



JDI Japan Display Inc. Group

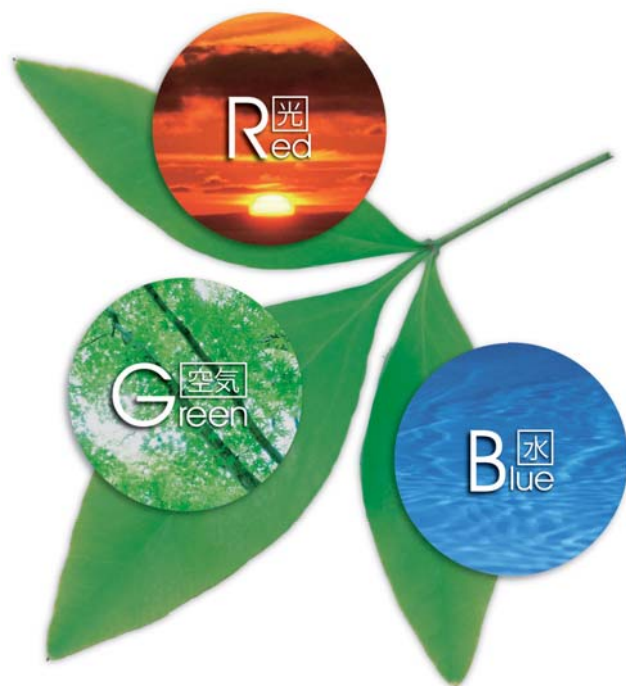
## Environmental Report 2015

# A clean earth for the next generation



Japan Display Inc. Group

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## Editorial Policy

This is the third environmental report issued by Japan Display Inc. continuing on from last year.

We think it important to appropriately disclose information to and communicate with all of our stakeholders. This report was compiled with the goal of conveying our activities for the realization of a sustainable society in an easy to understand manner.

In editing the report, we added the data and details of activities taken by overseas manufacturing subsidiaries. We also expressed ideas by incorporating as many figures and photographs as possible, and we introduce each of our activities through their own page layout. We plan to issue this regularly once each year while working to make the report even easier to read in the future.

Japanese version is also available from our website (<http://www.j-display.com/Environment/report/report.html>), and we would be pleased if people were to make use of this as well.

If there are any comments, advice, and so forth, please contact the publisher below so that we can use them as references for the future.

### ● Target Period

April 2014 - March 2015

Some activities outside of the above period are also included.

### ● Date Issued

August 2015

### ● Assumed Readers

This report is aimed at a diverse range of stakeholders that includes our customers, shareholders, clients, everyone in our local communities, and more.

### ● Publisher

CSR & Environmental Management Department, Japan Display Inc. (TEL +81-3-6732-8362)

# Top Message

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We wish to express our deepest gratitude and appreciation for your support of Japan Display Inc.

JDI was formed from the integration of the small-medium display businesses of Sony Corporation, Toshiba Corporation, and Hitachi, Ltd. Our company began business operations on April 1, 2012. In March 2014 we took an important step forward by being listed on the first section of the Tokyo Stock Exchange.

JDI develops, manufactures, and delivers to the market the displays needed for creating a visual interface that can transmit large amounts of information instantly and link people to the world at large. We deliver products to the global market in the mobile category, the automotive category, the consumer category, the industrial category, and more. These products simultaneously achieve a substantial reduction in power consumption, high resolution, high contrast, a thin module structure, a narrow border, integrated touch functions, and so on. Thus they are capable of improving environmental consciousness such as saving power and resources while providing customers with richer value.

Conversely, the production of our products involves enormous inputs of energy and resources and outputs of waste. The Hakusan Plant (Ishikawa Prefecture), which will be a state-of-the-art production line, is scheduled to begin operating in 2016 to increase our production capacity for the mobile category, which continues to grow. Seeing as how our company is one that involves a particularly large environmental burden, we consider it our responsibility to continuously strive to reduce this environmental burden at the production stage. As such, we have set forth an Environmental Policy and promote activities for this sake.

It is expected that the importance of information and communication technology (ICT), particularly smart devices like smartphones and tablets, will continue to grow when it comes to creating a new environmentally conscious, energy saving society. Therefore, we will contribute to the creation of this new society by delivering on our corporate vision of "Live Interface." We will also build consideration for the environment into our process for creating products, and will strive to create innovative products that strike a balance between value and the environment.

We look forward to your continued support for our company.



**Mitsuru Homma**

Chief Executive for  
the Environment

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In 2013, the second year since our founding, we acquired integrated ISO 14001 certification for our plants and offices in Japan, and since then we have promoted our environmental activities beneath an integrated management system. This report provides an overview of these activities. Our environmental activities can be largely broken down into two aspects: product-related and production-related environmental activities.

Firstly, as for the product-related environmental activities, we think that the regulations of various countries related to the chemical substances in products, such as REACH and RoHS, as well as the demands from our customers in this area, will continue to rise steadily. We will continue to undertake meticulous management including confirmation of the chemical substances in products during the development and design stages, prevention of contamination in our production lines, and so on. We have established criteria for the products with environmental consciousness and define products satisfying the criteria as "environmentally conscious products." As one of our environmental targets, we have set a target with the proportion of the environmentally conscious products as its key performance indicator, and we will continue to work toward achieving it.

Next, as for the production-related environmental activities, first of all, we conform to all laws and ordinances related to the environment in our production activities. We recognize that the recent increased proportion of high value-added products has been accompanied by an increase in the processes which lead to an increase in the environmental burden per sheet of glass. Our environmental burden will continue to grow larger and larger as we begin operating new plants. So with a view towards reducing our environmental burden, we have been working for continual reductions in energy such as electricity and gas, as well as water, waste, and chemical substances. In addition, we introduce the details of activities by overseas manufacturing subsidiaries, and biotope conservation activity in Japan. Our hope is that these case examples will be helpful to everyone faced with similar challenges.

Furthermore, when it comes to global warming, we continue to participate in the "Commitment to a Low Carbon Society" plan that the electrical and electronics industry has been working to address, and thereby contribute to achieving the targets of industry as a whole.

In last year's report, I mentioned the famous saying (philosophy) of the Ohmi merchants of "Sampo yoshi (Good for three ways)," which means "good for the seller, good for the buyer, and good for the society." We think that our environmental activities contribute to creating a sustainable society and therefore correspond to "good for society," and as such we will continue to promote such activities in an ongoing manner.

Moving forward, we ask for your continued support.



**Takao Yasuda**

Environmental  
Management Officer

# Environmental Policy

## ● Slogan

**A clean earth for the next generation**

## ● Mission

At JDI we recognize that protecting the earth's environment is a critical challenge for humanity. We aim to grow together with society, expressing our respect for people and the environment through the small- and medium-sized display products and services we provide.



## ● Basic Policy

We will formulate an environmental management system based on ISO 14001 standards, develop an organizational structure for its implementation, and continually improve this system throughout our business.

We will work to prevent environmental pollution by observing international, national and local environmental regulations in conjunction with our own additional voluntary standards.

We will adhere to the following standards in areas of our business that have a significant impact on the environment, setting and periodically reviewing and improving goals and targets.

## ● Key Measures

1. Pursue the prevention of global warming, preservation of water resources, and energy and resource conservation. Carefully manage chemicals and continually strive to reduce and replace them with alternatives that have a lower environmental burden. Pursue a target of zero emissions through a “reduce, reuse, recycle” program.
2. Promote green procurement to provide products and services that reduce environmental burden and support environmental sustainability.
3. Consider the preservation of the ecosystem by examining, managing and minimizing the effects of our production activity on the environment.
4. Work to contribute to society by proactively participating in local activities for protecting nature and preserving the environment.

To ensure that our environment policy is put into practice, we will raise awareness of it among our employees, providing them with education on environmental matters. We will also seek cooperation from our customers with our environmental initiatives.

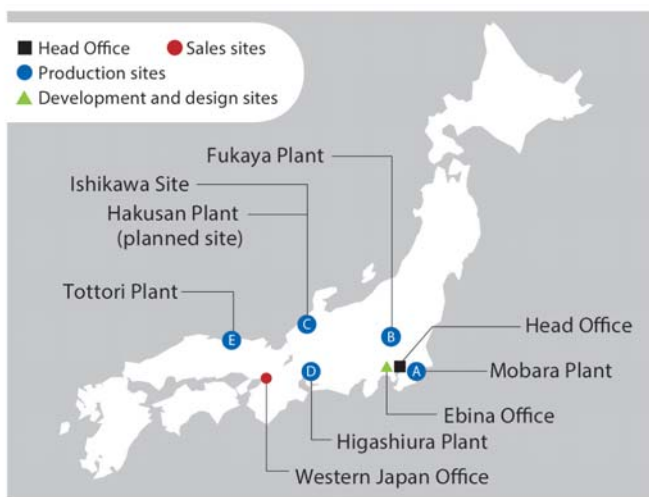
June 23, 2015  
Chief Executive for the Environment  
Japan Display Inc.

