promote personnel and technological exchanges among overseas sites. In situations such as discussing new projects, concerned members from across JATCO, including members from overseas sites, come together as one to resolve issues.

Interaction among members of overseas sites

Work-life balance

JATCO realizes the importance of the "work-life balance" mindset that enables compatibility between jobs and private life. We strive to create a workplace environment in which all can work with confidence and enthusiasm, and are expanding systems to flexibly allow work tailored to individual employees' circumstances. We have also positioned work-life balance as a measure supporting the promotion of diversity, and year by year are enriching our programs to support work that is compatible with child and family care.

JATCO's initiatives have received praise from outside the company as well.

JATCO's support for men's participation in child care, including the promotion of work leave for fathers following childbirth and the raising of the target age for the shortened working hour program, resulted in the awarding of the "Next Generation Accreditation Mark" (colloquially known as "Kurumin") by the Minister of Health, Labor and Welfare in 2009 and 2012. This mark recognizes companies that fulfill specified criteria, including drafting, executing, and accomplishing general employer action plans based on Japan's Law for Measures to Support the Development of the Next Generation.

In September 2013, as part of the Ministry of Health, Labor and Welfare's Equality and Coexistence Promoting Company Awards, we were awarded "Chief of Shizuoka Labor Bureau Excellency Award" of the equality promoting company category, which is given to companies who promote exemplary initiatives that encourages fulfilment of potential of women.

Next Generation Accreditation Mark (also known as "Kurumin")

JATCO Voice

Global Personnel Development

JATCO is developing personnel who can be successful on a global scale. I am involved in this important task in the Human Resources Department, and am running training programs such as understanding of cultural diversity, global communication, and improving skills, as well as language education. This year (2013 FY), we have launched a "second-year personnel overseas training" which is targeted to all our second-year personnel. The program itself was conducted in Vietnam.

Participants remarked that they were "able to gain confidence that they could work overseas after actually getting out of the country and experiencing foreign countries first hand".

I will continue to contribute to JATCO's global business by planning and executing training programs that nurture global-mindedness for not only junior personnel who are new to the company, but also for all JATCO personnel.

Global Personnel Development

Su-Yeol Lee
Human Resources Department

Community Relations

Making efforts to contribute to society as a member of the community

Making ongoing contributions to the local community is a requirement for a good corporate citizen.
At JATCO, we carry out communication activities rooted in our communities.

Providing facilities to the community

Cooperation with events

In addition to opening up facilities such as our gymnasiums and tennis courts to employees, their families, and local residents, we undertake communication with local communities through events held on our company grounds. We take part in summer festivals and other local events, providing shuttle buses and parking spaces as a part of our contribution to regional activity.

JATCO Festa held at Yagi Area

Yoshiwara Gion Festival held in Fuji City

Support for the Fuji City Foster Care Group

As one of its regular events, the Fuji City Foster Care Group holds a training get-together every October in Hakone, with participants enjoying pools, hot springs, and meals together while deepening communication. JATCO endorses the purpose of the event and offers support by providing microbuses.

Factory tours as a component of social studies and environmental education

As a component of social studies and environmental education for local elementary and junior high school children, we welcome factory tours by the students and their families. Our tour moves from processing to assembly sites as we explain the connection between cars and transmissions or the workings of gear shifting. We teach the challenges of manufacturing and also the importance of environmental preservation, through overviews of water treatment facilities and the recycling process.

Factory tours

Undertaking societal contribution rooted in communities

Local cleanup activities

We actively participate in regional activities aimed at cleanup, beautification, and environmental maintenance. Moreover, we have established an Environment Day at each workplace to regularly perform mowing and garbage pickup around factory grounds during lunch hour.

Cleanup activity

Involvement in tree planting activities

JATCO is taking part in a project to plant native beech trees at the foot of Mt. Fuji to ensure that the natural wonders of the area can be passed down to future generations.

Participants of beech saplings planting project

Participating in the "Fuji General Sports Park Cleaning Mission"

"Chiisana Shinsetsu (small kindness)" Movement Shizuoka Headquarters have held "cleaning missions" in various areas within the prefecture. Many from JATCO actively participate in these activities.

