ISEKI group environmental management

Environmental report

ISEKI Group has walked together with agriculture since its establishment and operated on the axis of "agriculture and agricultural machinery." In environmental management, too, we set up the environmental concept of promoting environmental preservation activities to contribute to the formation of a continuously growing society in harmony with nature, society and other business entities. We establish the "Environmental Conduct Guidelines," with which the entire ISEKI Group constructs the management system and make middle- and long-term targets, on which all employees work together.

〈 Environmental conduct guidelines 〉

1. Environment-friendly development activities
2. Environment-friendly manufacturing activities
3. Environment-friendly business activities in the office
4. Environment-friendly logistics
5. Biodiversity action
6. Environmental education and information disclosure

〈 Outline of management 〉

ISEKI Group promotes environmental activities in each district in accordance with the environmental targets decided in the Director's Operation Committee Each district follows its own plan and the progress is managed by the Environmental Planning Group Meeting. The activity records and future actions are reported to the Director's Operation Committee.

[Environmental Management System]

Comments from the environment control manager

Hiroaki Kurokawa, General Manager of Production Engineering Department, ISEKI-Matsuyama MFG.

"Seto Inland Sea has incomparable beauty in the world; Green islands are scattered in the blue sea under a clear sky." To protect this precious natural environment, all members of the factory are working together to reduce environmental burdens and promote business activities that contribute to the local community in harmony with the environment.

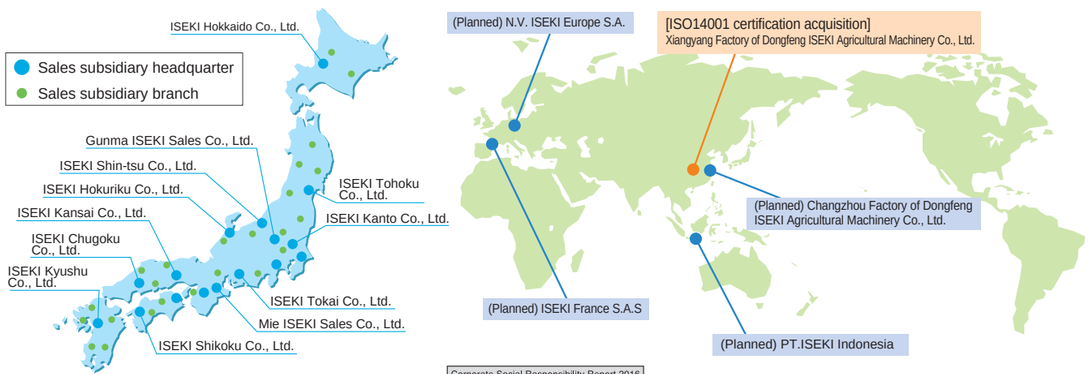
Comments from the environment control manager

Toshio Endo, General Manager of Production Engineering Department, ISEKI-Kumamoto MFG.

To preserve environmental resources such as beautiful nature, countryside, and water of the Kumamoto prefecture in Aso and Amakusa district, we are striving to reduce hazardous materials that might pollute the environment and promoting contribution to the local community and carrying out environment-friendly business activities.

〈 Domestic sales subsidiaries and overseas locations 〉

All domestic sales subsidiaries have acquired EA-21 certification and are actively involved in environmental preservation activities, such as reduction of environmental burdens. In overseas locations, we have started carrying out environmental preservation activities, including acquisition of EMS certification. In January 2016, the Xiangyang Factory of Dongfeng ISEKI Agricultural Machinery Co., Ltd., a large production base in China, acquired ISO14001 certification. Other overseas locations are also working to acquire certification by the end of 2016.



Mid-term and long-term environmental targets and FY2015 results

Environmental report

ISEKI Group made the mid-term and long-term environmental targets from the FY ended Mar.2011 to the FY ended Dec.2015. Hereby, we report the results of our major activities in the FY ended Dec.2015. We are going to establish new targets up to 2020.
<About the period of report> The fiscal year end of ISEKI Group changed in FY 2015 ending December 31 instead of March 31. So, nine-month results from April 1 to December 31 are included in Therefore the report.

1. Mid-term and long-term targets, FY2015 results and future targets

Item	Mid-term & long-term environmental targets		FY2015 results		Evaluation	Future targets up to 2020
To realize a low-carbon emission society	Reduction of energy-generated CO_2 emission	At least 10% reduction the average amount for the period between FY2008 and FY2010	Per production unit	93%	△	11% reduction per production unit from the result of FY2013; 1.57% reduction per year
			Total volume	93%		
	Reduction of energy-generated CO_2 emissions during transportaion	At least 5% reduction per transportation unit (10,000 ton-km) from the average amount for the period between FY2008 and FY2010	Per transportation unit (10,000 ton-km)	102%	○	10.5% reduction per transportation unit (10,000 ton-km) from the result of FY2013; 1.5% reduction per year
				114%		
To restrain the use of manufacturing resources	Reduction of total material input	At least 5% reduction per production unit from the average amount for the period between FY2008 and FY2010	Per production unit	115%	○	10.5% reduction per production unit from the result of FY2013; 1.5% reduction per year
			Total volume	83%		
To build a recycling-oriented society	Reduction of volume of water used	At least 5% reduction per production unit from the average amount for the period between FY2008 and FY2010	Per production unit	83%	△	51% reduction per production unit from the result of FY2013; 7.3% reduction per year
			Total volume	270%		
	Reduction of final volume of wastes	At least 25% reduction per production unit from the average amount for the period between FY2008 and FY2010	Per production unit	269%	○	14% reduction per production unit from the result of FY2013; 2% reduction per year
			Total volume	107%		
To restrain the use of toxic chemical substances	Reduction of used volume of chemical substances subject to PRTR law	At least 20% reduction per production unit from the average amount for the period between FY2008 and FY2010	Per production unit	106%	○	19.6% reduction per production unit from the result of FY2013; 2.8% reduction per year
			Total volume	93%		

2. Challenges of business activities, FY2015 results, and future issues

The results of major activities in FY2015 are described below.

Category	Items	FY2015 results
Environmental Management	Quality improvement of environmental management system	Expanded the range of the target among the non-production bases in Japan and promoted ISO14001 certification acquisition among overseas bases
	Implementation of environmental education	Promoted environmental education
	Responses to stakeholders	Collected the opinions and made various opportunities to have dialogs with stakeholders
Product development and service	Prohibition, reduction and restraint of use of toxic substances included in procured parts	Offered "certificates" to the suppliers who are active in environmental initiatives
	Development of products to reduce environmental burdens	Expanded the lineup of "eco-products" models through promoting the environment conscious design with a product assessment system.
	Expansion of product assessments and execution of LCA evaluation	
	Provision of information contributing to environmental preservation	Opened the "ISEKI high-tech green house to demonstrate our plant growth diagnosis devices.
	Development of products in consideration of biodiversity	Provided information about environmental preservation at the corporate website and product manuals

Having investigated these results and discussed the departments involved, we defined priority issues to be addressed for FY2020.