  
Mitsuru Homma

# Company Outline

- Company name** Japan Display Inc. **Head office address** 3-7-1 Nishi-shinbashi, Minato-ku, Tokyo
- Start of business** April 1, 2012 **Capital** 96.8 billion yen
- Representatives** Mitsuru Homma, Chairman and CEO  
Shuji Aruga, President and COO
- Business content** Development, design, production, and sale of small- and medium-sized display devices and related products
- No. of employees** Approximately 17,000 (consolidated) (as of March 31, 2015)

## Domestic sites

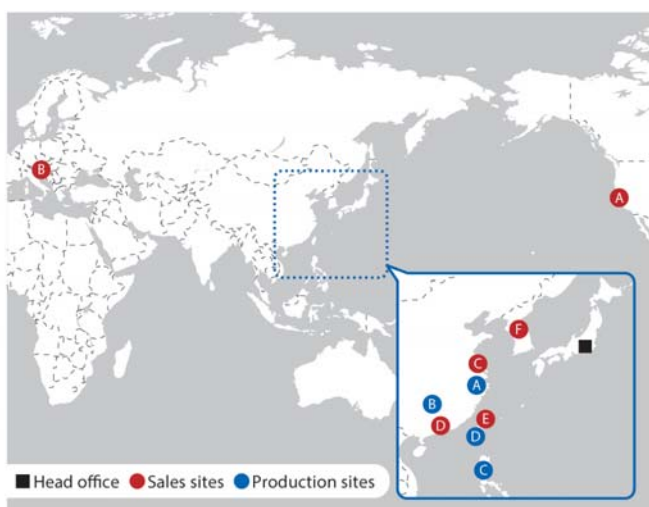


## Major production line by plants

<b>A</b> Mobara Plant	G6 LTPS & G4.5 a-Si/LTPS
<b>B</b> Fukaya Plant	G3 LTPS
<b>C</b> Ishikawa Site	<b>Ishikawa Plant</b> G4.5 LTPS <b>Nomi Plant</b> G5.5 LTPS <b>Hakusan Plant</b> G6 LTPS (Scheduled)
<b>D</b> Higashiura Plant	G3.5 LTPS
<b>E</b> Tottori Plant	G4 a-Si

a-Si: amorphous silicon TFT technology-adopted plant  
LTPS: low temperature poly-silicon technology-adopted plant

## Overseas sites



<b>Sales subsidiaries</b>	<b>A</b> JDI Display America, Inc. <b>B</b> JDI Europe GmbH <b>C</b> JDI China Inc. <b>D</b> JDI Hong Kong Limited <b>E</b> JDI Taiwan Inc. Taiwan Display Inc. <b>F</b> JDI Korea Inc.
<b>Manufacturing subsidiaries</b>	<b>A</b> Suzhou JDI Devices Inc. Suzhou JDI Electronics Inc. <b>B</b> Shenzhen JDI Inc. <b>C</b> Nanox Philippines Inc. <b>D</b> Kaohsiung Opto-Electronics Inc.

# Product Overview

To meet customers' wide range of demands, we provide the most suitable flat panel displays, like low temperature poly-silicon LCD for ultra-high resolution, IPS for wide viewing angle and high picture quality, WhiteMagic™ for power-saving, Pixel Eyes™ for thin and light touch functionality, etc.

WhiteMagic™ and Pixel Eyes™ are trademarks of Japan Display Inc.



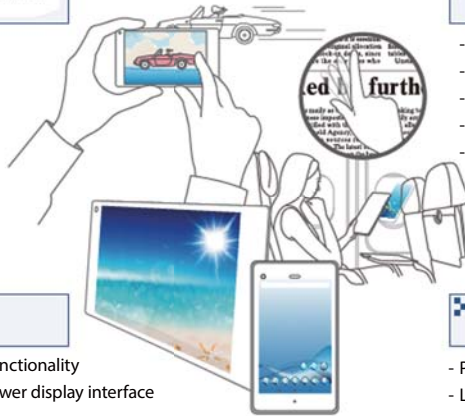
## Smartphone and tablet

### Thin/Light Weight/Compact

- Thin structure with integrated touch functionality
- Robustness

### High Display Quality/High Resolution

- High resolution
- Wide viewing angle
- Wide color gamut
- Fast response
- Good outdoor visibility



### Easy to Use

- Integrated touch functionality
- High speed, low power display interface
- Robustness

### Low Power Consumption

- Paper-like display
- Long battery life



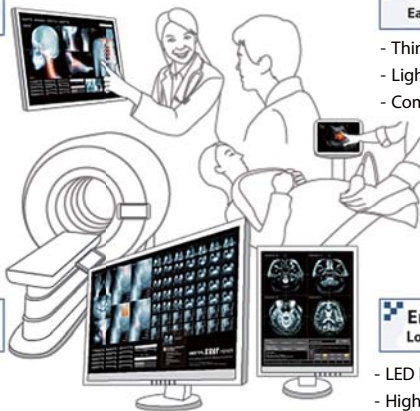
## Medical

### Accurate Screen Image High Resolution, High Picture Quality

- Wide viewing angle
- High contrast
- True black
- High brightness
- High resolution
- Low reflectance
- Wide color gamut

### Usability Easy to Use, Small Footprint

- Thin
- Light weight
- Compact (narrow frame)



### Reliable Quality Calibration, Long Life

- Brightness life
- Brightness uniformity

### Environment Low Power Consumption

- LED backlight
- High transmissivity
- Highly efficient backlight



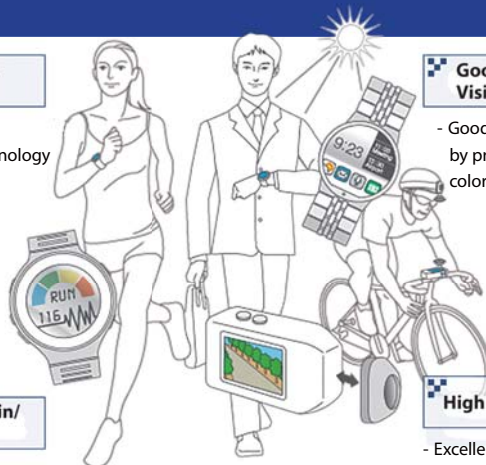
## Wearable

### Ultra Low Power Consumption

- Long battery life with memory-in-pixel technology

### Good Outdoor Visibility

- Good visibility realized by proprietary reflective color technology



### Light Weight/Thin/Compact

- Robustness
- Narrow border design

### High Display Quality

- Excellent image quality with high color reflectance
- Videos and movies can be displayed



## Digital camera

### Special Photography Shooting Studio, Night time

- Truck-black
- Black uniformity
- Smooth gradation

### Special Photography Shooting, Outdoor

- High brightness
- Low power consumption
- Waterproof
- Color accuracy
- Low reflectivity
- High contrast



### Everyday Photography Shooting

- Large screen
- Bright
- Narrow border
- Light weight
- Thin structure

### Viewing

- Large screen
- High resolution
- High contrast
- High brightness
- Wide color gamut
- Uniformity
- Low reflectivity

### Operating

- Usability
- Touch functionality
- Waterproof
- Low power consumption
- Abrasion resistant



## Automotive

### High Resolution and Easier to Use

- High resolution, large screen
- ScreenFit
- ▶ Good visibility by optical adhesion of cover glass
- Equipped with touch functionality
- Narrow border

### Comfortable Space for Driving

- High resolution, large screen
- Wide color gamut
- Display uniformity
- Wide viewing angle
- Thin, light weight



### For Safety and Reassurance

- High brightness
- High contrast
- Large screen
- ▶ Large amount of information
- Fast response
- True black appearance
- ▶ Interior design styling



## Pixel Eyes Display Won the Technology Award at the Summer 2015 Digital Camera Grand Prix

Our Pixel Eyes™ won the technology award at the Summer 2015 Digital Camera Grand Prix. Pixel Eyes™ is a liquid crystal display equipped with capacitive touch input functionality capable of multipoint detection, which is now being mass produced for smartphones and digital cameras.

Since Our Pixel Eyes™ equips touch input functionality into liquid crystal displays, it contributes to making liquid crystal modules thinner and lighter, while also improving the visibility of the display.

Pixel Eyes™ is a trademark of Japan Display Inc.

