ENVIRONMENTAL REPORT

2018

Logisnext

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2018

MITSUBISHI LOGISNEXT CO., LTD.

Head Office and Kyoto Plant, Shiga Plant, Azuchi Plant

Message from the President

On the Publication of the 2018 Environmental Report

御子神 隆

Takashi Mikogami
President and CEO

In the current business environment, private enterprises are expected to conduct their business operations in a manner that contributes to the development of safe workplaces, upholds legal compliance, preserves the global environment, and supports local communities and the world at large while underpinning the emergence of a sustainable society.

One of our top management priorities is to seek to preserve the global environment with an international perspective through sound corporate operations while contributing to the ongoing development of local communities. By using eco-friendly production methods to provide green products to markets around the world, we are fulfilling our commitment to contribute to the harmonious preservation of the global environment.

When we instill such management policies into our actual business operations, efforts related to quality and the environment are always at the forefront. For Mitsubishi Logisnext, our dedication to quality means to eliminate irregularities, while environmental protection is demonstrated in our efforts to eliminate wastefulness. Consequently, the focus of our operations is to eliminate irregularities and wastefulness, so we remain committed to improving our quality as we reduce our environmental impact.

We also place a special emphasis on initiatives intended to reduce our environmental impact across all our business processes, including the supply chain, which spans the areas of development, production, sales, and service, as well as the products and services that result from it.

Last October, we established a new company as a result of a business merger, and fiscal 2018 will mark the start of significant developments that will arise from this convergence.

Together, we intend to continue improving in all respects, with a particular focus on our environmental efforts.

Written in easy-to-understand language, the 2018 edition of this Environmental Report enables us to present to our customers, and all who support our Group, the environmental initiatives that were taken by our Head Office and Kyoto Plant, Shiga Plant, and Azuchi Plant in fiscal 2017.

We look forward to your continued patronage and support as we continue to grow our business into the future.

Outline of the Head Office and Kyoto Plant, Shiga Plant, and Azuchi Plant

Head Office and Kyoto Plant

Location: 1-1, 2-chome, Higashikotari, Nagaokakyo-shi, Kyoto, Japan
Start of operation: 1940
Employees: Approx. 1,080 (including partner companies)
Site area: 44,509 m^2

Shiga Plant

Location: 578 Chokoji-cho, Omihachiman-shi, Shiga, Japan
Start of operation: 1970
Employees: Approx. 810 (including partner companies)
Site area: 228,000 m^2

Azuchi Plant

Location: 8-1 Nishioiso, Azuchi-cho, Omihachiman-shi, Shiga, Japan
Start of operation: 1991
Employees: Approx. 410 (including partner companies)
Site area: 68,794 m^2

Environmental Policies & Organizational Structure

Environmental Policies

Environmental Philosophy

We shall seek to preserve the global environment with an international perspective through sound corporate operations while contributing to the ongoing development of local communities.

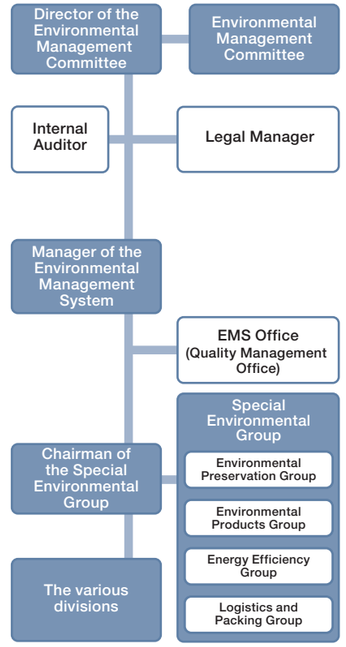
Environmental Policies

Mitsubishi Logisnext Co., Ltd. and its affiliates are committed to proactively implementing the following environmental policies through our business operations, which encompass the development, manufacture, sales, and servicing of forklifts and other industrial vehicles, distribution systems, and logistics products. In keeping with our environmental philosophy, we aim to reduce the environmental impact of our business on a sustainable basis while improving the circumstances of society through our business operations.

1. We recognize that preserving the environment and maintaining harmony with the global ecosystem are among the most important management issues, and we shall continue to systematically promote environmental initiatives through our business operations.
2. Under our environmental management system, we shall strive to control environmental pollution and promote environmental preservation activities by accurately monitoring the environment impact of our business operations.
3. We shall strictly comply with all environmental laws, regulations, and ordinances as well as all agreements and other requirements to which we are party; adopt voluntary standards; and takes steps to preserve the environment.
4. In acknowledging the environmental impact of our business operations, we shall adopt the following important initiatives.
   (1) We shall manufacture eco-friendly products.
   (2) We shall reduce, recycle, and properly dispose of all industrial waste resulting from our business operations.
   (3) We shall become more efficient and reduce our consumption of raw materials, fuel, and energy, and we shall promote environmental preservation in our manufacturing activities.
   (4) We shall improve the transportation efficiency of our product and parts distribution, reduce the use of packing materials, and decrease our environmental load.
5. We shall implement in-house training sessions and awareness campaigns to inform all our employees and trading partners of our environmental policies and shall disclose them to the public.