Future issues to be addressed by FY2020
To expand the application of EMS to the overseas locations
To enhance communication with stakeholders
To promote green procurement in collaboration with the suppliers
To supply safe and secure products, ensure product quality, and promote the environment-conscious designing
To increase the product lineup certified as "eco-products" to achieve 25% of all the domestic sales in 2017

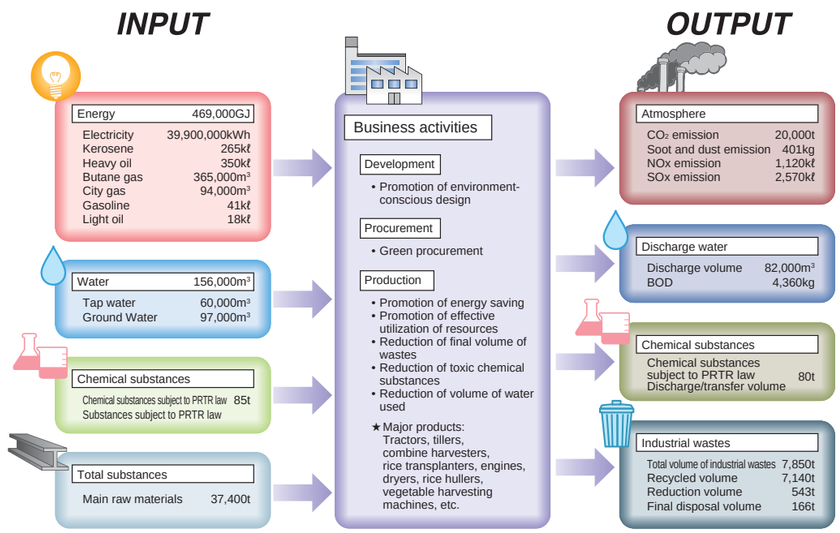
Note: The achievement ratios of The results of FY2015 listed on this page are based on the nine –month results from April to December.

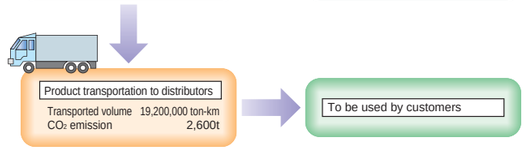
Business activities and environmental burdens

Environmental report

[Eco balance]

The four ISEKI group factories in Japan use materials like fuel, electricity, water and other raw materials in the process of production, and discharge chemical substances and industrial wastes subject to carbon dioxide (CO_2) and PRTR law. To continue business activities with less environmental burdens, we always check the volume of materials used for production (INPUT) and discharged volume of chemical substances and industrial wastes (OUTPUT) to reduce discharging such chemical substances and industrial wastes.





Note: The results of FY2015 listed in this section are based on r the nine-month result from April to December.

[Eco efficiency]

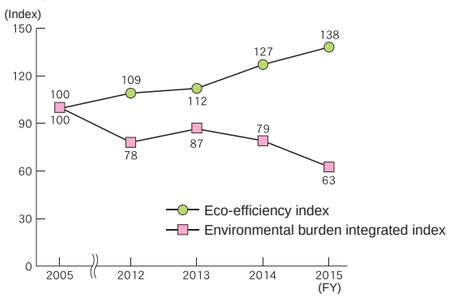
It is important to improve eco-efficiency to realize a sustainable society. Although eco-efficiency is usually calculated by subtracting environmental burdens from the value of a product or service, we adopt our own formula: "eco-efficiency production volume/environmental burdens" and evaluate with the eco-efficiency index and environmental burden integrated index. Compared with the indexes of 100 in FY2005, we improved and achieved eco-efficiency index to be 138 and environmental burden integrated index improvement to be 63 in FY2015.

★Eco-efficiency index: The higher, the more efficient.

Item	Integrated coefficient	2005		2015	
		Actual value (t)	Integrated value	Actual value (t)	Integrated value
CO_2 emission volume	1	34,600	34,600	26,723	26,723
Non-methane VOC emission and displacement volume	239	174	41,500	106	25,300
landfilled waste volume	3	2,750	8,260	221	664
Environmental burden integrated values in total		–	84,300	–	52,700
Eco-efficiency		–	83.3	–	115
Environmental burden integrated values (2005 as reference year)		–	100	–	63
Eco-efficiency index (2005 as reference year)		–	100	–	138

Environmental burden integration and eco-efficiency

★Environmental burden integrated index: The lower the index, the smaller the environmental burdens.



Eco-efficiency index & environmental burden integrated index (100 in FY2005)

Note: The FY2015 indexes listed in this section are based on the nine-month result from April to December and distributed proportionally to twelve months.

Environmental risk management

Environmental report

[Actions to comply with Antipollution Laws]

〈Establishment of self-directed standards and management in the company〉

The four ISEKI group factories in Japan set forth and applied more stringent self-directed control standard values than those set forth in the environment-related laws and regulations. As shown in the table below, we met all the self-directed control standards in FY2015, making progress to reduce environmental pollution.

Measured item		Unit	ISEKI-Matsuyama & ISEKI-Houei MFG. Co., Ltd.			ISEKI-Kumamoto MFG. Co., Ltd.			ISEKI-Niigata MFG. Co., Ltd.		
			Regulatory standards	Self-directed control standards	Result in 2015	Regulatory standards	Self-directed control standards	Result in 2015	Regulatory standards	Self-directed control standards	Result in 2015
Water quality	Volume of suspended substances (SS)	mg/L	600	500	32	200	40	5.0	90	45	0.7
	Volume of biochemical oxygen demand (BOD)	mg/L	600	500	87	25	8	2	60	30	5.7
	n-hexane (Mineral oil)	ppm	30	4	2	5.0	2.4	Less than 0.5	5.0	4.0	0.11
Air	Particulate	g/m³N	0.30	0.18	Less than 0.01	0.30	0.08	Less than 0.01	0.20	0.10	0.01
	Nitrogen oxide	ppm	260	91	63	250	200	23	230	50	16
	Particulate (electric casting melt furnace)	g/m³N	0.10	0.08	0.03	–	–	–	–	–	–