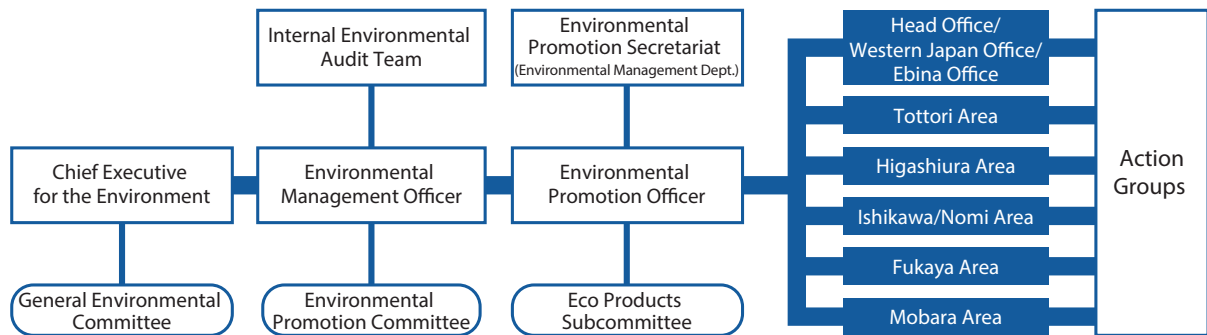


技術賞

# Environmental Management Organization

JDI acquired integrated ISO 14001 certification in 2013, through which we promote ongoing activities. Our environmental management organization consists of a structure with the Chief Executive for the Environment (CEO) as the Top Management, and which is also comprised of an Environmental Management Officer (CAO); Environmental Promotion Officer; and the head office, offices, and manufacturing sites below them.

Our overseas manufacturing subsidiaries have individually acquired ISO certification and have set up environmental management organization, which promotes environmental activities. In the aim of integrating them with the environmental activities in Japan starting from this fiscal year in particular, we are making efforts such as onsite visits to overseas manufacturing subsidiaries for mutual understanding of the activities and offering instructions for improvements, while also meeting periodically with each subsidiary to strengthen governance each other.



Schematic Diagram of Our Environmental Management Organization in Japan

Under the Chief Executive for the Environment, the Environmental Management Officer, to whom responsibility and authority for environmental activities has been transferred, manages environmental activities. The Environmental Promotion Officer coordinates overall environmental activities for the head office, offices, and each area.

Our management-level executives gather together to perform Management Review at the General Environmental Committee, which is chaired by the Chief Executive for the Environment once a year.

In addition, the Environmental Promotion Committee, which is chaired by the Environmental Management Officer, is our highest deliberative body for environmental activities whose members consist of Area Chief Executives for the Environment, promotion leaders for Head office and offices, and others.

The Eco Products Subcommittee, which is chaired by the Environmental Promotion Officer and held twice a year, convenes members from each business headquarters. Here they primarily engage in deliberations over issues such as notification of laws and regulations related to product-related environmental activities, the management of the chemical substances contained in products, registering and expanding environmentally conscious products.

As for the effectiveness of our environmental activities, our Internal Environmental Audit Team which consists of certified auditors from within the company, examined environmental activities by our 71 Action Groups (as of July 2014) from an objective perspective. Moreover, we ask external third-party organizations to periodically confirm that our system of environmental activities is compliant with ISO 14001-2004 Requirements.



# Environmental Activity Plans and Actual Performance

Our domestic environmental activity plans and actual performance for FY2014 are shown in the table below. When it comes to our environmental activities for the current fiscal year, as a result of our legal compliance and periodic progress management for our environmental targets that was carried out in each quarter, we were able to achieve every item. Moreover, various committee meetings were held as planned, activities were confirmed by internal and external audits, and improvements were made. We also instituted environmental aspect surveys geared towards our activities in the next fiscal year at each site. We offered general environmental education and product-related environmental education via e-learning, revised rules on two occasions, and achieved all other items according to plan.

Items	Frequency	Category	2014/4-/6	2014/7-/9	2014/10-/12	2015/1-/3
Environmental Promotion Committee (Management Reviews)	Once every year	Planned	-	-	-	○ March
		Conducted	-	-	-	● 3/27
Environmental Promotion Committee	Once every term	Planned	-	-	○ October	○ March
		Conducted	-	-	● 10/8	● 3/13
Eco Products Subcommittee	Once every term	Planned	-	○ September	-	○ February
		Conducted	-	● 9/22	-	● 2/20
Revise manuals	Once every year	Planned	○		-	-
		Conducted	-	● 7/1	● 10/15	-
Internal/external audits	Once every year	Planned	-	○ Internal audits	○ External audits	-
		Conducted	-	● 7/14-9/12	● 11/7-/14	-
Environmental aspect surveys	Once every year	Planned	-	-	-	○
		Conducted	-	-	-	● 12/9-2/13
Confirm legal compliance/target progress	Once every quarter	Planned	○ July	○ October	○ January	○ March
		Conducted	● 7/29	● 10/8	● 1/30	● 3/13
Environmental education	Once every year	Planned	○ General environmental activity	-	○ Product-related environmental activity	-
		Conducted	● May-June	-	● October-November	-
Other	As needed	Planned	○ Liaison Committee for Overseas Manufacturing Subsidiaries	○ Liaison Committee for Overseas Manufacturing Subsidiaries	○ Liaison Committee for Overseas Manufacturing Subsidiaries	○ Liaison Committee for Overseas Manufacturing Subsidiaries
		Conducted	● 4/24, /25	● 9/25, /26, /29	● 10/22, /29	● 2/27, 3/2, /3

# Environmental Targets

Based on the key measures from our environmental policy, we have set five key performances as our environmental targets, and continue to improve them. These environmental targets are to reduce emissions of energy-derived CO<sub>2</sub>, reduce the amount of water received, reduce emissions of chemical substances, reduce emissions of waste, and expand environmentally conscious products.

## ● Environmental Targets for FY2014

The performance for our environmental targets for FY2014 for sites in Japan is shown in the table below. We achieved the targets for every item. For (1) – (4), we achieved relatively large reduction rates in terms of our basic units, which was due in part to the fact that we began counting the Nomi Plant, which has excellent energy efficiency, in this report starting from FY2014. We are moving forward with a variety of sound reduction measures at each of our plants, and examples of these will be introduced on pages 16-18. For (5), which is related to products, starting in FY2014 we began defining the indicator for this as proportion of environmentally conscious products and promoted activities based on this. We urge readers to refer to the explanation of products with environmental consciousness on pages 24 and 25 concerning this matter.

Likewise, overseas manufacturing subsidiaries also set up their own environmental targets and promote activities independently based on the key measures from the environmental policy.

	Item	Indicator	Target value	Actual value	Evaluation
(1)	Reduce emissions of energy-derived CO <sub>2</sub> <sup>*1</sup>	Reduction rate for basic unit <sup>*4</sup> (Baseline: FY2012)	20%	30.5%	○
(2)	Reduce the amount of water received		27%	39.1%	○
(3)	Reduce emissions of priority controlled chemical substances <sup>*2</sup>		7%	35.6%	○
(4)	Reduce emissions of waste, etc. <sup>*3</sup>		5%	31.4%	○
(5)	Expand environmentally conscious products	Proportion of environmentally conscious products <sup>*5</sup>	85%	92.7%	○

Applicable range: (1) – (4) apply to the six plants of Tottori, Higashiura, Ishikawa, Nomi, Fukaya, and Mobara (not including the new production line), which are manufacturing sites in Japan.

\*1: The CO<sub>2</sub> emissions coefficient from electricity is 0.476 t-CO<sub>2</sub>/MWh (receiving-end CO<sub>2</sub> emissions basic unit for FY2011 announced by the Federation of Electric Power Companies of Japan). The other conversion factors are from the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures.

\*2: The priority controlled chemical substances refer to 36 substances selected as being subject to priority control efforts. They include volatile organic compounds (VOC) and PRTR targeted substances, and constitute the bulk of the substances that we use and emit.