In order to implement the above environmental policies, we shall establish environmental goals and targets within our technical and economic scope and periodically review our progress. We shall remain committed to continuously improving our environmental management system and environmental performance.

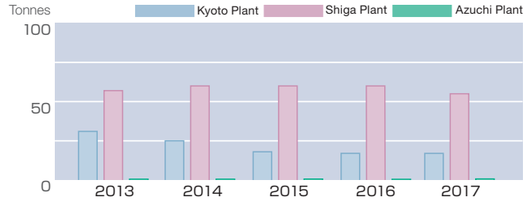
Organizational Structure



Environmental Initiatives

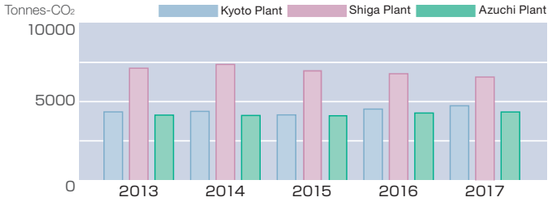
Burnable Waste (domestic solid waste) Generated

We reduced our burnable waste through regular patrols and by seeking the cooperation of our various workplaces. We will continue to improve our sorting accuracy as well as our recycling rate. Our Shiga Plant remains committed to implementing waste reduction initiatives in the future.



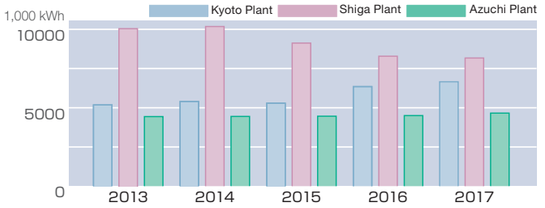
CO_2 Emissions

At our Kyoto and Azuchi plants, we adopted LEDs for plant illumination and updated our geothermal heat pumps as well as our air conditioners. However, emissions increased relative to the preceding fiscal year due to the greater use of air conditioning as a result of increased production and warmer temperature trends. Our Shiga Plant, however, reduced its emissions relative to the preceding fiscal year following the adoption of LEDs for plant illumination and inverters for air compressors.



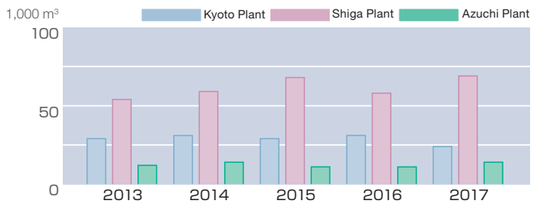
Electricity Consumption

Our Kyoto and Azuchi plants adopted a variety of measures that included the introduction of the “Cool Biz” casual summer dress code, reduced labor at the production site, and upgraded facilities. However, consumption increased relative to the preceding fiscal year due to greater use of air conditioning resulting from production increases and warmer temperatures. At our Shiga Plant, consumption was lower than that recorded in the preceding fiscal year due to the improvements similar to those listed above.



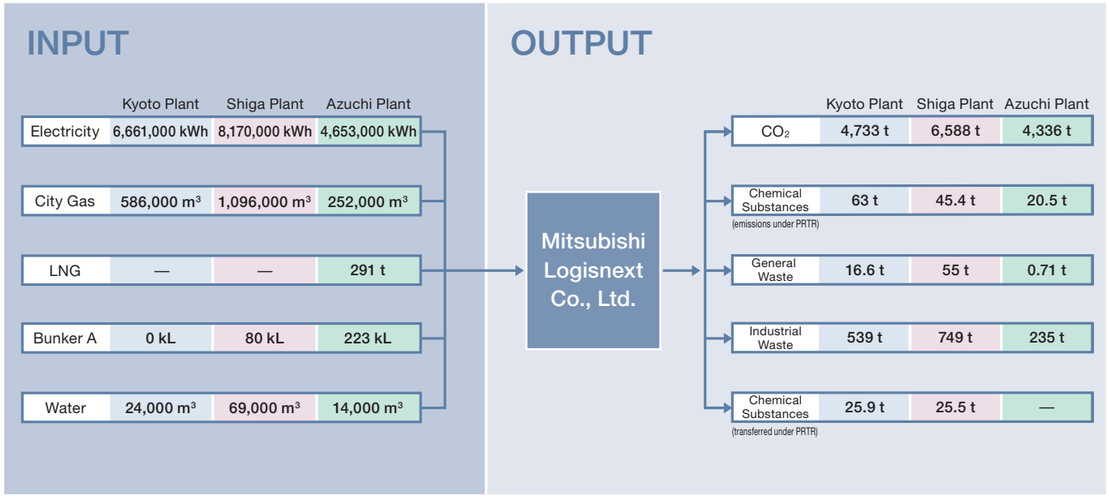
City Water Consumption

At our Kyoto Plant, water consumption increased in line with the increase in production, but we were able to reduce water consumption significantly by taking measures to minimize water leaks. At our Azuchi Plant, however, water consumption increased due to production growth and an increase in personnel. Our Shiga Plant posted an increase in water consumption relative to the preceding fiscal year due to temperature variability and efforts to maintain water quality in the fire prevention water tank. Our Shiga Plant uses groundwater as its water source.