–: Shows standard N/A or not applicable machines

〈Frequency of environment data measurement〉

Machine, equipment, and place	Measured item	Measurement frequency		
		ISEKI-Matsuyama & ISEKI-Houei MFG. Co., Ltd.	ISEKI-Kumamoto MFG. Co., Ltd.	ISEKI-Niigata MFG. Co., Ltd.
Industrial effluent	Water quality	Once a year	Once a year	Once a month
Casting melt furnace	Air	Twice a year	–	–-
Boiler		Twice a year	Twice a year	Twice a year
Lot border line	Noise	Twice a year	Once a year	Once a year
	Vibration	Twice a year	–	–

–: Shows standard N/A or not applicable machines

Environmental accounting

In order to make management decisions on environmental preservation and to provide guidelines for evaluation of our social activities, ISEKI Group adopts the environmental accounting in which we sum up the investments and expenses for the environmental preservation activities. The amount invested for environmental reservation costs (pollution prevention, environmental preservation, and resource recycling costs) in FY2015 (from April to December 2015) was 384 million JPY. The total amount of expenses was 304 million JPY in which we included the investments into diesel engine gas emission control and fuel efficiency improvement to comply with the laws and regulations of Europe, U.S., Southeast Asia and Japan

Environmental preservation cost				
Category		Major programs	Amount of investment (in mil. JPY)	Expenses (in mil. JPY)
(1)	Cost spent in the business segment		276	75.5
Breakdown	1) Pollution prevention cost	Sewage treatment	1.2	50.7
Breakdown	2) Environmental preservation cost	Inverter installation	275	1.3
Breakdown	3) Resource recycling cost	Waste treatment	0.0	23.5
(2)	Cost required at previous and later stages	Green purchasing	0.0	15.6
(3)	Control activity cost	Maintenance of environmental management system	81.1	41.2
(4)	Research and development cost	Compliance with emission gas regulations	26.4	159
(5)	Community activity cost	Cleaning activity in the communities, social contribution activities	0.0	12.5
(6)	Environment recovery cost	–	0.0	0.0
Total			384	304

Coverage: ISEKI-Matsuyama, ISEKI-Kumamoto, ISEKI-Niigata, and ISEKI-Houei MFG. Co., Ltd. and Tobe office

Economic effects resulting from the environment preservation measures		
Details of effect		Amount (in mil. JPY)
(1)	Reduction of the volume of various resources to be consumed	3.0
(2)	Reduction of environmental burden substances	33.9
(3)	Reduction of energy consumption	2.9
Total		39.8

The environment preservation measures have two types of effects: Economic and physical (reduction) effects. The effects in FY2015 resulted from recycling of wastes, streamlining of painting methods, use of energy-saving machines, use of processing machines equipped with inverters, etc.

Note: The results of FY2015 listed on this page are based on the nine-month result from April to December.

Reduction of environmental burdens

Environmental report

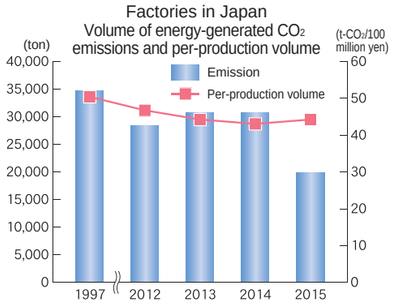
We have four manufacturing sites in Japan: ISEKI-Matsuyama, ISEKI-Kumamoto, ISEKI-Niigata, and ISEKI-Houei MFG. Co., Ltd, and three counterparts in overseas: Changzhou and Xiangyang Factories of Dongfeng ISEKI in China and PT. ISEKI INDONESIA in Indonesia.
The results of FY2015, their reasons, and future actions are described below.

[Reduction of CO_2 emissions]

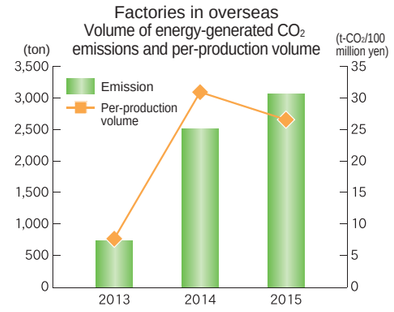
<Factories in Japan>
The target was not achieved in FY2015. We will further promote to replace into more energy-saving equipment and implement energy-saving improvement activities at the manufacturing floor.

Volume of energy-generated CO_2 emissions at four factories in Japan

	1997	2008	2009	2010	Average of results of 3 years	–	2013	2014	FY endied December 2015
Total volume (t-CO_2)	34,500	29,800	28,600	29,300	29,200	Target	27,500	26,900	18,700
						Result	30,300	30,200	20,000
						Achievement rate	91%	89%	93%
Per-production volume (t-CO_2/ 100 million yen)	50.0	43.3	47.2	48.4	46.3	Target	43.5	42.6	40.9
						Result	44.0	43.0	44.1
						Achievement rate	99%	99%	93%



<Factories overseas>
At the Xiangyang Factory of Dongfeng ISEKI in China, new production lines were additionally constructed in FY2015, resulting in a significant increase in the CO_2 emissions. To reduce the total amount of CO_2 emissions, we will apply the energy-saving approaches in Japan to the overseas factories.



[Reduction of CO_2 emissions in product distribution]

We achieved the target in FY2015. We will further promote to improve load efficiency and modal shift to reduce CO_2 emissions.

Volume of energy-generated CO_2 emissions in product distribution in Japan

	2008	2009	2010	Average of results of 3 years	–	2013	2014	2015
10,000 ton-km	2,990	2,920	2,980	–	–	3,350	2,770	1,920
Total volume (t-CO_2)	4,740	3,920	4,180	–	–	4,030	3,660	2,600
Rate (t-CO_2/10,000 ton-km)	1.59	1.34	1.40	1.45	Target	1.40	1.39	1.38
					Result	1.21	1.32	1.35
					Achievement rate	116%	105%	102%
Modal shift rate	31%	46%	43%	–	–	52%	52%	49%

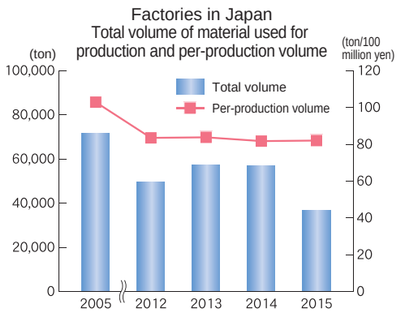
Note: Modal shift rate = (railway ton-km + sea freight ton-km)/total ton-km

[Reduction of total material input]

Total volume of materials used at the four factories in Japan
We achieved the target in FY2015. We will set forth higher reduction targets to promote the reduction activities.