\*3: Waste, etc. = General waste + Industrial waste + Valuables

\*4: The denominator for the basic unit is the glass substrate area (converted value)

\*5: Proportion of environmentally conscious products = Number of environmentally conscious products for the fiscal year in question / Number of products developed in the fiscal year in question

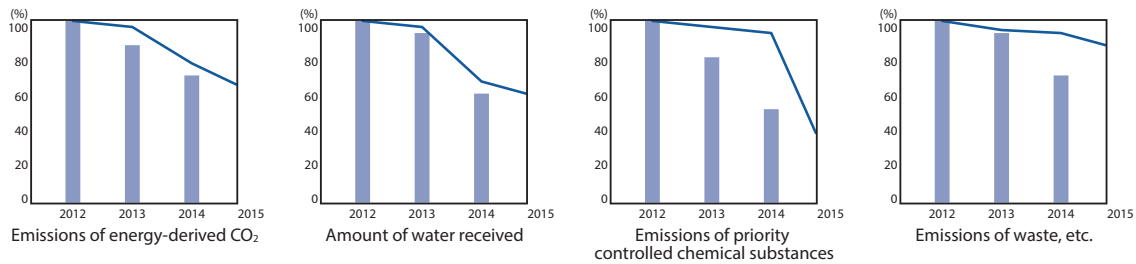
## ● Environmental Targets for FY2015

Our environmental targets for FY2015 for sites in Japan are shown in the table below. Starting from FY2015 we began counting the new production line added at our Mobara Plant, but conversely the Fukaya Plant, which will be closed in FY2015, was excluded from consideration. We revised the target figures by estimating the impact from these moves. The new production line will be highly energy efficient and offer enormous production output, so we have revised this upwards.

Furthermore, based on our FY2014 performance for the proportion of environmentally conscious products, we have revised this upwards as well.

	Item	Indicator	Target value
(1)	Reduce emissions of energy-derived CO <sub>2</sub>	Reduction rate for basic unit (Baseline: FY2012)	40%
(2)	Reduce the amount of water received		34%
(3)	Reduce emissions of priority controlled chemical substances		54%
(4)	Reduce emissions of waste, etc.		15%
(5)	Expand environmentally conscious products	Proportion of environmentally conscious products	90%

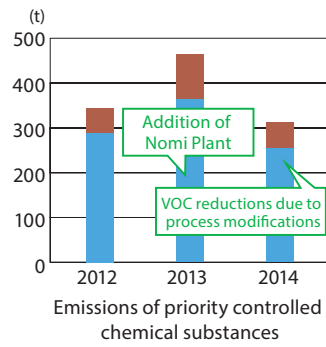
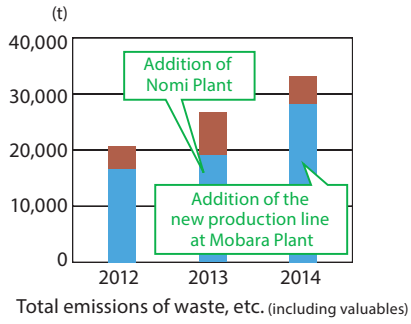
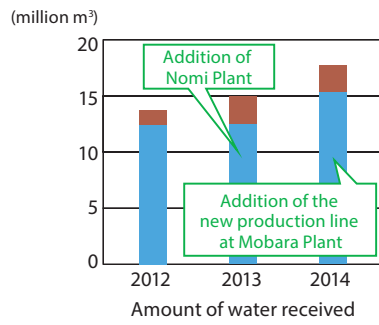
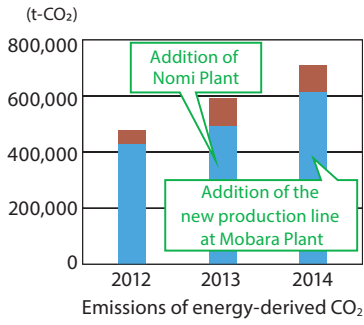
Applicable range: (1) – (4) apply to the five plants of Tottori, Higashiura, Ishikawa, Nomi, and Mobara (including the new production line), which are manufacturing sites in Japan.



Trends in the various target values and actual values  
(four items related to production)

— Target values (basic unit)  
■ Actual values (basic unit)





Overseas  
Japan

# Environmental Audits

JDI conducts internal and external audits in order to verify that our environmental management system conforms to ISO 14001 requirements, is recognized by all applicable organizations, and that continuous improvements are made to our environmental activities by substantively going through the PDCA cycle.

The following indicates the details of audits held in Japan. Similar audits are also performed at our overseas manufacturing subsidiaries as well.

## (1) ISO 14001 Internal Audits

**Date:** Monday, July 14 – Saturday, September 6, 2014 (implemented at each site during this period)

**Target:** Head Office, Western Japan Office, Ebina Office, Tottori Area, Higashiura Area, Ishikawa / Nomi Area, Fukaya Area, Mobara Area

**Applicable standards:** ISO 14001:2004 and JIS Q14001:2004

**No. of findings:** 4 nonconformities, 40 recommendations for improvement, 37 good practices

### Audit findings:

Audit general summary item	General summary (overview) of the audit
Nonconformities, recommendations for improvement	There were some minor nonconformities regarding plans and records. Regarding recommendations for improvement, issues like changes that had not yet been made at new organizations stood out. Confirmation of improvement plans and all corrective actions were completely taken.
Good practices <sup>*1</sup>	Good practice cases including visualization and use of the cloud system were shared to deploy in domestic sites.

\*1: Excellent case examples that will be deployed to other sections

**Conclusion:** It was affirmed that our environmental management system is functioning effectively.

## (2) ISO 14001 External Audits

**Date:** November 7 – November 14, 2014

**Target:** Head Office, Western Japan Office, Ebina Office, Tottori Area, Higashiura Area, Ishikawa / Nomi Area, Fukaya Area, Mobara Area

**Certification body:** Bureau Veritas Japan

**Applicable standards:** ISO 14001:2004 and JIS Q14001:2004

**No. of findings:** 0 nonconformities, 0 observations, 6 opportunities for improvement

### Audit findings:

Audit general summary item	General summary (overview) of the audit
Effectiveness / creditability of the internal audit	Important issues were clarified and implemented. Synergistic effects were improved and thoroughly disseminated.
Effectiveness of the management review	Outputs were clearly indicated, and implemented using sound details.
Effectiveness of the target achievement system	This was implemented based upon policy in the aim of making substantial improvements for electricity.
Compliance status	Legal compliance structures functioned effectively, and there was no administrative guidance or actual violations.

**Conclusion:** No nonconformities were ascertained, and JDI is conform to ISO 14001 standard requirements.

# Environmental Accounting

We determine investments related to environmental conservation and the expenses for this in order to tabulate and perform analysis in working towards environmental accounting that reflects factors like cost-effectiveness in managerial decision-making. We have established accounting items by referring to the Ministry of the Environment's Environmental Accounting Guidelines, while also taking matters such as their degree of importance into consideration. Our environmental conservation costs and environmental conservation benefits for FY2014 for within Japan are shown in the table below.

Of the costs, investments related to pollution prevention included improving water treatment equipment, while those related to global environmental conservation included improving air conditioning systems, installing inverters on heat pumps, the installation of additional greenhouse gas abatement systems, and so on. In terms of expenses, those for environmental analysis and measurement, waste disposal, outsourcing fees, and so forth were generated just as they have been conventionally.

When it comes to environmental conservation benefits, as a consequence of our setting up a highly energy efficient production line at Mobara Plant, we have succeeded in suppressing increases of CO<sub>2</sub> and waste despite the rise in our production output.

Summary of Environmental Conservation Costs in Japan

Unit: 1 million yen

Major category	Item	Details	Investment	Expenses
Environmental conservation costs (costs within business areas <sup>*2</sup> )	Pollution prevention costs	Costs for preventing air pollution, water pollution, soil pollution, noise, foul odors, and more.	13	2,317
	Global environmental conservation costs	Costs for preventing global warming, conserving energy, preventing the depletion of the ozone layer, and more.	81	126
	Resource recycling costs	Costs for the efficient utilization of resources, as well as the recycling, treatment, and disposal of industrial waste and general waste.	0	318
	Total		94	2,761

\*2: Analysis and measurement costs related to the environment are also included in the costs within business areas.

Summary of Environmental Conservation Benefits in Japan

Major category	Category	Item	Benefit	Unit
Environmental conservation benefits (physical unit)	Environmental conservation benefits related to environmental burdens and waste <sup>*3</sup>	Emissions of energy-derived CO <sub>2</sub>	36	1,000 t-CO <sub>2</sub>
		Emissions of waste, etc.	1,041	t
Economic benefits associated with environmental conservation activities	Operating revenue related to environmental burdens and waste	Revenue from the sale of valuables	63	1 million yen

\*3: In order to consider the changes in the production output, values were derived using the following formula, which was established by referring to the Environmental Accounting Guidelines.

$$\text{Benefit} = \text{Emissions from the previous fiscal year} \times (\text{glass substrate area from the fiscal year in question} / \text{glass substrate area from the previous fiscal year}) - \text{Emissions from the fiscal year in question.}$$

# Initiatives on Global Warming Prevention and Energy Conservation

In our Environmental Policy, we declared that we will work to prevent global warming and conserve energy, and have set forth FY2015 environmental targets with FY2012 as the baseline for our mid-term environmental targets, based on which we will take action. We also participate in the “Commitment to a Low Carbon Society” plan being addressed by the electrical and electronics industry as a whole, and are working on energy improvements with a view towards FY2020.