Environmental Initiatives

Summary of Environmental Impact (Fiscal 2017)



Compliance with Laws and Ordinances

Water Quality

At the Shiga and Azuchi plants, we established a wastewater treatment tank facility and ensured that any water from sewage and processes is purified before being discharged from the plants. This purified water is discharged into tributary waterways of neighboring rivers. At the Kyoto Plant, drainage water is discharged into the drainage system after proper treatment.

Plant	Measured Item	Unit	Regulated Value	Observed Value
Kyoto	pH		5–9	7.4
	Biochemical oxygen demand (BOD)	mg/L	600	3.0
	Suspended solids (SS)	mg/L	600	Less than 5.0
	N-hexane extracts	mg/L	5	Less than 5.0
	Zinc	mg/L	2	Less than 0.05
Shiga	pH		6.5–8.0	7.4
	Biochemical oxygen demand (BOD)	mg/L	30	2
	Chemical oxygen demand (COD)	mg/L	30	3.9
	Suspended solids (SS)	mg/L	70	1.3
	Nitrogen	mg/L	12	0.7
	Phosphorus	mg/L	1.2	Less than 0.1
	N-hexane extracts	mg/L	3.0	Less than 0.5
Azuchi	pH		6–8.5	7.4
	Biochemical oxygen demand (BOD)	mg/L	40	2
	Chemical oxygen demand (COD)	mg/L	40	3.9
	Suspended solids (SS)	mg/L	90	1.3
	Nitrogen	mg/L	12	0.7
	Phosphorus	mg/L	1	Less than 0.1

Measurement dates: February 2, 2018 (Kyoto Plant); February 6, 2018 (Shiga Plant); January 9, 2018 (Azuchi Plant)

Odor

We undertake periodic odor measurements at the side boundary.

Plant	Measured Item	Unit	Regulated Value	Observed Value
Kyoto	Toluene	ppm	10	Less than 0.5
	Xylene	ppm	1	Less than 0.5
Azuchi	Toluene	ppm	10	Less than 1
	Xylene	ppm	1	Less than 0.1

Measurement dates: September 11, 2017 (Kyoto Plant); no measurement (Shiga Plant); November 9, 2017 (Azuchi Plant)

Noise

We undertake periodic noise measurements at the side boundary.

Plant	Measured Item		Unit	Regulated Value	Observed Value
Kyoto	Noise	8:00–18:00	dB	70	64
		18:00–22:00	dB	60	56
Shiga	Noise	8:00–18:00	dB	65	60
		18:00–22:00	dB	60	—
Azuchi	Noise	8:00–18:00	dB	70	57
		18:00–22:00	dB	70	50

Measurement dates: February 2, 2018 (Kyoto Plant); July 14, 2017 (Shiga Plant); November 9, 2017 (Azuchi Plant)

Atmosphere

We periodically undertake measurement of the concentrations of particulates in the atmosphere around warm air heating units. We also measure for hazardous substances as stipulated under Kyoto prefectural ordinances.

Plant	Measured Item		Unit	Regulated Value	Observed Value
Kyoto	Warm air heating unit (city gas)	Particulate	g/m³N	0.10	Less than 0.001
		NOx	ppm	150	63
Shiga	Cogeneration power generation equipment	Particulate	g/m³N	—	—
		SOx	m³N/h	—	—
		NOx	volppm	600	200
	Air conditioning equipment	Particulate	g/m³N	0.10	0.0016
		SOx	m³N/h	—	—
		NOx	ppm	150	27
Azuchi	Warm air heating unit	Particulate	g/m³N	0.20	0.027
		SOx	m³N/h	1.2	0.013
		NOx	ppm	180	72

Measurement dates: January 26, 2018 (Kyoto Plant); March 12, 2018 (Shiga Plant); March 6, 2018 (Azuchi Plant)