Scenes of the Cleaning Mission

Support for child facilities

JATCO donates picture books and story books to kindergartens and preschools in Fuji City and Nantan City.

Supporting children's facilities

Volunteer work at welfare facilities

At our locations in Shizuoka and Kyoto Prefectures, JATCO employees carry out ongoing volunteer work at nearby welfare facilities, assisting with tasks such as mowing grass, washing windows, and raking leaves.

Volunteer work at welfare facilities

Supporting high-school volunteers

Shizuoka Fuji Prefectural High School student council have collected approximately 180 school bags to send to children in Afghanistan. JATCO helps carry these school bags to a warehouse in Yokohama port.

Shizuoka Fuji Prefectural High School student council

Internships for local technical high schools

To support the transfer of advanced skills and the early education of young technicians, the Ginou-Juku training centers held within our company dispatch lecturers to nearby technical high schools to provide instruction in high-level technical skills.
In addition, we also arrange internships for local technical high schools in order to deepen student understanding of the intricacies of Monozukuri, from materials through to machining and assembly, enable a more informed understanding of the workplace through the acquisition of technical and practical skills, and to provide a deeper understanding of related subject matter as well as help them make a career choice.

Internships for local technical high schools

Cooperation with hands-on events

On August 3rd and 4th, 2012, we offered support for Kids Engineer 2012, a hands-on event focused on automobiles held at Pacifico Yokohama. JATCO supported the event from the first time, hoping that participating children become the engineers that will support Japan in the future.

Kids Engineer

JATCO Voice

Cherishing the bond with the local community

JATCO continues to participate in social contribution activities that are closely tied to the local government and citizen's groups. When we participate in environmental activities especially, we meet different kinds of people, and they tell us that there are "many people from JATCO participate in our event every year".

I feel proud that JATCO is indeed a company that are being noticed by the public.

I will continue to actively promote a variety of social contribution activities that are closely tied to the local community.

Let's positively participate in social contribution activities as representatives of JATCO.

External liaison officer

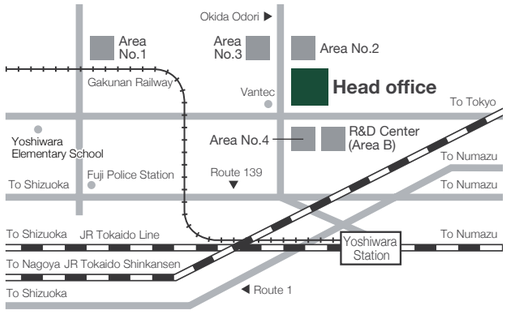
Kouji Obana
General Administration Department

Environmental Data from our Production Bases

*Site data is not included for areas other than these listed, as our company does not directly emit waste or wastewater there.

Fuji Area

[including head office]
grounds:580,440m²
buildings (total):
389,403m²



atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
compact boiler (24 units)	dust	g／Nm³	0.05	ND	ND
	NO x	ppm	100	91.8	46
	SO x	Nm³／H	0.002	ND	ND
metal-heating furnace (16 units)	dust	g／Nm³	0.05	0.043	0.019
	NO x	ppm	150	144	74
	SO x	Nm³／H	0.018	ND	ND
steel-heating furnace (8 units)	dust	g／Nm³	0.05	0.008	0.004
	NO x	ppm	150	50	25
	SO x	Nm³／H	0.026	0.001	0.0001
aluminum-melting furnace (10 units)	dust	g／Nm³	0.05	0.043	0.007
	NO x	ppm	150	53	30
	SO x	Nm³／H	0.019	ND	ND
	dioxins	ng-TEQ／Nm³	5	0.320	0.057
drying kiln (1 unit)	dust	g／Nm³	0.05	0.048	0.036
	NO x	ppm	56	20	18
	SO x	Nm³／H	0.0048	ND	ND
	dioxins	ng-TEQ／Nm³	5	0.000012	0.000012
drying combustion furnace (1 unit)	dioxins	ng-TEQ／Nm³	5	0.000027	0.000027