Total volume of material used for production at four factories in Japan

	2005	2008	2009	2010	Average of results of 3 years	–	2013	2014	FY endied December 2015
Total volume (ton)	72,100	66,000	56,900	57,600	60,200	Target	58,400	57,800	42,900
						Result	57,600	57,500	37,400
						Achievement rate	101%	100%	115%
Per-production volume (ton/ 100 million yen)	103	96.1	93.9	95.2	95.1	Target	92.2	91.3	93.6
						Result	83.7	81.9	82.3
						Achievement rate	110%	111%	114%



Note: The results of FY2015 listed on this page for the factories in Japan are based on the nine-month result from April to December.

Note: The FY2013 results on this page are for the Changzhou and Xiangyang Factories of Dongfeng ISEKI in China.

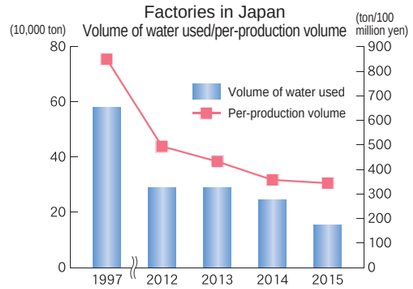
[Reduction of volume of water used]

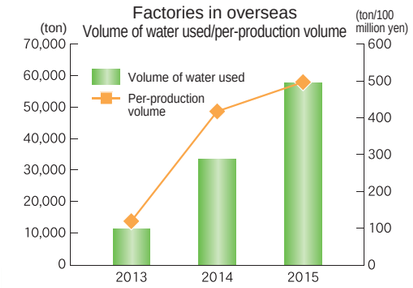
<Factories in Japan>
In FY2015, we tried to reduce the volume of water by replacing paint facility the cooling equipment, and improving sewage treatment at the Kumamoto factory,. However, we t we couldn't achieve the target because these were not introduced until the middle of a fiscal year, in August. We will further promote the reduction activities on the manufacturing floor.

Total volume of water used at the four factories in Japan

	1997	2008	2009	2010	Average of results of 3 years	–	2013	2014	FY endied December 2015
Total volume (10,000 ton)	58.2	42.4	34.2	35.5	37.4	Target	25.1	20.9	13.1
						Result	29.4	24.8	15.6
						Achievement rate	85%	85%	83%
Per-production volume (ton/ 100 million yen)	844	617	565	588	590	Target	395	330	285
						Result	427	353	344
						Achievement rate	92%	94%	83%

<Factories in overseas>
The volume of water increased due to an expansion of equipment and an increase in the number of factories.



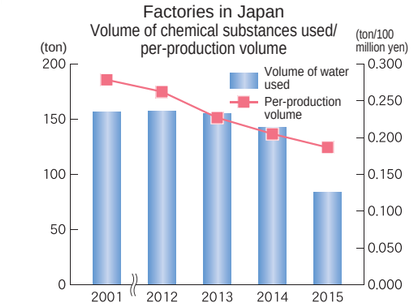


[Reduction of volume of chemical substances used]

We achieved the target in FY2015. We will reconsider the use of paint solvents in all the factories to further promote improvement activities.

Volume of use of chemical substances subject to PRTR law at four factories in Japan

	2001	2008	2009	2010	Average of results of 3 years	–	2013	2014	FY endied December 2015
Total volume (ton)	157	165	145	149	153	Target	135	128	92
						Result	156	144	86
						Achievement rate	86%	89%	107%
Per-production volume (ton/ 100 million yen)	0.277	0.240	0.240	0.245	0.242	Target	0.213	0.203	0.200
						Result	0.226	0.205	0.189
						Achievement rate	94%	99%	106%



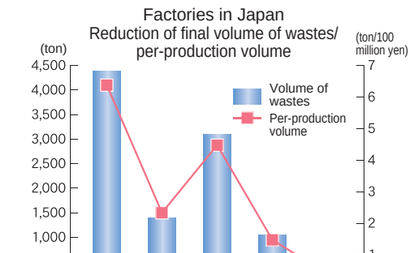
[Reduction of final volume of wastes]

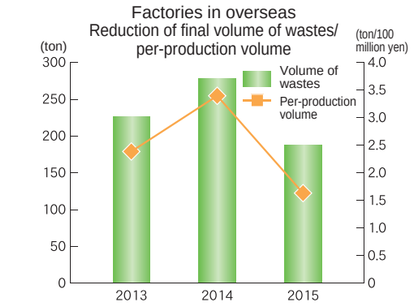
<Factories in Japan>
We achieved the target in FY2015 because the ISEKI-Matsuyama MFG. restarted recycling of molding sand in the latter half of FY2014. We will further try to improve the recycling process.

Total volume of wastes at the four factories in Japan

		1997	2008	2009	2010	Average of results of 3 years	–	2013	2014	FY endied December 2015
Industrial wastes	Total volume (t)	11,900	10,400	8,990	9,390	–	–	10,700	10,900	7,850
	Per-production volume (t/100 million yen)	17.3	15.1	14.8	15.5	–	–	15.6	15.5	17.3
Final volume of wastes	Total volume (t)	4,390	754	859	774	796	Target	676	637	448
							Result	3,090	1,030	166
							Achievement rate	22%	62%	270%
	Per-production volume (t/100 million yen)	6.36	1.10	1.42	1.28	1.26	Target	1.07	1.01	1.0
							Result	4.49	1.47	0.4
							Achievement rate	24%	69%	269%
Reduction volume (t)		1,260	571	483	553	–	–	636	717	543
Recycled volume of wastes (t)		6,279	9,050	7,650	8,060	–	–	6,990	9,150	7,141
Final disposal rate (%)		37	7.3	9.6	8.2	–	–	29	9.5	2.1
Recycling rate(%)		53	87	85	86	–	–	65	84	91

<Factories overseas>
After full-fledged production started at the factories overseas, the amount of wastes per-production volume dropped. We will further work on recycling and waste reduction through continuous control of them.





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Note: The FY2013 results listed on this page are for the Changzhou and Xiangyang Factories of Dongfeng ISEKI in China.

Examples of reducing environmental burdens

Environmental report

〈Initiative for reducing environmental burdens with the use of water-based solutions in the honing process〉

ISEKI-Matsuyama MFG. replaced the equipment in the cylinder case production line and started using environmental friendly water-based solutions in the honing process instead of an oil-based ones to reduce environmental burdens.
This change has led to a reduction of honing oil use, the occurrence of oil mist, and improved the working environments. The change of honing oil has also allowed workers to measure the dimension of cylinders cases during machining which improves the machining accuracy and reduce the machining loss.

FMS line for manufacturing new cylinder cases

Grinding equipment

[Annual reduction]
- The volume of oil-based cutting fluid used reduced: 1,190 L per year
- The cost of cutting fluid reduced: 350,000 yen per year

[Introduction]
June 2015

〈Initiative for reducing environmental burden, improving the quality, and cutting costs by updating the paint facilities〉

ISEKI-Kumamoto MFG. Co., Ltd. upgraded the D line of the paint facilities. It introduced the latest ones to enhance the painting quality and reduce the environmental burden.