When it comes to reducing emissions from our plants, we have been working to make improvements by optimizing equipment use at our Ishikawa, Nomi, and Tottori Plants, with the highest priority being placed on reducing the energy used at and greenhouse gases emitted from our plants. Case examples will be introduced below.

## ● Nomi Plant: Optimizing the Operation of Cooling Machines

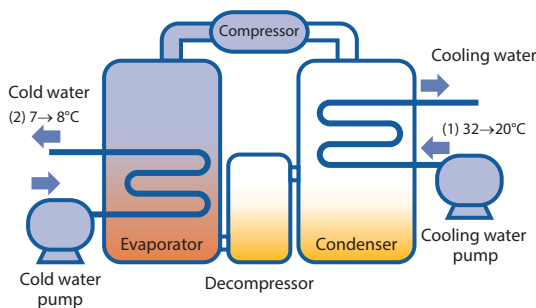
Our Nomi Plant optimized the operation of the cooling machines it uses to air condition its clean rooms as one of the measures to improve energy conservation. It improved the operating conditions in order to improve the efficiency of its cooling machines, and adjusted the combinations for the number of cooling machines in operation, of which there are several total. Doing so allowed the plant to reduce the total energy consumption of its cooling system.

< Details of Improvements >

Operating condition improvements

- (1) Set the cooling water temperature from 32°C to 20°C (only for the non-exhaust heat recycle system)
- (2) Changed the settings for the cold water outlet from 7°C to 8°C

The results by the above improvements were used to adjust the combinations of the number of cooling machines in operation



Exterior of the cooling machine

Effect: CO<sub>2</sub> reduction of 753 t-CO<sub>2</sub>/year

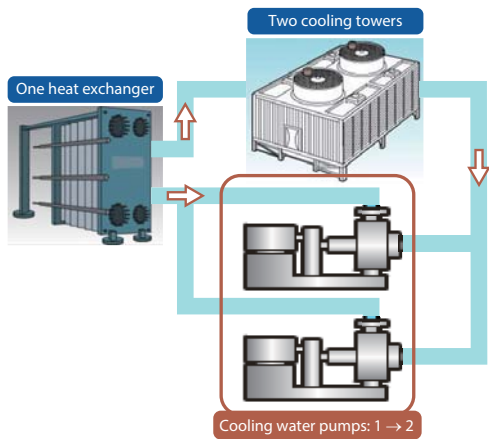
## ● Ishikawa Plant: Optimizing the Use of Cooling Water Pumps

Our Ishikawa Plant improved its operating methods to reduce the energy consumed by its cooling water pumps to a bare minimum. During the summer it operated with one heat exchanger and one cooling water pump for its two cooling towers. As a result of considering efficiency improvements, it was able to reduce the electricity used by its cooling water pumps by operating two cooling water pumps at low speed (pump power is proportional to the cube of the flow rate).



<Improvements made>

(Before the improvements) Single pump with inverter operating at 59 Hz → (After the improvements) Two pumps with inverters operating at 30 Hz



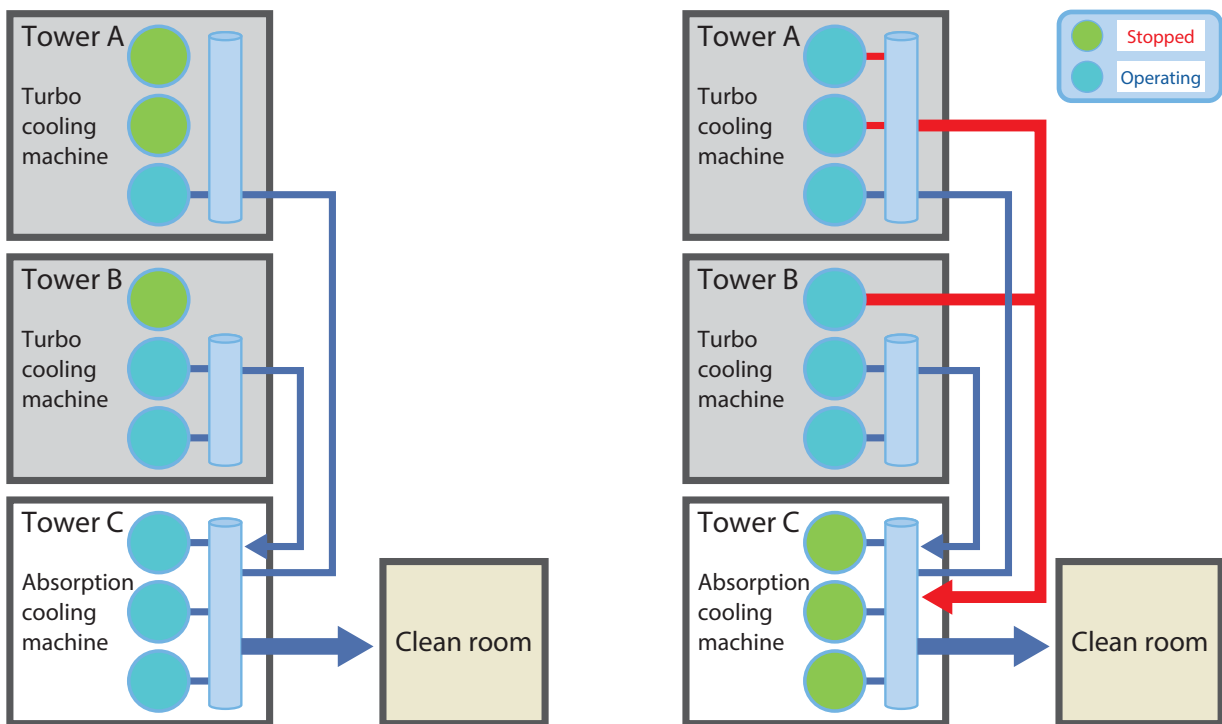
Exterior of the cooling water pumps

Effect: CO<sub>2</sub> reduction of 237 t-CO<sub>2</sub>/year

### ● Tottori Plant: Effective Use of Idle Cooling Machines

Our Tottori Plant normally produces cooling water via highly efficient turbo cooling machines that run on electricity in order to regulate the temperature in its clean rooms. But due to a shortage of cooling water during the summer, we added operates an absorption cooling machine that uses natural gas for fuel to maintain the temperature of its clean rooms. However, this absorption cooling machine was inefficient and consumed a large quantity of city gas.

As a result of recently considering efficiency improvements, the plant reduced its energy use by modifying its water cooling pipe lines so that it could effectively use and operate turbo cooling machines which had stopped being used due to the differences in intended use.



Effect: CO<sub>2</sub> reduction of 121 t-CO<sub>2</sub>/year

— Existing  
— Newly established

## ● Tottori Plant: Renewable Energy Initiatives

The popularization and spread of renewable energies throughout society is important from the perspectives of combatting global warming, diversifying energy sources, and creating new industries and jobs.

Our plants are striving to put in place solar power system as initiative to promote renewable energies.

### Effectively Using Renewable Energy from Solar Power

As part of its efforts to prevent global warming, our Tottori Plant introduced a solar power system on the plant's rooftop in 2001. It started operation of the system as part of a joint study with the New Energy and Industrial Technology Development Organization (NEDO) to expand the adoption of solar power. The system has a maximum output of 150 kW (with a total of 900 solar power generating panels) and generated 117 MWh of electricity in FY2014, thereby contributing to reductions of approximately 56 t-CO<sub>2</sub>.



Solar power generating panels  
at our Tottori Plant

## Waste Reduction Activities and Waste Management

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JDI has set forth the goal of reaching zero emissions by promoting the 3Rs (Reduce, Reuse, Recycle) for waste in its Environmental Policy, and is working towards this goal.

Furthermore, pursuant to law we separate out specially-controlled industrial waste, industrial waste, and general waste, and perform risk management for each of these.

Below we will introduce case examples of responses to indirect risks (illegal dumping, accidents, etc.), as well as case examples of reducing the quantities of materials used and recycling activities in which the waste emitted is restored to its original state and reused to the extent possible.

### ● Initiatives to Reduce Indirect Risks from Waste (All Plants)

To protect against problems such as the illegal dumping of waste, which has recently come to pose a social problem, JDI manages its waste pursuant to law as a waste emitter. We have also voluntarily set standards for the environment and visit the disposal companies to which we consign our waste disposal and transport, and call upon them for their cooperation to ensure that accidents and problems do not occur.

During the periodic visits we use a checklist to confirm the permitted scope and licenses of the disposal companies. We also confirm matters dealing with their waste disposal business, storage conditions, and management conditions via the four-page checklist, and grade them as either passing or failing for each item before finally rating them with an overall score.