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5.8 ～ 8.6	7.6	7.3
biochemical oxygen demand (BOD)	mg/L	20（15）	9.6	5.8
chemical oxygen demand (COD)	mg/L	20（15）	12.9	9.3
suspended solids (SS)	mg/L	20（10）	3.0	1.8
extractive substance in normal-hexane	mg/L	4	ND	ND
copper	mg/L	0.1	ND	ND
zinc	mg/L	0.1	0.07	0.05
coliform group number	group/cm³	3000	10	3
trichloroethylene	mg/L	0.3	ND	ND
dichloromethane	mg/L	0.02	ND	ND
boron	mg/L	10	0.1	0.1
fluorine	mg/L	15	ND	ND
ammonium nitrogen nitrate nitrogen nitrite nitrogen	mg/L	100	1.1	0.9

Kambara Area

grounds:78,423m²
buildings (total):
58,033m²

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
kerosene boiler (2 units)	dust	g／Nm³	0.1	0.002	0.002
	NO x	ppm	130	88	66
	SO x	Nm³／H	0.045	ND	ND
metal-heating furnace (3 units)	dust	g／Nm³	0.05	0.028	0
	NO x	ppm	150	130	96.5
	SO x	Nm³／H	0.01	ND	ND
aluminum-melting furnace (1 unit)	dust	g／Nm³	0.05	0.018	0.013
	NO x	ppm	100	18	18
	SO x	Nm³／H	0.013	ND	ND
	dioxins	ng-TEQ／Nm³	5	0.45	0.45

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5.8 ～ 8.6	7.5	7.5
biochemical oxygen demand (BOD)	mg/L	20（15）	1.1	1.0
chemical oxygen demand (COD)	mg/L	25（20）	4.4	4.2
suspended solids (SS)	mg/L	40（30）	3.0	2.5
extractive substance in normal-hexane	mg/L	5	ND	ND
coliform group number	group/cm³	1000	24	24
dichloromethane	mg/L	0.02	ND	ND
boron	mg/L	10	ND	ND
fluorine	mg/L	8	ND	ND
ammonium nitrogen nitrate nitrogen nitrite nitrogen	mg/L	100	62.2	60.0

Fujinomiya Area

grounds:67,698m²
buildings (total):
66,756m²

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
compact boiler (6 units)	dust	g／Nm³	0.05	0.002	0.001
	NO x	ppm	100	86	77
	SO x	Nm³／H	0.01	ND	ND
metal-heating furnace (3 units)	dust	g／Nm³	0.01	0.009	0.006
	NO x	ppm	150	140	82
	SO x	Nm³／H	0.01	ND	ND

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5.8 ～ 8.6	7.5	7.3
biochemical oxygen demand (BOD)	mg/L	20（15）	7.9	4.3
chemical oxygen demand (COD)	mg/L	20（15）	2	1.4
suspended solids (SS)	mg/L	20（15）	ND	ND
extractive substance in normal-hexane	mg/L	5	ND	ND
phenols	mg/L	5	ND	ND
copper	mg/L	3	ND	ND
zinc	mg/L	2	0.04	0.03
soluble iron	mg/L	10	0.18	0.13
soluble manganese	mg/L	10	ND	ND
chromium	mg/L	2	ND	ND
coliform group number	group/cm³	3000	0	0
1,1,1-trichloroethane	mg/L	0.001	ND	ND
boron	mg/L	10	0.01	0.01
ammonium nitrogen nitrate nitrogen nitrite nitrogen	mg/L	100	0.5	0.5

Kakegawa Area

grounds:95,522m²
buildings (total):
14,954m²

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
compact boiler (2 units)	dust	g／Nm³	0.05	0.003	0.003
	NO x	ppm	100	73	72
	SO x	Nm³／H	0.01	ND	ND