Bio-decomposition technology

The bio-decomposition of waste water from the painting booth significantly helped reduce the cleaning cost of the booth and the burden of discharging waste water on the premises.

Reduction of CO_2 emissions due to reduction of LP gas used

(1) The combustion efficiency of gas burners significantly improved (5% reduction)
(2) Upgraded the drying furnace from an open-hearth type to a mound-shaped one with a high heat efficiency (95% reduction)
(3) Replaced all 20 motors with high-efficiency ones
(4) Introduced inverter-based speed control system to the places where the energy saving effects are high

Water saving

The cooling equipment at the loading/unloading place for painting hangers was changed from a water-cooled type to an air-cooled one, which reduced the volume of water usage.

[Annual reduction]
- The volume of CO_2 emissions reduced: Approx. 11,800kg-CO_2
- The water used reduced: Approx. 1,500t
- The costs reduced: Approx. 500,000 yen

[Introduction]
August 2015

The painting booth

LPG burner for the drying furnace

Approaches to design for environment

Environmental report

In order to promote environment-friendly design, to reduce environmental burden and perform LCA evaluation at each stage of manufacturing, use, and disposal, we execute the product assessment at all product development processes. We use an "eco-product certification system" only to give environmental labels to the products that meet ISEKI's own environment-friendly evaluation standards. We try to provide easy-to-understand information of certified products to customers and all stakeholders increase the number of models of certified products.

■Status of certification of eco-products

Approval year	Ratio to Domestic sales (%)	Certified product		Eco-product rank
2013	4.3	Combine harvester	HFC330 HFC433	Eco-product
		Dryer	GML25H 30H 35H 40H 45H	Super-eco-product
		Electric tiller	KDC20 VAB235	Super-eco-product
2014	9.4	Dryer	GHL50H・55H・60H・65H	Eco-product
		Ride-on rice transplanter	NP50 NP60 NP70 NP80 NP60D	Eco-product
		Combine harvester	HFR463 HFR450	Eco-product
2015	12.7	–	–	
2016		Variable fertilizing rice transplanter with soil sensor	NP80D	Super-eco-product
		Tractor	NTA283・313・343・403・453・503・543・603	Eco-product
		Eco-Unemaze-Kun	UBS series	Super-eco-product

〈Initiative for NP80D, variable fertilizing rice transplanter with soil sensor〉

As the number of large-scale farmers and the size of the paddy fields is increasing, the demand for low-cost farming is more and more growing. Our variable fertilizing rice transplanter automatically controls the amount of fertilizer application according to the depth of plowed soil and its fertility, which reduces plant lodging at the time of harvesting.

Measurement of depth of plowed soil and its fertility value

The soil sensors installed under the right and left auxiliary seedling frames measure the distance to the soil and the depth is calculated based on how much the machine itself sinks into the paddies.. Furthermore, the electric resistances provided by the electrode sensor installed in the front wheels tell the fertility value of plowed soil.

NP80D, variable fertilizing rice transplanter with soil sensor

Appropriate fertilizer application to prevent plant loading at the time of harvesting

The measurement results from the two sensors enable for the rice transplanter to decrease the amount of fertilizer applied in real time to the points where soil is plowed deep and its fertility is high.
Appropriate fertilizer application ensures uniform growing of rice plants, and prevents plant lodging caused by excessive fertilizer applied, which helps improve the work efficiency at the time of harvesting. The acquired data can be plotted into farm maps.

Certification as "super-eco-product"

This rice transplanter has been certified as a "super-eco-product" due to the functions of reducing fertilizer and preventing plant lodging, which helps improve work efficiency.

〈Initiative for NTA tractor series〉

The "NTA series," middle-sized tractors to support the farming industry, have been available since 2013. We brought more environment-friendly new "NTA 3 series" into the market, which equip a new engine complying with the (Tier 4) emission gas regulation in Japan and offer GREENMODE and AGRISUPPORT features.

Tractor NTA 603

Compliance with the (Tier 4) emission gas regulations

In addition to the high torque, low fuel consumption, low noise, electronically-controlled common rail engine, the tractor equips the following:
- Exhaust gas recirculation system (EGR),
- Exhaust gas after-treatment equipment using oxidation catalysts (DOC), and
- Diesel exhaust gas particulate filters (DPF).

These functions helped reduce nitrogen oxide (NOx) formation and realize clean emission that complies with the emission regulations.

Certification as "eco-product"

The NTA 3 series has been certified as an "eco-product" because it complies with the (Tier 4) emission gas regulation and achieves a high heat conductive efficiency and a low fuel consumption.

Coping with energy saving work

GREENMODE is a feature that keeps fuel consumption low during light-duty work as long as large engine torque is not required. Unnecessary torque is limited by controlling the fuel injection. The GREEN NAVI mode, displayed on the LCD monitor can reduce more fuel consumption and realizes energy-saving work.

Approaches to preserve biodiversity

Environmental report

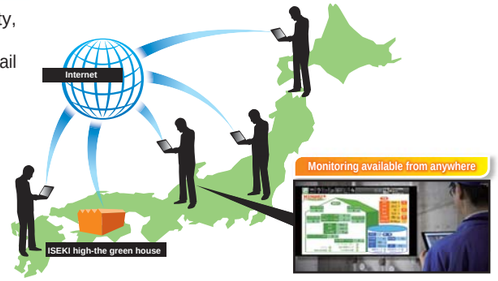
Benefited from the blessings of nature that biodiversity produces, ISEKI Group provides business activities, products and services that take biodiversity into consideration and contributes to the realization of sustainable society in cooperation with various stakeholders, including the local communities.

〈 Initiatives at ISEKI high-tech greenhouse 〉

In March 2016, we opened the ISEKI high-tech greenhouse at the premises of ISEKI-Matsuyama MFG. (Umaki-cho, Matsuyama city, Ehime prefecture).
It is open to the general public including customers, local residents and children who visit the factory as part of a social study. We will make full use of this facility to research and develop human resources, to show major models of future agriculture as well as to demonstrate the industry's first "plant growth diagnosis devices."