The waste collection and transportation, and the waste intermediate treatment companies we visited in FY2014 were all rated favorably, and we have renewed our contract with them.

## Image of JDI's standards check sheet



## Confirmation examples for waste collection and transportation companies



Permit displayed on transportation vehicle



Collection and transportation permits workers carry with them



Example of an inspection form for transportation vehicles

## Confirmation examples for waste intermediate treatment companies



Permit for a waste treatment company



Inside the premises of a waste treatment company



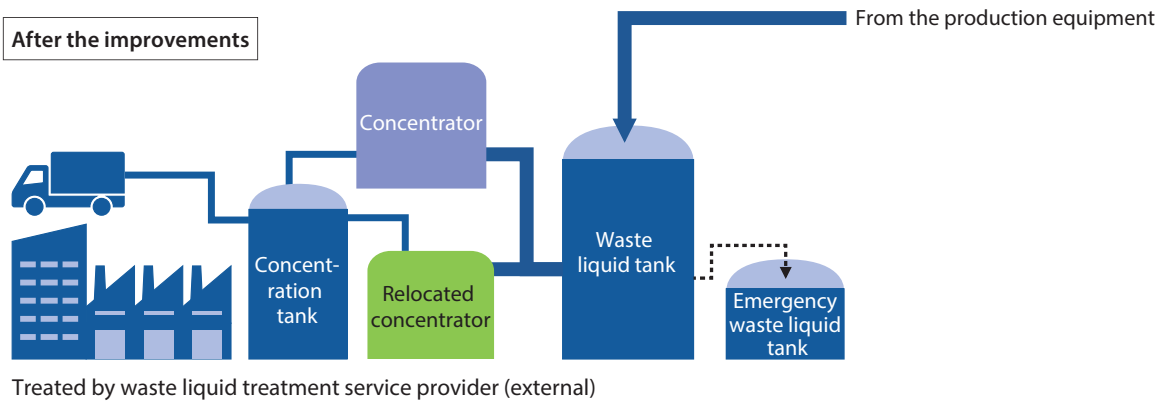
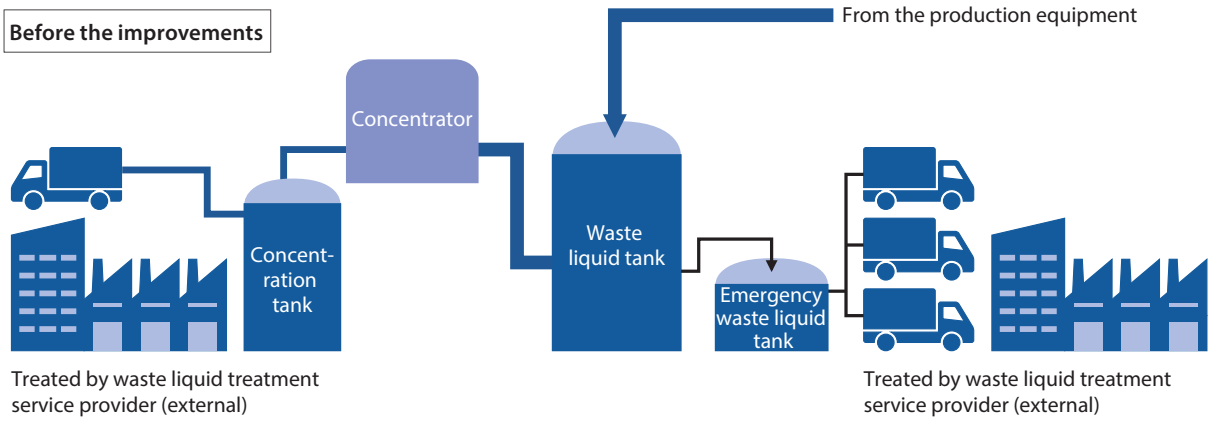
Inside the premises of a waste treatment company

## ● Nomi Plant: Reducing Waste by Effectively Using Idle Equipment

In the photolithography process for liquid crystal displays, developing solution is used to develop wiring patterns. After it is used, the vast quantities of waste liquid pose a significant environmental burden as is and increases the treatment expenses, so our Nomi Plant has worked to concentrate the waste liquid in order to reduce its volume.

However, from FY2013 onwards the amount of waste liquid emitted has exceeded the treatment capacity of the concentrator as a result of our increased production, and so the Plant had no choice but to treat some of the waste liquid as it was without concentrating it first.

The Plant recently examined how to effectively use concentrators that had been sitting idle at other plants. As a result, it began operating other concentrators at the Plant in June 2014, thus achieving annual reductions of waste of 720 t and reducing its environmental burden.



Effect: Reduction in waste emitted of 720 t/year  
 Treatment costs reduced by about 14.4 million yen/year



Appearance of a concentrator



Appearance of the supply tank and waste liquid tank

# Initiatives for Minimizing Environmental Risks

In order to minimize the risks of environmental pollution and the destruction of ecosystems, JDI continues to take action by carrying out initiatives for wastewater and air emissions management, such as establishing our own voluntary standard values for these that are stricter than the regulated values found in laws, ordinances, and local agreements. What is more, the chemical substances we use carry with them the potential to pose risks in the form of considerable negative impacts to human health and the global environment. As such, we soundly manage the chemical substances we use and make efforts to prohibit the use of substances that have the potential to considerably impact the environment, and to continuously eliminate or find substitutions for them, from the point of view of prevention.

## ● Wastewater Management

When it comes to wastewater management for the wastewater we discharge into rivers and sewage systems within Japan, JDI has established voluntary standard values that are 20% stricter than the regulatory values found in the decisions made with local government agencies for each of our plants from among 15 living environment items and 28 hazardous substances, and perform measurements and management based on these. The measurement results for representative items for each of these are shown in the table below. The results of regular measurements and on-site inspections by government officials reveal that none of the regulatory values had been exceeded for any of the items. We will continue working to improve wastewater management for wastewater and the facilities related to wastewater. Our overseas manufacturing subsidiaries perform similar operations, and also had no findings that were in excess of the regulatory values.

### 1. Living environment items

Plant name	Discharge destination	Legal and other regulatory values	BOD <sup>*1</sup> (mg/L)						Legal and other regulatory values	COD <sup>*2</sup> (mg/L)						Legal and other regulatory values	SS <sup>*3</sup> (mg/L)					
			FY2013			FY2014				FY2013			FY2014				FY2013			FY2014		
			Min.	Avg.	Max.	Min.	Avg.	Max.		Min.	Avg.	Max.	Min.	Avg.	Max.		Min.	Avg.	Max.	Min.	Avg.	Max.
Mobara (1)	River	10	1.0	3.1	6.7	0.6	2.0	3.7	-	3.0	3.9	4.9	3.3	3.9	4.7	20	<0.5	1.5	3.6	<1.0	1.1	3.0
Mobara (2)	River	10	0.5	0.4	5.1	0.5	1.0	3.1	-	2.0	4.7	10.0	3.0	5.0	8.3	20	<0.5	2.7	10.0	<1.0	2.0	3.7
Tottori	Sewage system	600	0.5	46.0	162.0	1.0	73.8	214.0	-	-	-	-	-	-	-	600	4.0	7.8	17.8	2.5	9.81	61.5
Higashiura	River	15	0.5	2.4	6.8	0.5	1.0	1.8	10	3.2	4.7	6.2	3.1	4.5	5.5	15	1.0	1.1	2.0	1.0	1.8	4.0
Fukaya	River	25	1.0	2.0	5.0	1.0	2.1	5.0	-	1.0	7.6	13.0	4.0	6.8	10.0	60	<4	4.1	7.0	<4	<4	<4
Ishikawa	River	30	5.8	6.9	7.9	3.8	5.5	7.1	-	2.0	2.6	3.2	2.0	2.7	3.3	80	2.0	3.5	5.0	<1.0	2.0	4.0
Nomi	River	30	<1.0	1.0	1.9	2.2	2.4	2.5	-	1.4	1.6	1.7	2.0	2.4	2.8	80	1.0	1.5	2.0	<1.0	1.0	2.0

\*1: Biochemical Oxygen Demand, \*2: Chemical Oxygen Demand, \*3: Suspended Solids