Targets and Results

Fiscal 2017 Targets	Fiscal 2017 Targets (Qualitative/KPI)	Fiscal 2017 Results	Evaluation	Remarks
To establish Special Group Activities as division primary tasks in preparation for restructuring of the Special Environmental Group (shift toward 2015 certification)	To develop targets (as planned) that have been identified by the Special Group as environmental initiatives for each of our divisions.	Results vary by division, and room for improvement is possible.	×	Some business offices adopted the 2015 edition in 2018.
To establish an environmental management system accompanying business integration	To convene the committee four times annually (in April, July, October and January) and undertake a management review in March	The committee convened three times during the fiscal year (in April, July and December). A management review was conducted in March, and the initiative continued under a new system in January.	×	
To promote the development of green products and determine a method of calculating the CO_2 reduction attributable to products sold	To calculate CO_2 emissions	Reach trucks and diesel-powered trucks were used to make the comparison between old and new vehicles.	○	We will clarify the standard for calculating working hours.
To visualize reduced environmental impact attributable to reduction of waste associated with defective products	To identify parts costs (excluding international sales) associated with results for the first half of fiscal 2016 (122.3 tonnes/CO_2) maximum	The result was within the target (91.7%).	○	Numerical values are effective as of the end of February.
To implement life cycle assessment (LCA) and life cycle inventory (LCI) analyses according to the ISO 14040 standard	To revise company standards for product assessments and implement LCI trial analyses	We calculated the CO_2 emissions attributable to the production of a single product. We had planned to add this to the Product Assessment Checklist, but we did not publish it.	×	
To reduce use of regulated substances (cadmium, lead, mercury, and hexavalent chromium) in our production vehicles	To determine target models for trivalent chromium conversion of bolts plated with hexavalent chromium	At the Kyoto Plant, in parallel with cost reduction efforts, we advanced the transition to the use of trivalent chromium. At the Azuchi Plant, we began to transition about 130 hex bolts and washers to trivalent chromium in April.	○	
Deployment via Supply Chain Management To strengthen management of chemical substances • To increase implementation rate of "SVHC survey": Evaluation by business partners • To ensure all business partners submit Declarations of Non-use/Non-inclusion of Prohibited Substances To promote compliance with green procurement guidelines	To increase implementation rate of SVHC survey	The result exceeded the target value.	○	Requests are submitted regularly to those suppliers who have not yet responded.
	To ensure all business partners submit Declarations of Non-use/Non-inclusion of Prohibited Substances	Despite our new request for submissions, not all our business partners have complied with the request.	×	
To achieve a minimum recycling rate of 99% at the Kyoto Plant and Azuchi Plant	Same as at left	Kyoto Plant: 97.6% (16.6 tonnes of general waste) Azuchi Plant: 99.4% (0.7 tonnes of general waste)	×	We will improve sorting accuracy through environmental patrols and other initiatives.
To reduce annual emissions of volatile organic compounds (VOCs) by reviewing the data collection method (creating a mechanism to properly identify monthly VOC emissions)	To use the new production system (SAP) to obtain data on amounts purchased	The new production system provided data on the amount purchased and calculation of VOC emissions.	○	
To conduct zero waste campaigns annually at the Azuchi Plant and semiannually at the Kyoto Plant	Same as at left	Kyoto Plant: Implemented on May 22 and October 19. Azuchi Plant: Implemented on May 15.	○	
To continually monitor environmental conservation costs and publish them internally	To publish the data in-house for 116 fiscal periods and continue calculating a total of 117 fiscal periods.	We published the data for fiscal 2016 in August in-house and continued to collect data for fiscal 2017	○	
To improve energy intensity by 1% year-on-year	Same as at left	Kyoto Plant decreased by 1.7%, Azuchi Plant decreased by 4.5% year-on-year. Kyoto Plant and Azuchi Plant decreased by 2.8% year-on-year.	○	We will continue to monitor factors other than production increases.
To reduce CO_2 emissions by 1% year-on-year	Same as at left	Kyoto Plant increased by 5.7%, Azuchi Plant increased by 2.6% year-on-year. Kyoto Plant and Azuchi Plant increased by 4.2% year-on-year.	×	We will continue to monitor factors other than production increases.
To quantify CO_2 reductions resulting from the energy-efficiency initiatives in each division (especially for labor reductions in the production section)	To convert labor hours of the production section into reduction in CO_2 emissions Environmental investments (149 tonnes/year in terms of CO_2)	Kyoto Plant and Azuchi Plant: 278.8 tonnes Reduced by 50.3 tonnes as a result of environmental investments.	×	Some investments were postponed until fiscal 2018.
To reduce water consumption (in cubic meters) per unit of sales by 3% compared with fiscal 2014 levels at the Kyoto Plant and Azuchi Plant	Same as at left	Reduced by 26.8% below the planned value for this fiscal year	○	We will continue to implement measures to prevent water leaks.
Regarding buffer materials and corrugated cardboard used for parts shipments, to maintain the preceding year's intensity level relative to sales volume of amount shipped	To reduce the cost of packing materials per unit of sales shipped to less than 0.054%	0.05%	○	Numerical values are effective as of the end of February.
With regard to the amount of packing materials related to product shipments, to adopt a value lower than the preceding year's intensity level relative to the amount shipped	To reduce the weight of packing materials per unit shipped to a maximum of 0.44 kg/unit	0.36 kg/unit	○	Numerical values are effective as of the end of February.
To reduce use of other companies' pallets (through measurement of waste pallet costs) and improve the returnable crate rate	Kyoto Plant: 44 yen/unit Azuchi Plant: 60 yen/unit To list returnable crates for FBR-80 To reduce pallets used when certain types of engines are delivered	Kyoto Plant: 25 yen/unit, Azuchi Plant: 37.3 yen/unit We did not complete the listing of the results of returnable crates. After considering the adoption of returnable pallets in order to reduce pallet use for some types of engines, we decided not to introduce them in the interests of cost-effectiveness.	×	
To improve the reuse rate for packing materials used for parts shipments (generated at the Kyoto Plant and the Azuchi Plant and used for parts shipments)	To reuse packing materials for parts shipments at an average level exceeding 500 kg per month	779 kg	○	
To participate in global warming prevention initiatives	To participate in Lake Biwa regeneration initiatives (reed-harvesting in Lake Biwa, etc.) and a light-dimming campaign	Dec 22: Participated in reed-harvesting project at Lake Iba-naiko. June 21, July 7: Participated in a light-dimming campaign.	○	
To promote recycling support activities	To discover items for recycling to promote recycling	Recycled work clothes, safety shoes, and containers from vending machines.	○	
To reduce CO_2 emissions	To reduce emissions compared with fiscal 2013 levels To improve intensity relative to unit of sales by 6.1% compared with fiscal 2013 levels, to 16.40 tonnes/100 million yen	6,588 tonnes 15.3 tonnes/100 million yen	○	
To reduce energy consumption attributable to transportation	To reduce cargo shipments by 6.1% below the fiscal 2013 level of 22.54 million tonne-kilometers to 21.16 million tonne-kilometers	18.97 million tonne-kilometers	○	
To improve waste generation, etc. per unit of production	To reduce waste generation, etc., per nominal unit of production by 1% below the fiscal 2011 level of 6.17 tonnes/100 million yen to 6.11 tonnes/100 million yen	6.30 tonnes/100 million yen	×	
To achieve the zero emissions standard of the former UniCarriers Corporation	To achieve a landfill disposal rate of 0.2%	Regarding general waste at the Shiga Plant, all ash was recycled as incinerated ash (final disposal amount: 0 tonnes)	○	
To reduce atmospheric emissions of VOCs	To reduce atmospheric emissions of VOCs by more than 6.1% below the fiscal 2013 level of 120.8 tonnes	175.2 tonnes	×	
To engage in community initiatives proactively	To participate in annual weeding work with the local community association To collect trash weekly around the plant	July 10: In cooperation with the Nishijuku Town community association, we conducted weeding work and continued collecting trash around the plant.	○	