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5.8 ～ 8.6	7.8	7.3
biochemical oxygen demand (BOD)	mg/L	20（15）	5.5	2.2
chemical oxygen demand (COD)	mg/L	80（60）	20.3	12.8
suspended solids (SS)	mg/L	20（10）	4.3	2.1
extractive substance in normal-hexane	mg/L	3	ND	ND
phenols	mg/L	2.5	ND	ND
copper	mg/L	0.5	ND	ND
zinc	mg/L	2	0.08	0.07
soluble iron	mg/L	5	0.34	0.32
soluble manganese	mg/L	5	0.02	0.02
chromium	mg/L	1	ND	ND
coliform group number	group/cm³	3000	330	54
cadmium	mg/L	0.05	ND	ND
cyanogen	mg/L	0.5	ND	ND
organic phosphorus	mg/L	1	ND	ND
lead	mg/L	0.1	ND	ND
hexavalent chromium	mg/L	0.25	ND	ND
arsenic	mg/L	0.1	ND	ND
mercury	mg/L	0.0005	ND	ND
alkyl mercury	mg/L	N/A	ND	ND
PCB	mg/L	0.001	ND	ND
trichloroethylene	mg/L	0.1	ND	ND
tetrachloroethylene	mg/L	0.05	ND	ND
carbon tetrachloride	mg/L	0.01	ND	ND
1,1,1-trichloroethane	mg/L	1	ND	ND
boron	mg/L	10	ND	ND
ammonium nitrogen nitrate nitrogen nitrite nitrogen	mg/L	100	3.0	1.8

Kyoto Area

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
compact boiler (1 unit) guideline	dust	g／Nm³	0.1	0.003	0.003
	NO x	ppm	150	34	29
	SO x	Nm³／H	0.00	negligible	negligible
town gas boiler (1 unit)	dust	g／Nm³	0.1	0.004	0.004
	NO x	ppm	150	82	82
	SO x	Nm³／H	0.49	negligible	negligible

Yagi Area

grounds:233,323m²
buildings (total):
68,277m²

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
compact boiler (11 units)	dust	g／Nm³	0.1	negligible	negligible
	NO x	ppm	150	77	59
	SO x	Nm³／H	0.00	negligible	negligible
continuous carburizing furnace (11 units)	dust	g／Nm³	0.1	0.084	0.005
	NO x	ppm	150	140	33
	SO x	Nm³／H	0.00	negligible	negligible

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5.8 ～ 8.6	7.5	7.3
biochemical oxygen demand (BOD)	mg/L	20（10）	2.5	1.7
chemical oxygen demand (COD)	mg/L	30（20）	4.9	3.2
suspended solids (SS)	mg/L	30（20）	0.7	0.6
extractive substance in normal-hexane	mg/L	2.5	0.5	0.5
phenols	mg/L	0.5	0.1	0.1
copper	mg/L	1.5	0.01	0.01
zinc	mg/L	2	0.04	0.04
soluble iron	mg/L	5	0.1	0.1
soluble manganese	mg/L	5	0.1	0.1
chromium	mg/L	1	0.01	0.01
coliform group number	group/cm³	1500	0	0
nitrogen	mg/L	120（60）	13.4	10.0
nickel	mg/L	1	0.01	0.01
phosphor	mg/L	16（8）	0.2	0.1
boron	mg/L	10	0.4	0.3
fluorine	mg/L	8	0.2	0.2

JATCO Mexico, S.A.de C.V.

atmosphere

NOx : nitrogen compounds SOx : sulfur oxides ND : below lower limit

facility name	item	unit	regulation value (including agreed value)	measured value	
				maximum	average
metal-heating furnace (2 units)	dust	mg/m³	570.11～521.45	55	45
	NO x	Kg/hr	—	211.610	24.630
aluminum-melting furnace (2 units)	dust	mg/m³	1248.22～1144.41	67.09	43.44
	NO x	Kg/hr	—	—	—

water quality

regulation values in parentheses are daily averages ND : below lower limit

item	unit	regulation value (including agreed value)	measured value	
			maximum	average
hydrogen ion concentration (pH)	—	5 ～ 10	7.9	6.96
biochemical oxygen demand (BOD)	mg/L	150	45.8	20.7
chemical oxygen demand (COD)	mg/L	320	86.82	71.7175
suspended solids (SS)	mg/L	150	18	12.5
extractive substance in normal-hexane	mg/L	25	9.2	6.2725
copper	mg/L	4	0.25	0.1775
zinc	mg/L	10	0.238	0.170675

JATCO (Guangzhou) Automatic Transmission Ltd.

air and water quality：not applicable

Environmental Activities

Corporate History

1943

August: Begins operation as Yoshiwara Plant of aircraft division of Nissan Motor Co., Ltd.