Advanced cultivation and environment control system, MINORI+

- Automatic adjustment and control of optimal temperature, humidity, optical environment, and carbon gas environment
- Remote control from PCs and smartphones and device alarms via e-mail



Plant growth diagnosis device

- Measurement of plants' photosynthesis and display of measurement results in graphs
- Analysis of photosynthesis and environmental information about optimal environmental control to be accumulated Battery-operated device without any exhaust gas emission
- Minimum power consumption due to LED irradiation and auto power-on and off function

Pollination by black bumblebees

- Use of black bumblebees that fly around in the greenhouse to pollinate crops
- No burden on the ecosystem because of indigenous species; No permission required from the Ministry of the Environment under the Invasive Alien Species Act

Black bumblebee

Training of tomato plants to a height

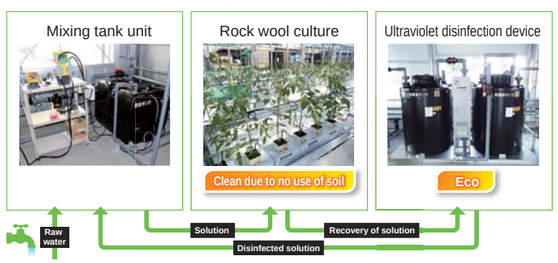
Diagnosis using LED irradiation

Long-term multi-stage cultivation

- Temperature control enables long-term cultivation for 10 months from September to June next year.
- Possible harvesting of about 30 clusters of tomatoes per plant
- Training of tomatoes to a 4-meter height using high eaves to allow light to reach even the leaves in lower layers and facilitate harvesting
- Use of rail-traveling work trucks for laborsaving

Nutrient solution system

- Mixture of nutrient solution along with adjustment of electric conductivity and acidity and culture on rock wool
- Recycling of surplus nutrient solution after ultraviolet disinfection to reduce water and fertilizer and minimize environmental burdens



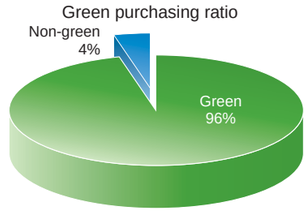
Nutrient solution circulation system

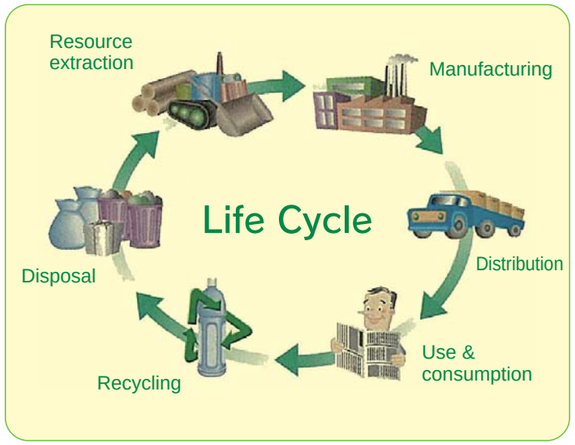
Green purchasing/Green procurement

Environmental report

〈 Green purchasing initiative 〉

We promote green purchasing to prioritize products with environmental labels, such as eco marks and GPN (Green Purchase Network) standard products when purchasing office supplies and electric and electronic devices etc.. The total amount of green purchasing of the entire ISEKI group was accounted for 96% of the total purchase in FY2015.



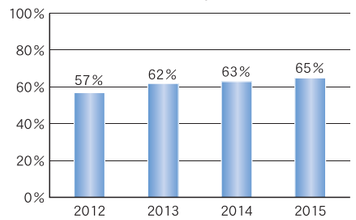


〈 Green procurement initiative 〉

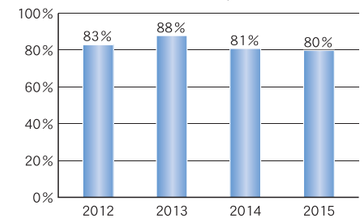
ISEKI Group is promoting environmental-friendly design throughout the processes of product development. In addition to the product quality, cost and delivery time, we established "Green Supply Guidelines" to develop products in consideration of environmental preservation with our suppliers.

<Result of green procurement in FY2015>
We have offered "Certified Green Suppliers" to approximately 300 suppliers who are superior in the environmental preservation activities. 65% of the suppliers were certified as green suppliers, the amount of which accounted for 80% of all the transactions. ISEKI Group will make efforts to improve the green procurement ratio.

Certified companies ratio



Ratio of transaction amount by the certified companies



Green Supplier Certificate

DBJ Environmental Rating

〈 The highest "DBJ Environmental Rating" ten times in a row 〉

Every year, ISEKI & Co., Ltd. undergoes the audit for "DBJ Environmental Rating" by the Development Bank of Japan (hereinafter "DBJ"), one of our main financial institutions. Again in FY2015, we obtained the best rating, which proves "doing environment-friendly business activities progressively," ten times in a row.

Certificate

Note: The results of FY2015 listed on this page are calculated from the nine-month result from April to December.

Environmental performance of four factories

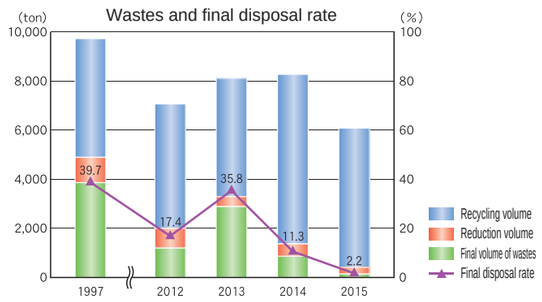
Environmental report

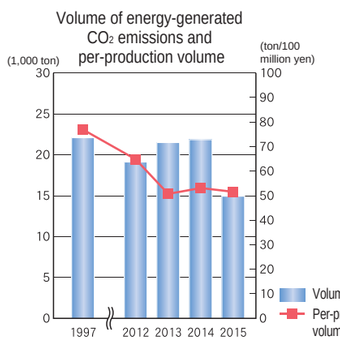
ISEKI-Matsuyama MFG. Co., Ltd.

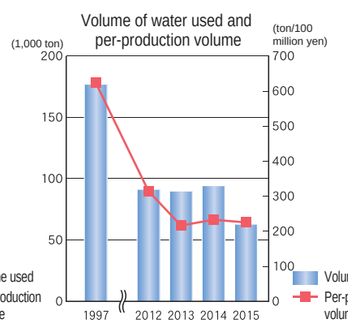
〈 Company profile 〉

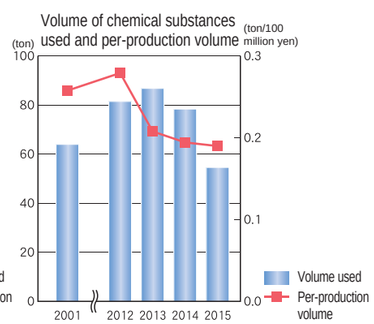
Address	700 Umaki-cho, Matsuyama-shi, Ehime prefecture
Number of Employees	559 (As of December 31, 2015)
Area	151,000m²
Major products	Tractors, high clearance multipurpose vehicles, lawnmowers, engines