### 2. Hazardous substances

Plant name	Discharge destination	Nitrate nitrogen, nitrite nitrogen, and ammoniac nitrogen (mg/L)							Legal and other regulatory values	Boron and its compounds (mg/L)						Legal and other regulatory values	Fluorine and its compounds (mg/L)					
		FY2013			FY2014			FY2013			FY2014			FY2013			FY2014					
		Min.	Avg.	Max.	Min.	Avg.	Max.	Min.		Avg.	Max.	Min.	Avg.	Max.	Min.		Avg.	Max.	Min.	Avg.	Max.	
Mobara (1)	River	100	10.0	12.0	14.0	8.0	12.0	15.0	10	0.04	0.05	0.09	0.04	0.05	0.06	8	0.5	1.1	1.9	0.9	1.6	2.5
Mobara (2)	River	100	5.0	13.0	23.0	9.0	19.0	26.0	10	0.01	0.42	0.75	0.26	0.52	0.76	8	0.3	1.6	2.5	1.0	1.9	3.0
Tottori	Sewage system	380	0.5	1.0	1.7	0.9	2.28	4.7	-	-	-	-	-	-	-	8	0.1	0.95	2.6	0.2	1.13	3.1
Higashiura	River	100	1.3	2.4	4.5	1.0	3.0	5.4	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8	1.6	2.1	2.8	1.3	2.6	3.6
Fukaya	River	100	0.9	1.7	5.9	0.9	1.7	3.8	10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8	0.9	1.5	2.4	0.5	1.8	2.9
Ishikawa	River	100	3.1	3.8	4.5	2.9	3.4	3.8	10	0.20	0.25	0.30	<0.1	<0.1	<0.1	8	<0.5	0.7	1.3	0.5	0.6	0.7
Nomi	River	100	23.0	26.0	29.0	20.0	27.5	35.0	10	0.20	0.25	0.30	0.50	0.55	0.60	8	0.5	1.4	2.3	2.1	2.3	2.4

## ● Air Emissions Management

In JDI manufacturing plants in Japan, specified facilities under the Air Pollution Control Act, such as boilers, gas turbines, and absorption cooling machines, are installed and under operation. The measurement results for representative items for them are shown in the table below. The results of regular measurements and on-site inspections by government officials reveal that none of the regulatory values had been exceeded for any of the items. We will continue working to improve air emissions management and the facilities related to this.

Our overseas manufacturing subsidiaries perform similar operations, and also had no findings that were in excess of the regulatory values.

Plant name	Target facilities	Number of units	Dust (g/m <sup>3</sup> N)						Nitrogen oxide (ppm)								
			Legal and other regulatory values	FY2013			FY2014			Legal and other regulatory values	FY2013			FY2014			
				Min.	Avg.	Max.	Min.	Avg.	Max.		Min.	Avg.	Max.	Min.	Avg.	Max.	
Mobara	Once-through boilers	20	-	-	-	-	-	-	-	-	150	10	14.3	18	13	15.4	20
Higashiura	Flue and smoke tube boilers	5	0.1	<0.002	<0.002	<0.003	<0.002	0.007	0.039	150	20	32	44	21	30	46	
	Multitubular once-through boilers	6	0.1	<0.002	0.002	0.003	<0.002	0.0023	<0.003	150	12	19	27	16	23	32	
Tottori	Once-through boilers	8	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	150	13	22	33	12	25	30	
	Absorption cooling machines	3	0.1	0.002	0.002	0.002	0.001	0.002	0.002	150	15	19	23	15	20	23	
Fukaya	Once-through boilers	11	-	-	-	-	-	-	-	130	19	27	37	22	27	36	
Ishikawa	Once-through boilers	3	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	180	44	52	59	41	50	58	
	Flue and smoke tube boilers	2	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	180	39	67	94	54	70	85	
	Gas turbines	4	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	70	47	50	53	45	49	52	
Nomi	Once-through boilers	6	0.3	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	180	31	36	40	31	35	38	

Plant name	Target facilities	Number of units	Sulfur oxide*4 (m <sup>3</sup> /h)						
			Legal and other regulatory values	FY2013			FY2014		
				Min.	Avg.	Max.	Min.	Avg.	Max.
Ishikawa	Once-through boilers	3	2.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Flue and smoke tube boilers	2	6.4	0.05	0.055	0.06	0.09	0.125	0.16
	Gas turbines	4	9.53	0.2	0.255	0.31	0.32	0.415	0.51
Nomi	Once-through boilers	6	2.05	0.0021	0.0036	0.0051	0.0003	0.0031	0.0058

\*4: Other plants do not measure this item, as it is not required of them

## ● Management of Chemical Substances

At JDI, we perform chemical substance management by broadly classifying these into the chemical substances used in our manufacturing processes, as well as the chemical substances contained in our products. An overview of our management of chemical substances used in our manufacturing processes, as well as our management of chemical substances contained in products, is described below. Our overseas manufacturing subsidiaries also perform similar operations.

### Management of Chemical Substances from Manufacturing Site

We assign chemical substances into three categories of "Prohibited," "Reduction," or "General" considering their impact on humans and the environment, as well as international treaties and the regulations of each country. Based on this, we defined our 36 highest-ranked substances by emissions volume as priority controlled chemical substances and have set forth reduction items for them in our environmental targets, through which we promote reduction activities.

Currently, prior to use new chemical substances, the division is required to submit an application for chemical substances that it would like to use in the manufacturing processes at our plants with attaching an SDS\*1 through our Chemical Substance Usage Application system. With this system, the relevant divisions check on factors like the substance's hazardousness, if it can be substituted with other substances, regulations, and safety aspects. The Only approved substances can then be used.

Each approved chemical substance is registered to the chemical substance management system, and they are managed appropriately based on their chemical identity (CAS<sup>2</sup> number).

There are currently about 2,000 substances registered. Each month, we acquire the information such as the quantities of greenhouse gases, substances subject to notification under PRTR<sup>3</sup>, and substances corresponding to regulations and local ordinances in each region that are used, emitted, and transported, and undertake appropriate management. In this section our notification status based on the PRTR system will be explained.

## PRTR Notification Status

We provide notification as per the PRTR system for each plant pursuant to the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register [PRTR] Act). In terms of our actual notifications for this fiscal year, those for acetic acid 2-methoxyethyl increased due to the operation of the new production line at the Mobara Plant, but this is being managed appropriately pursuant to regulations. The results are presented as below.

**Table of Substances Subject to PRTR Notification**

Unit: kg

	Quantity discharged				Quantity transferred			
	To air		To public water bodies		Transferred to sewage system		Off-site	
	2013	2014	2013	2014	2013	2014	2013	2014
2-Aminoethanol	130	190	2000	1500	0	0	1400	2000
Indium and its compounds	0	0	30	14	1	1.5	720	740
Acetic acid 2-methoxyethyl	0	1700	0	0	0	0	0	23
Hydrogen fluoride and its water-soluble salts	4	3.2	0	0	0	0	13000	10000
Boron and its compounds	3	3	1700	1800	0	0	12000	12000
Molybdenum and its compounds	0	0	160	690	1.9	2.5	2600	2700

Since the actual quantities discharged into soil and disposed in landfill for the sites in question were "0," these were not recorded.

\*1: Safety Data Sheet

\*2: Chemical Abstracts Service (chemical substance number used by the magazine *Chemical Abstracts* that is issued by the American Chemical Society)

\*3: The Pollutant Release and Transfer Register is a system in which the quantities of chemical substances designated as hazardous that are discharged into the environment (air, water, soil) or transferred out of business sites contained in waste must be determined by the business itself, which must also notify this to the national government.

## Management of Chemical Substances Contained in Products

When it comes to our products, the JDI Group as a whole is carrying out the following measures to accommodate laws related to chemical substances in products, such as the RoHS Directive and REACH Regulations, as well as our customers' demands.

### (1) Enactment of the Green Procurement Guidelines

Our Green Procurement Guidelines were enacted based on trends in the laws of various countries pertaining to products obtained from the relevant groups. We ask that our clients comply with these as a reflection of the demands concerning chemical substances in products by our customers. These Green Procurement Guidelines are revised annually to ensure they appropriately reflect the legal trends related to chemical substances in products, and are disclosed on our website.

### (2) Management of Chemical Substances in Product Development Processes

We adhere to our Green Procurement Guidelines when it comes to the chemical substances in the products we procure, and ask that our clients register data on the components comprising their products to our internal system. We then confirm that the data they register with us conforms to our Green Procurement Guidelines and our customers' demands via multiple internal divisions, starting from the product development process onward.

### (3) Managing Clients' Management Systems for the Chemical Substances in Products

We request that our clients' management systems for the chemical substances in products meet the standards set by JDI, and that they use the Guidelines for the Management of Chemical Substances in Products that are widely used by the electrical and electronics industry and other industries. In FY2014, we also added a function that allows us to confirm the chemical substance management status of our clients and their ISO 14001 acquisition status over the internet.

### (4) Management of Chemical Substances in Parts Prior to Their Use in Mass Production Lines

Prior to mass production stage, we periodically inspect and analyze product parts via a fluorescent X-ray analyzer to investigate the containing chemical substances, and check if prohibited toxic substances, such as the RoHS Directive (lead, mercury, cadmium, hexavalent chromium, and brominated flame retardants), are included in the parts.