1970

January: Japan Automatic Transmission Co., Ltd. established through merger of Nissan Motor Co., Ltd., Mazda Motor Corporation (then: Toyo Kogyo Co., Ltd.), and Ford Motor Company

April: Mitsubishi Motors Corporation established

1989

October: Japan Automatic Transmission Co., Ltd. changes name to JATCO Corporation

1997

September: JATCO USA Inc. established in USA

1998

May: JATCO Korea Engineering Corp. established in Korea

1999

June: AT/CVT division of Nissan Motor Co., Ltd. splits off to become TransTechnology Ltd

October: TransTechnology Ltd and JATCO Corporation merge to form JATCO TransTechnology Ltd

2002

April: JATCO TransTechnology Ltd changes name to JATCO Ltd

April: AT/CVT division of Mitsubishi Motors Corporation splits off to become Diamondmatic Co., Ltd.

2003

April: JATCO Ltd merges with Diamondmatic Co., Ltd.

April: JATCO Mexico, S.A. de C.V. established in Mexico

October: JATCO France SAS established in France

2004

May: JATCO Korea Service Corp. established in Korea

2007

April: JATCO (Guangzhou) Automatic Transmission Ltd. established in China

2011

July: JATCO (Thailand) Co., Ltd. established in Thailand

Environmental and Quality Initiatives

1998

June: JATCO Corporation acquires ISO14001 certification (current: head office, Fujinomiya Area, Kakegawa Area)

November: Mitsubishi Motors Corporation Kyoto Plant acquires ISO14001 certification

December: Mitsubishi Motors Corporation Mizushima Plant acquires ISO14001 certification

1999

January: Nissan Motor Co., Ltd. Fuji Plant acquires ISO14001 certification (current: Fuji Area, Kambara Area)

2000

April: Acquires QS9000 certification

2001

February: ISO14001 renewal assessment

2002

December: Diamondmatic Co., Ltd. Kyoto Area acquires ISO14001 certification (current: Kyoto Area, Yagi Area)

2003

March: Diamondmatic Co., Ltd. Mizushima Area acquires ISO14001 certification (current: Mizushima Area)

November: ISO14001 renewal assessment

2004

February: Affiliated firm JATCO Engineering Ltd acquires ISO14001 certification

2005

February: Acquires ISO/TS 16949 certification

2006

December: ISO14001 renewal assessment

2008

May: Awarded Shizuoka Prefecture Governor's Medal for Distinguished Efforts in Proper Disposal of Industrial Waste

2009

February: Fuji Areas 1, 2, 3, and 4, and Kambara Area awarded commendation as Excellent Energy Management Factories; awarded Agency for Natural Resources and Energy Director-General's Award

Release of the environmentally superior Jatco CVT7

2010

Mass production of transmissions for hybrid vehicles

2011

May: JATCO Mexico obtains ISO14001 certification

1943 — 1970 — 1989 — 1992 Earth Summit held in Rio de Janeiro — 1993 Basic Environment Law enacted in Japan — 1997 COP 3 held in Kyoto — 1998 — 1999 — 2000 — 2001 — 2002 Earth Summit 2002 held in Johannesburg Revised Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matter goes into effect in Japan — 2003 — 2004 — 2005 End-of-life Vehicle Recycling Law goes into effect in Japan Kyoto Protocol takes effect — 2006 — 2007 — 2008 Start of first commitment period of Kyoto Protocol — 2009 International Renewable Energy Agency (IRENA) established — 2010 — 2011 — 2012