〈 Environmental data 〉







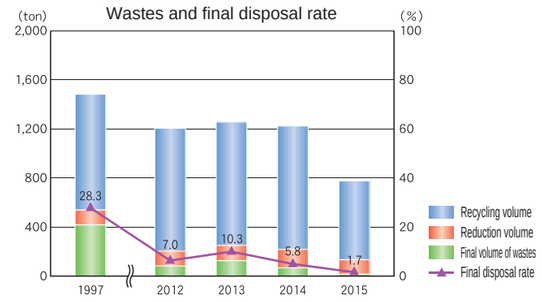


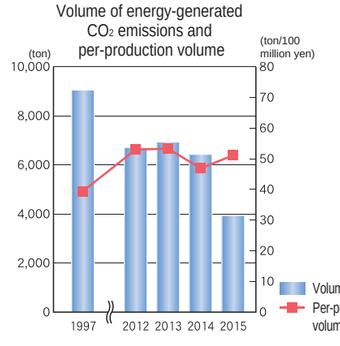
ISEKI-Kumamoto MFG. Co., Ltd.

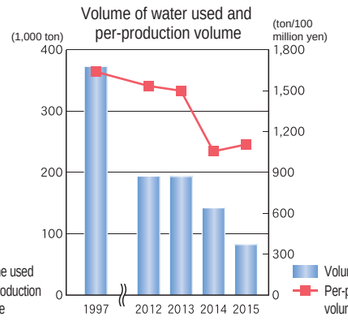
〈 Company profile 〉

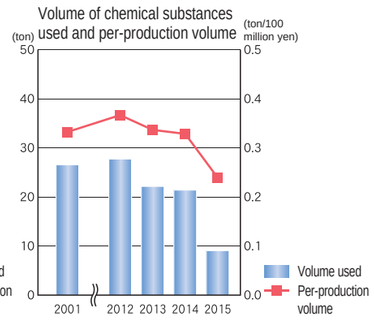
Address	1400 Yasunaga, Mashiki-cho, Kamimashiki-gun, Kumamoto prefecture
Number of Employees	261 (As at December 31, 2015)
Area	217,000m²
Major products	Head-feeding combine harvester, multi-crop combine harvesters, carrot harvesters

〈 Environmental data 〉









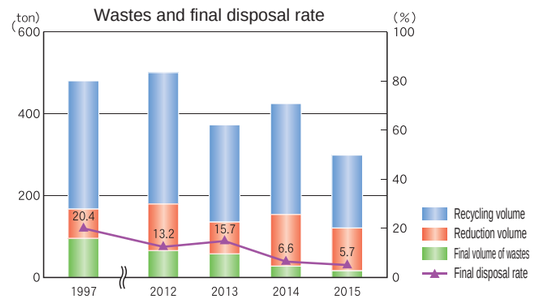
Note: The results of FY2015 for the factories in Japan are based on the nine-month result from April to December.

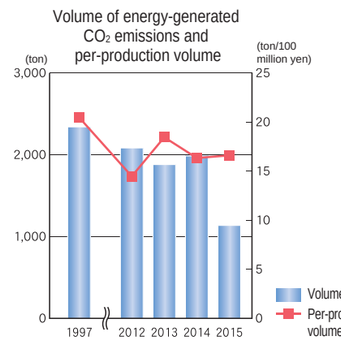
ISEKI-Niigata MFG. Co., Ltd.

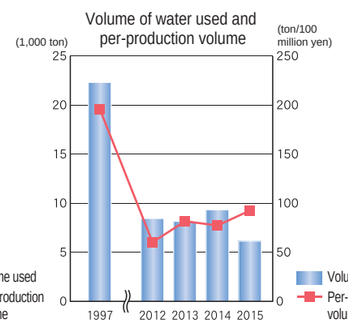
〈 Company profile 〉

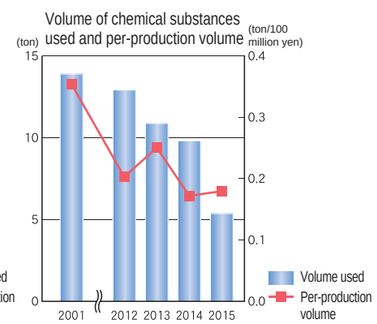
Address	3-12-23 Nishiosaki, Sanjo-shi, Niigata prefecture)
Number of Employees	204 (As at December 31, 2015)
Area	29,000m²
Major products	Rice transplanters, rice hullers, vegetable transplanters, binders

〈 Environmental data 〉







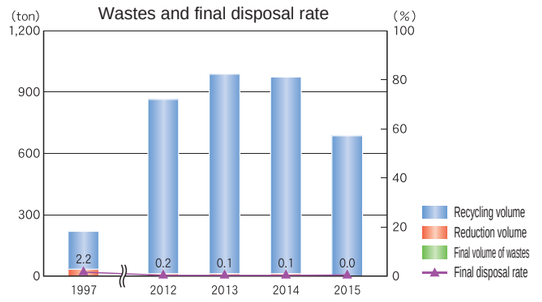


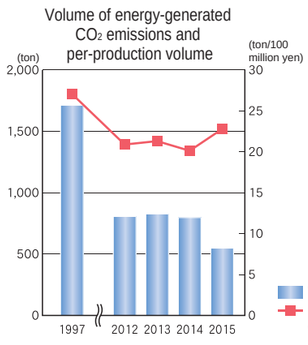
ISEKI-Houei MFG. Co., Ltd.

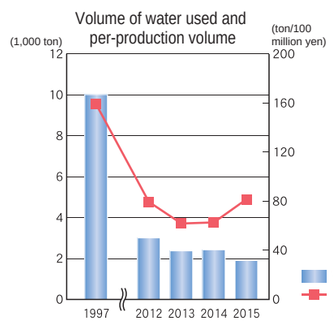
〈 Company profile 〉

Address	878-1 Umaki-cho, Matsuyama-shi, Ehime prefecture
Number of Employees	224 (As at December 31, 2015)
Area	8,959m²
Major products	Cultivators, tillers, system rice cooker, vinegar mixing device

〈 Environmental data 〉







Note: The results of FY2015 for the factories in Japan are based on the nine-month result from April to December.

Third-party comments

Environmental report

〈Third-party comments on environmental preservation activities〉

Faculty of Agriculture, Ehime University
Department of Bio-mechanical Systems, Laboratory of Environment informatics and Control

Professor Tetsuo Morimoto

ISEKI & Co., Ltd. is an all-around manufacturer engaged in developing, manufacturing, and selling agricultural machinery.