▭ ••• Indicates initiatives at the Shiga Plant.

Initiatives of the Special Environmental Group

Environmental Products Group

Electric 3-wheeled/4-wheeled Forklift Trucks for the European Market

For the European market, we introduced novel electric forklift trucks capable of absolutely minimal power consumption. Thanks to the innovative design of the cargo-handling, steering, and brake systems, we managed to achieve class-leading levels of energy efficiency.

- Pressure loss caused by high oil pressure in the cargo-handling section has been reduced.
- Electric power steering reduces standby current consumption.
- Brake-by-wire system improves regenerative braking efficiency.

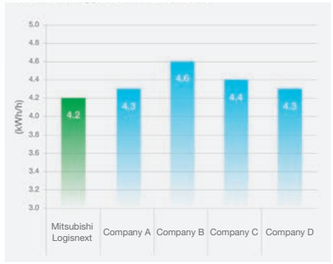


Fig. 1 Power consumption comparison according to VDI* standard (60 cycles/hour)

* The Association of German Engineers

Using the example of a 1.6-tonne three-wheeled forklift truck as shown in Fig. 1, we achieved class-leading energy efficiency with consumption of a mere 4.2 kWh/h. As a result, this model offers extended working hours per charge (compared with our company's conventional products), which contributes to improved work efficiency for our customers.

6–8 Tonne FD Series Forklift with Domestic Diesel Engine

This model incorporates a new engine conforming to Japanese regulations* on diesel emissions. In addition to achieving optimal combustion with a common-rail fuel injection system, it collects particulate matter (PM) contained in the exhaust gas with a diesel particulate filter (DPF) and diesel oxidation catalyst (DOC). Moreover, it utilizes a urea water catalyst to reduce emissions by means of a chemical reaction. The resulting exhaust gas is exceptionally clean thanks to the new exhaust gas purification system (Fig. 2) incorporating urea selective catalytic reduction (SCR) in order to reduce nitrogen oxides (NOx) present in the gas by about 88% (relative to 2011 levels: Fig. 1).

Consequently, it is now possible to reduce fuel consumption by 5% compared with conventional models; when operated in Eco mode, fuel consumption can be reduced even further, by 11%. Moreover, a fuel-efficient model that has been added to this series incorporates a post-treatment device that uses neither DPF nor urea SCR; as a result, it requires no additional fuel injection for regeneration (burning) of accumulated soot. This reduces fuel consumption by about 20%, thus lowering CO_2 emissions and maintenance costs.

* Ministry of the Environment Emission Standards for Diesel Special/Nonroad Vehicles, 2014

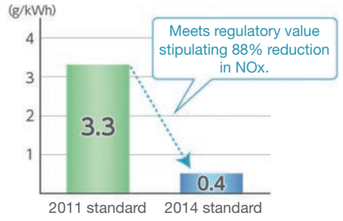


Fig. 1 NOx emissions

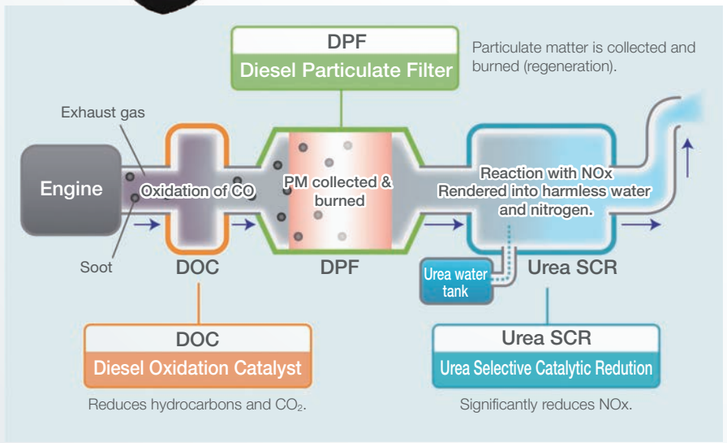


Fig. 2 Exhaust gas purification system (DOC is used only in the low fuel consumption model)

Counterbalanced Electric Forklift Trucks with Lithium-Ion Batteries

In Japan, we introduced a counterbalanced electric forklift truck equipped with a high-performance and high-efficiency lithium-ion battery.