Corporate Information

Corporate Profile

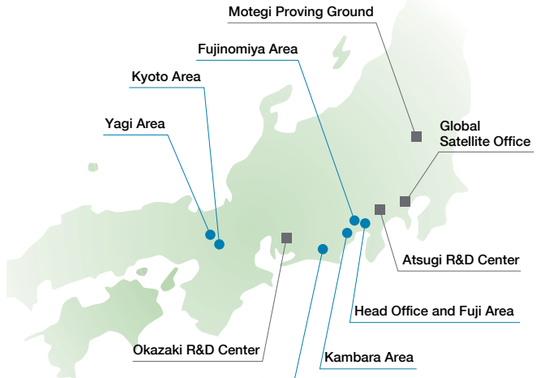
Company Name	JATCO Ltd
Established	June 28, 1999
Head Office	700-1, Imaizumi, Fuji City, Shizuoka, Japan
Main Businesses	Development, manufacture and sale of transmissions and automobile components
Capital	¥29,935 million
Number of Employees (consolidated)	11,965 (as of March 31, 2013)
Consolidated Net Revenues (Reference)	¥5,595 billion (FY2010) ¥602.5 billion (FY2011) ¥592.5 billion (FY2012)

Main Customers	NISSAN MOTOR CO., LTD. MITSUBISHI MOTORS CORPORATION SUZUKI MOTOR CORPORATION DONGFENG MOTOR COMPANY LIMITED RENAULT S.A.S

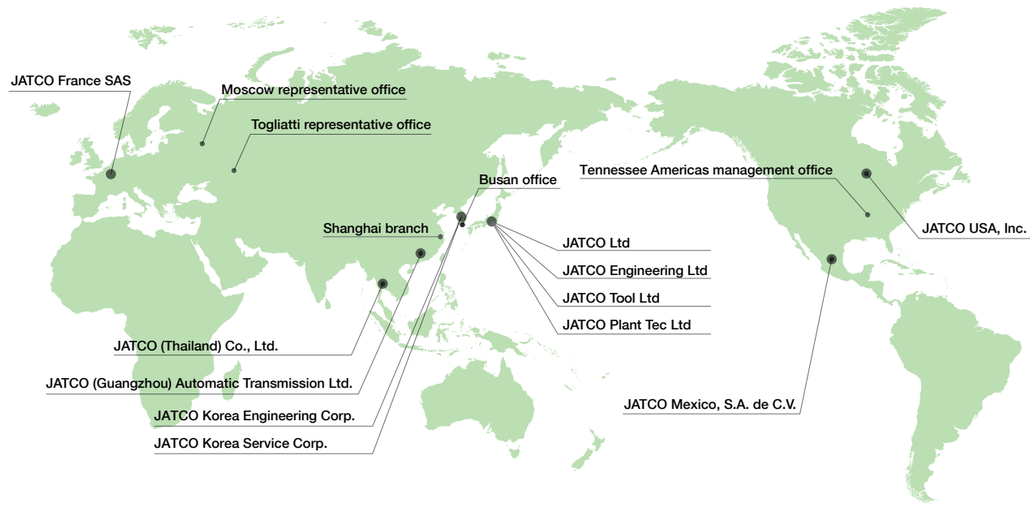
Locations

● Head Office and Fuji Area	Fuji City, Shizuoka
■ Global Satellite Office	Yokohama City, Kanagawa
● Kambara Area	Shizuoka City, Shizuoka
● Fujinomiya Area	Fujinomiya City, Shizuoka
● Kakegawa Area	Kakegawa City, Shizuoka
● Kyoto Area	Kyoto City, Kyoto
● Yagi Area	Nantan City, Kyoto
■ Atsugi R&D Center	Atsugi City, Kanagawa
■ Okazaki R&D Center	Okazaki City, Aichi
■ Motegi Proving Ground	Haga-gun, Tochigi

*Out of the above locations, ● is a environmental management system site



Global Network *including affiliated companies



Affiliated Companies/ Representative Offices etc.	JATCO Enginneering Ltd/Japan	JATCO Korea Engineering Corp./Korea	Tennessee Americas management office/U.S.A.
	JATCO Tool Ltd/Japan	JATCO Korea Service Corp./Korea	Busan office/Korea
	JATCO Plant Tec Ltd/Japan	JATCO (Guangzhou) Automatic Transmission Ltd./China	Shanghai branch/China
	JATCO USA, Inc./U.S.A.	JATCO France SAS/France	Togliatti representative office/Russia
	JATCO Mexico, S.A. de C.V./Mexico	JATCO (Thailand) Co., Ltd./Thailand	Moscow representative office/Russia

Jatco

The mission is passion.

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