[About completeness of information in this report]

The CSR report of this year starts with an environmental report that describes environmental policies and environmental management systems and then concisely summarizes the second mid-term and long-term environmental targets from 2011 to 2015 and the results of activities for them together with data (such as reduction of CO_2 emissions, eco balance, measurement of densities of environmental pollutants in discharge water, environmental accounting, reduction of environmental burdens, environment-friendly design, green purchasing, environmental education, and responses to stakeholders). In sum, the company's environmental preservation activities are almost completely covered.

[About important issues and environmental policies]

Since its business activities, depending on their nature, may give significant impacts on the environment, this company recognizes the solution to environmental problems as one of the most important issues. Thus, it clearly defines policies to construct a recycling-oriented system that harmonizes and coexists with the nature and society and ensure continuous development toward the future. These ideas are exceedingly important as corporate ethics of a manufacturer.

[About environmental management system]

The environmental management system consists of the Director's Operation Committee chaired by the CEO at the head office, the Environmental Planning Group Meeting under it, and the Environment Promotion Council at each of the factories. This organization represents ISEKI Group's determination to make concerted efforts together on environmental problems under the leadership of the CEO. First, the Director's Operation Committee sets forth environmental targets. Next, the Environmental Planning Group Meeting encourages the factories to achieve these targets, evaluates activity records, discusses future actions, and reports the results to the Director's Operation Committee. In other words, the management system based on the PDCA cycle is clearly defined, suggesting this company's positive efforts.

[About initiative for reducing environmental burdens]

The achievement rates in FY2015 for the second mid-term and long-term environmental targets resulted in 93% for the CO2 emissions (per-production volume), 115% for the total volume of materials used, 83% for the volume of water used, and 107% for the volume of chemical substances used, leaving some of the targets unachieved. In the future, achievement rates of 100% or higher are expected for all the items.

The voluntary limit values of sewage pollution concentration are stricter than those required by lows and achieved.. Considering this fact, the efforts to environmental pollution control is considered basically sufficient.

[Summary]

As described above, this report is generally well prepared, for most of the environmental conservation activities are properly evaluated based on the actual data and summarized.. However, the report would be even better if it contains the reasons for success in reducing environmental loads and specific actions to be taken for the evaluation results.

〈Reply to third-party comments〉

Corporate Executive Officer,
ISEKI & Co., Ltd.
Deputy Chief Operation Officer,
Development & Production Division
Assigned to Environmental Control Section

Seiji Senba

We have been collaborating with Ehime University for a long time. Since the conclusion of a research collaboration agreement in 2005, we have run endowed courses carried out joint research with the university. Particularly, the Faculty of Agriculture to which Professor Morimoto belongs and the Research Center for High-technology Greenhouse Plant Production have given us special considerations in joint research and development.

I would like to express my gratitude to Professor Morimoto for precious comments on this report. Up to last year, ISEKI Group has been issuing "environmental reports" that included sociality and economic reports with a focus on environmental preservation activities. This year, we improved the contents and issued as a "CSR report." We will further improve the CSR report making full use of the comments given by Professor Morimoto to facilitate understanding by all the stakeholders. To expand the circle of ISEKI fans, we will properly identify what the stakeholders expect of ISEKI Group and what we should do in a society as a corporation and make concerted efforts as ISEKI Group.

Targets of this report

Targets of report

Editing policy: This report is edited to inform all the stake-holders about the economic and sociality reports and environmental preservation activities of ISEKI Group in terms of typical initiatives and characteristic approaches.

Target period: This report mainly summarizes activities carried out from April to December 2015. Some recent activities are also described.

Result report: Due to a change in the fiscal year-end,, the results for FY2015 are a nine-month from April to December. The results before FY2015 are a twelve month from April to March of the following year.

Target range: This report describes the activities both in Japan and overseas.

Target organization: This report describes the activities by ISEKI & Co., Ltd., its group companies in Japan and overseas, and sales subsidiaries in Japan. It describes the results of environmental approaches by the four manufacturing companies in Japan and three factories overseas, which are marked with ▭ in the follow-ing table.

References used for this report

Ministry of the Environment:
"Environmental Reporting Guidelines (2012 Edition)"
"Guide to Descriptions in Environmental Reports (3rd Edition)"

GRI "Sustainability Reporting Guidelines 4th Edition"

Offices and major group companies in Japan

Office name	Sales subsidiaries	Affiliate companies
Head Office	ISEKI Hokkaido Co., Ltd.	ISEKI-Matsuyama MFG. Co., Ltd.
Tokyo Headquarters	ISEKI Tohoku Co., Ltd.	ISEKI-Kumamoto MFG. Co., Ltd.
Tobe Office	ISEKI Kanto Co., Ltd.	ISEKI-Niigata MFG. Co., Ltd.
Kumamoto Office	Gunma ISEKI Sales Co., Ltd.	ISEKI-Houei MFG. Co., Ltd.
Tsukubamirai Office	ISEKI Shin-etsu Co., Ltd.	ISEKI-Shigenobu MFG. Co., Ltd.
• Technical Service Center	ISEKI Hokuriku Co., Ltd.	ISEKI Matsuyama Factory K.K.
• Training Center	ISEKI Tokai Co., Ltd.	ISEKI AGRI Co., Ltd.
• Dream Agricultural Research Institute	Mie ISEKI Sales Co., Ltd.	ISEKI Logistics Co., Ltd.
Ibaraki Center	ISEKI Kansai Co., Ltd.	ISEKI TLS Co., Ltd.
Kansai Office (IMPL)	ISEKI Chugoku Co., Ltd.	
	ISEKI Shikoku Co., Ltd.	
	ISEKI Kyushu Co., Ltd.	

Major group companies in overseas

Subsidiaries overseas	Affiliate companies overseas
N.V. ISEKI EUROPE S.A. (Belgium)	ISEKI SALES（THAILAND） CO.,LTD (Thailand)
ISEKI France Holding S.A.S. (France)	Dongfeng ISEKI Agricultural Machinery Co., Ltd. (China)
ISEKI France S.A.S	Iseki-Maschinen GmbH Deutschland (Germany)
P.T. ISEKI INDONESIA (Indonesia)	

▭ : Enterprises and companies with environmental results included in this report

ISEKI Group expresses its deepest condolences to those who have suffered losses from a series of earthquakes struck in Kumamoto areas in 2016.
ISEKI Kyushu Co., Ltd. and ISEKI-Kumamoto MFG. Co., Ltd., both of which were affected by the earthquakes, resumed its operation in late April and production in mid-May respectively. We will continue to dedicate all our strength until we achieve full recovery as soon as possible.We ISEKI Group sincerely hope for earliest recovery of the affected areas and will make efforts to offer support for reconstruction of the areas in corporation with local residents.