The market for electric forklift trucks is growing in line with increased environmental awareness. Most of these trucks, however, are equipped with lead-acid batteries that have the drawbacks of continual maintenance, long charging times, and the need to swap out batteries in situations when uninterrupted operation must be maintained. In order to solve the challenging problems encountered with lead-acid batteries and further expand the electric forklift market, we set out to innovate by installing high-performance, high-efficiency lithium-ion batteries in a counterbalanced electric forklift truck.

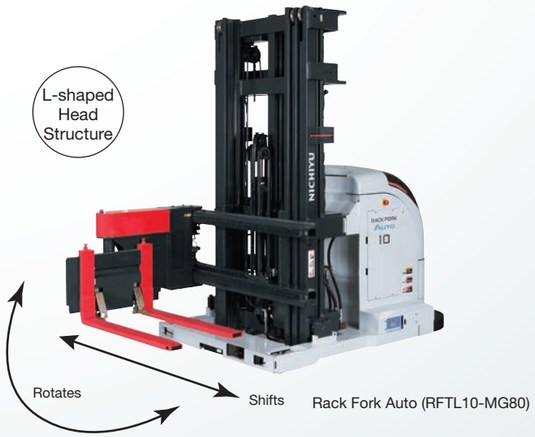
Features

1. **High-efficiency separate quick charger allows for uninterrupted operation.**
   - Charging time is reduced to only about 1 hour, or about 1/8 the charging time required for a lead-acid battery.
   - The ability to give a supplementary short charge during brief break period allows for continuous operation.
   - Elimination of the need to swap out lead-acid batteries reduces demands on workers.
2. **The stable supply of power improves cargo-handling efficiency.**
   - Lithium-ion batteries do not exhibit the voltage drops typical with lead-acid batteries, which degrade vehicle performance. The increased stability of the power supply therefore improves cargo-handling efficiency.
3. **Elimination of the need for battery maintenance helps to reduce costs as well as environmental risks.**
   - Lithium-ion batteries reduce maintenance costs because, unlike lead-acid batteries, they do not require constant maintenance such as cleaning and replenishment with purified water.
   - Lithium-ion batteries reduce environmental risks because they contain no environmentally harmful substances such as cadmium, lead, or mercury.

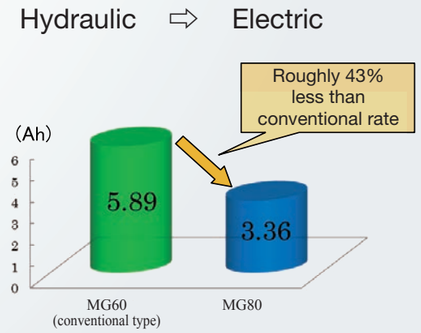
Driverless Forklift

We adopted an electric head for our driverless forklift. As a result, it is capable of loading in three directions with no change in the orientation of the vehicle, resulting in significantly increased energy efficiency. We introduced this product as a completely new model.

With our conventional model, which uses hydraulic systems in order to downsize the apparatus used for fork shifting/rotating for three-way loading, energy was lost due to noise, vibration, and heat generation during energy conversion. The new model, however, incorporates significant design changes around the head that allow for electric motor units to be mounted into the narrow head space. Energy control systems employing electric control dramatically improve energy efficiency during fork shifting and rotation. Energy efficiency is also improved thanks to the AC conversion of travel and lift motors. Moreover, in our model forklift test course, battery consumption per cycle has been reduced to about 43% that of our conventional models, resulting in a substantial increase in energy efficiency. In addition, the use of electric motors eliminates the need for complicated hydraulic piping and wiring, thus helping to reduce the environmental impact.



Rack Fork Auto (RFTL10-MG80)



Battery consumption per cycle (our standard)

Initiatives of the Special Environmental Group

Environmental Products Group

New Multi-unit Operation Control System

We have begun to incorporate Route Optimizer, a new multi-unit operation control system, proprietary to our Group, that is used for laser-guided driverless forklift trucks.

By monitoring the operation status of all driverless forklift trucks, it determines the optimum travel path to all locations for each driverless forklift truck.

This device automatically determines and teaches the ideal route path. Unlike a conventional system, it does not maintain a fixed route; instead, it is flexible enough to select a route that includes detours to accommodate the locations of other vehicles, resulting in efficient control of travel with minimal lost time. It reduces unnecessary energy consumption and helps to minimize environmental impacts by reducing the required number of driverless forklifts (Fig. 1).

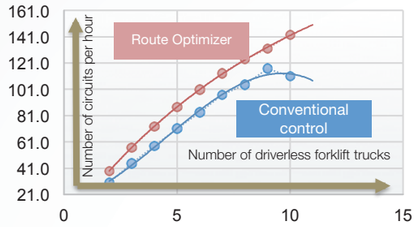
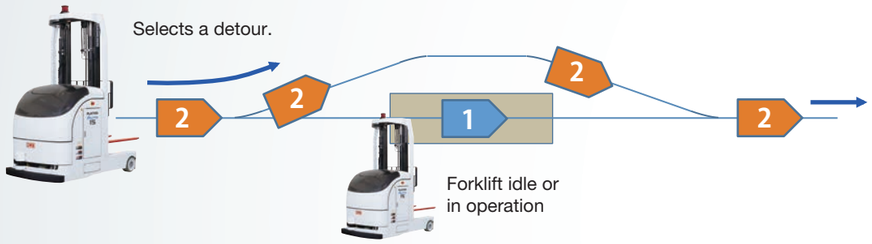


Fig. 1 Comparison of typical transport capacities



Environmental Preservation Group

Environmental Patrols

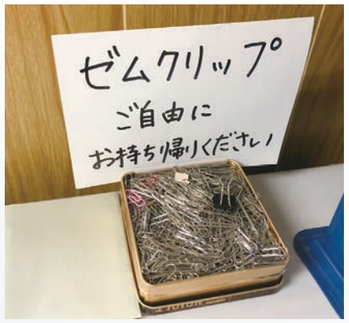
For many years our Kyoto and Azuchi plants have been engaged in stringent waste reduction efforts. Our employees have used their ingenuity to improve each workplace, eventually succeeding in reducing the amount of general waste produced. However, it was determined that a renewed effort at proper sorting of waste could result in further improvements. Regular environmental patrols are therefore conducted quarterly at each workplace to help identify better solutions and contribute to the sharing of information throughout the company to set a good example. We remain committed to ongoing waste-reduction efforts.

The "Zero Waste" Campaign

We carry out cleanup activities around our Kyoto Plant twice a year and around our Azuchi Plant once a year. This is one way we demonstrate our gratitude to area residents. In fiscal 2017, about 210 employees on May 22 and about 200 employees on October 19 participated at the Kyoto Plant, and on May 15 about 60 employees participated at the Azuchi Plant. We intend to continue with such efforts in support of our local communities.

The 3 Rs—Reduce, Reuse and Recycle

Each of our divisions makes an effort to utilize company equipment effectively, which helps us reduce waste and save money resulting from the cost of disposing of an item or replacing it. Even though each individual activity in this area might be insignificant, we believe that cumulative efforts can lead to significant cost savings.



Energy Efficiency Group

Conversion to LED Illumination at Our Plants

We updated our mercury lighting fixtures with energy-efficient LEDs. A total of 48 fixtures at two locations were upgraded to LED models with high luminous efficiency, contributing to a 25 t/year reduction in CO_2 emissions.

Frame plant in Kyoto (34 fixtures)

Shipping center in Kyoto (14 fixtures)

Updating of Air Conditioning Equipment

We updated 20-year-old air conditioners to new state-of-the-art models. We updated a total of eight units in three locations to advanced models noted for their high energy efficiency, thus reducing our CO_2 emissions by 15 t/year.

Electrical equipment plant in Kyoto
(1 unit, center of photo)

Plant office in Kyoto
(1 unit, center of photo)

Administrative building in Azuchi
(6 units)

Logistics and Packing Group

Reuse of Packing Materials Used for Shipping Parts

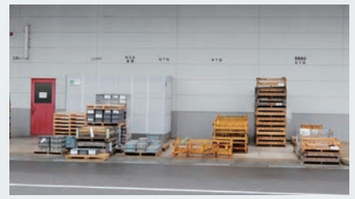
When we ship repair parts, we use cocoon-shaped cushioning materials and air mats as buffer materials to prevent damage during transport. While we purchase buffer materials from our business partners, they use similar buffer materials for the production parts we purchase from them. We continue to select and reuse what we can in order to contribute to our waste reduction efforts.

Simplified Protection for Product Shipments

Although we had been wrapping entire truck bodies with protective material for shipment, we have begun to substitute covers for some parts in place of protective wrap. We can collect and recycle these covers to reduce wrapping waste. For parts that do not interfere with function, we have eliminated protective wrap and are taking steps to reduce waste. When an opportunity arises to reduce our use of protective materials, we are also reducing their use within the company.

Promotion of Returnable Pallets

We have been engaging our business partners in discussions on the most efficient ways to return delivery pallets used for production parts. These had been discarded because no return route was available. We are now able to significantly reduce the amount of wood waste resulting from the generation of wood chips.



1 Relationship with the Community

① Participating in the Nagaokakyo City's Environmental Fair

According to the Environmental City Declaration of Nagaokakyo, the city's environmental fair is held annually with the aim of raising the environmental awareness of members of the public regarding prevention of global warming. In fiscal 2017, this event was held at the Nagaokakyo City Central Community Hall on November 18.

On that day, a variety of hands-on workshops and exhibits intended to increase public knowledge of specific environmental issues were set up and agricultural products were also available for purchase. As Nagaokakyo City is home to the head office of our company, we exhibited a display of information on our environmental initiatives.

② Participating in the Cleaning and Beautification Initiatives of Neighboring Waterways

Every year at the beginning of July, Shiga Prefecture organizes a Lake Biwa beautification initiative with members of the local community associations, engaging them in a local cleanup campaign. On June 11, 2017, we participated in a regional cleaning activity conducted by two neighboring community associations. On that day, participants were assigned to waterways neighboring the Azuchi Plant, and all worked together to remove the mud, sand, and waterweeds that had accumulated in the waterways.

③ Participation in Reed-Harvesting in Lake Iba-naiko

The Shiga Plant participates in the Network to Protect Lake Biwa with *Yoshi* Reed, which is a natural conservation volunteer initiative to encourage the healthy development of *Yoshi* reed, which is useful for preserving the water environment, ecology, and landscape of Lake Biwa. On December 2, 2017, we participated in reed-harvesting in Lake Iba-naiko, where our volunteer participants helped to bundle the harvested reeds.

④ Weeding Project in Collaboration with the Community Association

Every year in early July, the local community association located adjacent to the Shiga Plant carries out weeding work along the Sanmei River. The road that follows this river is also a route for commuters traveling to the company from the nearest train station. On July 2, 2017, about 30 individuals from our company, neighboring businesses, and the local community association participated in the project to remove weeds and harvest grass.

⑤ Trash Collection Around the Shiga Plant

On October 20, 30 managerial staff volunteered to collect trash along roads around the Shiga Plant. The plant undertakes this task several times a year in the expectation that our employees' environmental awareness is raised by such cleanup efforts along the commuting route.

2 Environmental Management Systems

① Environmental Audits

By conducting internal audits twice yearly and undergoing an annual audit by external auditors from the certification organization, we confirm that our ISO certifications — which cover the maintenance and improvement of our environmental management system and the adoption of continuous improvements — are being used effectively as tools for business improvement.

② Internal Auditor Training

The management integration effort made it necessary to dramatically increase the number of internal auditors. As a result, professional training sessions to develop QMS/EMS internal auditors were held twice during the year, on December 20–22 and February 5–7.

③ Emergency Preparedness

We launched an emergency preparedness initiative as a precautionary measure to reduce the likelihood of accidents and emergencies. In preparation for an emergency, we provide periodic emergency response training in the workplaces whose facilities have the potential to greatly impact the environment.

3 Environmental Impact Reduction Initiatives

① Participating in the Light-Dimming Campaign Targeting Reduced CO_2 Emissions

We participated in a light-dimming campaign sponsored by Japan's Ministry of the Environment. We turned off outdoor advertising signs at night during the "Summer Solstice Light-Down" on June 21 and during the "Cool Earth Day and Star Festival" on July 7. Our Kyoto Plant encouraged employees to leave the office by 19:00, while our Azuchi Plant likewise suggested that employees leave the office by 20:00, excluding those locations that have adopted a flextime policy. This effort has motivated our initiatives to do their part in fighting global warming.

② Responding to the Issue of PCB Waste

Although we appropriately store and manage polychlorinated biphenyl (PCB) waste products in compliance with related laws and ordinances, the need exists to conduct detoxifying treatment within a scheduled time limit. We had been storing two PCB waste units and until recently had been using one low-density unit at the Shiga Plant, but in fiscal 2017 the treatment was completed. As a result, treatment of all PCB waste units has been completed according to schedule.

③ Green Curtain

As a summer power-saving and energy-efficiency measure, a plant known as bitter gourd was cultivated over the factory structure of the Kyoto Plant, creating a "green curtain" to minimize the daily temperature rise. In order to prepare soil for cultivation, we mixed in fallen leaves collected from the plant grounds and composed.

4 Contributing to the Community

① Cooperating with Blood Donation Drives

Every year, our plants participate in blood donation drives in response to requests from the Blood Center of the Japanese Red Cross Society. In fiscal 2017, we welcomed the participation of a total 240 blood donors at the Kyoto Plant in addition to 136 at the Shiga Plant and 82 at the Azuchi Plant. In the future, we intend to continue participating in this endeavor as part of our contribution to the essential health of our communities.

② Opening of Regional Social Welfare Facilities

The Kyoto Plant rents out its grounds in response to requests from various groups, including the organizers of the Nagaokakyo Garasha Festival and participants in gateball (a type of croquet) competitions. In this way, the Kyoto Plant is helping to revitalize the region.

③ Providing Work Experience for Students from Neighboring Junior High Schools

From June 5 to 9, we hosted four junior high school students from schools in the Azuchi Plant neighborhood for work experience. These students were introduced to the Azuchi Plant and were able to deepen their understanding of the operations conducted on the production site. We hope this opportunity helps these students make important decisions about their future careers and their choice of employer.

④ Cooperation with the Hakone Trust

We were a charity sponsor supporting the CAT Ladies Golf Tournament held on August 18–20, 2017, setting up the venue for an "approach shot for charity contest." The charity funds gathered were donated to the Hakone Town Resource Maintenance Foundation (Hakone Trust) for the protection of the natural environment and cultural assets of Hakone, a town designated as a national park.

⑤ Participation in Local Disaster Drills

The On-site Training Center participates in the Sugito Town Community Disaster Response Drill, which is held as part of its disaster-preparedness initiative. The event was held on November 21, 2017, and the Training Center provided the training site while helping to raise awareness of regional disaster preparedness.