Moving forward, we will continue to manage chemical substances in our products together with our clients and related internal divisions conforming to our customers' requirements.

# Products with Environmental Consciousness

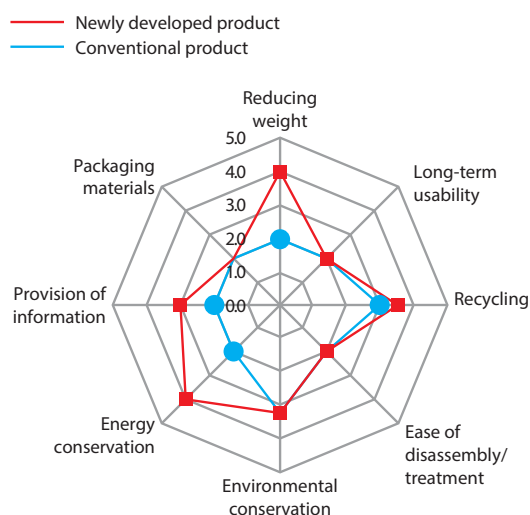
The environmental performance of liquid crystal display devices largely governs the environmental performance of the final product. Therefore, it is important to evaluate their environmental performance from the development and design stages in striving to create products with an environmental burden that is as small as possible. In this section we will introduce our activities during FY2014 in relation to our products with environmental consciousness.

## ● Activities related to Environmentally Conscious Products

When it comes to the environmental performance of our products, JDI takes everything from the procurement of the raw materials through to their disposal into consideration to ensure that our evaluations are not one-sided. We have established the eight evaluation criteria shown in the table to evaluate this on a point rating system. These evaluations are incorporated into our product development process, and evaluations are performed on all of the products we develop. The evaluations on a point rating system position those products with particularly outstanding environmental performance as “environmentally conscious products,” and we strive to reduce the comprehensive environmental burden for our products by increasing the share of such products among the products we develop. In FY2014 we achieved a share of 92.7% for these. Moving forward, we will work to develop products that contribute to reducing the environmental burden of our products in an ongoing manner.

Evaluation Criteria and Primary Evaluation Items

	Evaluation criteria	Primary evaluation items
1	Reducing weight	Reducing product size/weight
2	Long-term usability	Durability/reliability
3	Recycling	Reuse/recycling of parts
4	Ease of disassembly/treatment	Ease of dismantling/disassembly and disassembly time, etc.
5	Environmental conservation	Chemical substances in parts and in manufacturing processes
6	Energy conservation	Energy conservation in the product design
7	Provision of information	Framework for providing environmental information
8	Packaging materials	Reducing the weight of packaging materials and the chemical substances they contain, etc.



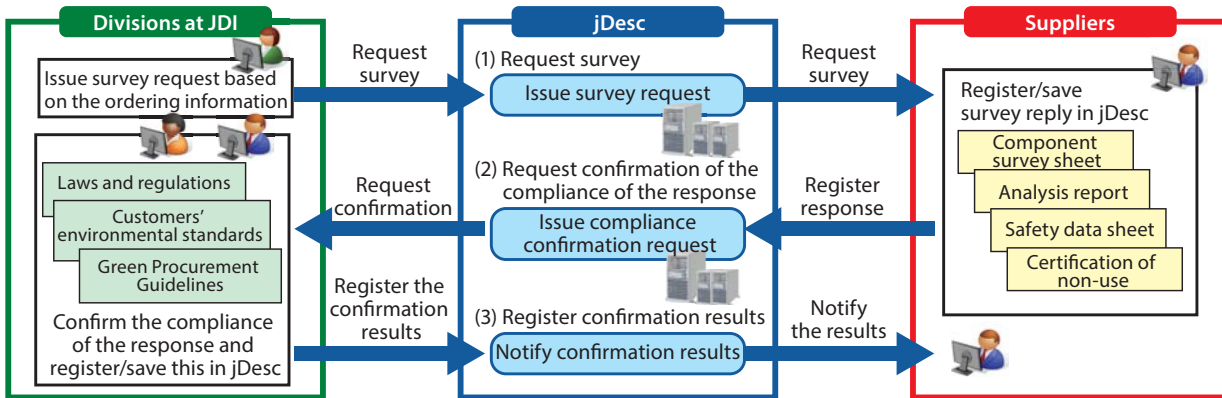
Example for determination of environmentally conscious products



## ● Management System of the Chemical Substances in Products

When it comes to managing the chemical substances in products, on April 1, 2013, we began operating a management system for the chemical substances in products (jDesc\*4) that links suppliers and JDI together. With this system, our suppliers register the various data stipulated in our Green Procurement Guidelines. In FY2014, approximately 5,000 pieces of data on procured goods were registered to the system. Ultimately, this data is used to confirm that products do not contain hazardous chemical substances based on the bill of materials, and to tally the chemical substances in products. For the future, JDI will work to improve the accuracy of our management of chemical substances in procured goods and ensure the thoroughness of management for the chemical substances in products through the effective use of this system.

\*4: JD Environmental information System for Chemical substance



Conceptual diagram of our management system for the chemical substances contained in products

# Displaying at Exhibitions

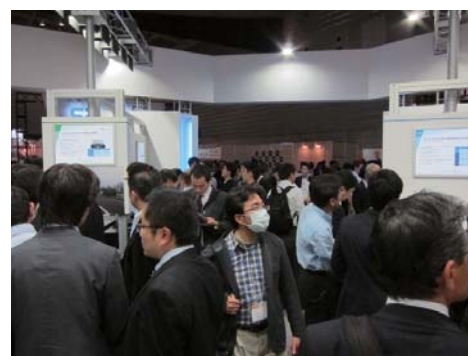
With the goal of disclosing information to and achieving mutual understanding with our stakeholders, we display products that incorporate the latest in technology from our company at various different exhibitions, such as SID (The Society for Information Display), for mutual communication. This year we will report on our displays at Display Innovation 2014 and SID Display Week 2015.

## ● Display Innovation 2014

Currently, initiatives for incorporating and using flat panel displays in various devices have been sweeping the world. Examples of this that could be mentioned include displays for mobile devices and automobiles, as well as displays for medical equipment and industrial equipment. Given such circumstances, JDI exhibited a wide range of 35 different models of displays for everything from developed products proposed for the future to mass produced products at Display Innovation 2014, which was held for three days from October 29 – 31, 2014 at Pacifico Yokohama.



“Personal-use 4K2K 8.0-inch ultra-high resolution display”: We have achieved a screen with low power consumption that is thin, light, and has a narrow border all around, which are requirements demanded for mobile use. It also improves upon the touch functionality in which the user can enter information by touching their finger to the screen, allowing them to fluidly write with a 1 mm fine-tip pen. This was achieved with Japan Display’s proprietary LTPS technology; IPS-NEO™ that expands the color reproduction range to 95% compared with NTSC; WhiteMagic™ with its advanced backlight dimming; and the high resolution Pixel Eyes™.



“Displays for the next-generation cockpit in automobiles”: We have proposed displays for the next-generation cockpit in automobiles that combine curved landscape-oriented displays that can display in front of the driver a variety of information needed while driving, together with high resolution head-up displays that can project navigation information and warning displays on the front windshield. Our landscape-oriented, large screen displays achieve a display that is easy to see from the driver’s viewpoint and offers excellent visual quality through the use of IPS-NEO™, which has a curved surface. What is more, our advanced WhiteMagic™ combines large screen and high resolution with low power consumption. In addition, we also displayed items for cell phone, digital camera, and medical displays, which gave a large number of people an understanding of our advanced technical capabilities.

## ● SID Display Week 2015

We also participated in SID Display Week 2015, which is one of the largest display-related events in the world, held in San Jose, California in the United States starting on May 31, 2015. There we gave presentations at symposia and exhibited JDI's technology at our booth. Under the concept of "LTPS World – What JDI's LTPS Offers," an added value provided by low temperature polycrystalline silicon (LTPS), we displayed high definition WQHD liquid crystal modules for use in smartphones; WhiteMagic™ which achieves low power consumption; reflective liquid crystal modules; Pixel Eyes™ that is equipped with Insel touch panel technology, and more. In addition, at symposia that gathered researchers and engineers related to display technology from around the world, we gave five presentations and took part in one poster session.

At our booth we exhibited numerous products, including the world's first mass-produced WQHD Insel touch panel product, by dividing the booth up into corners for smartphone and tablet products, automotive application products, reflective products, 4K2K products, OLED products, and products for medical and industrial uses. This gave visitors an understanding of our company's cutting-edge power saving and thin module technologies.

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# Ecosystem Conservation Activities

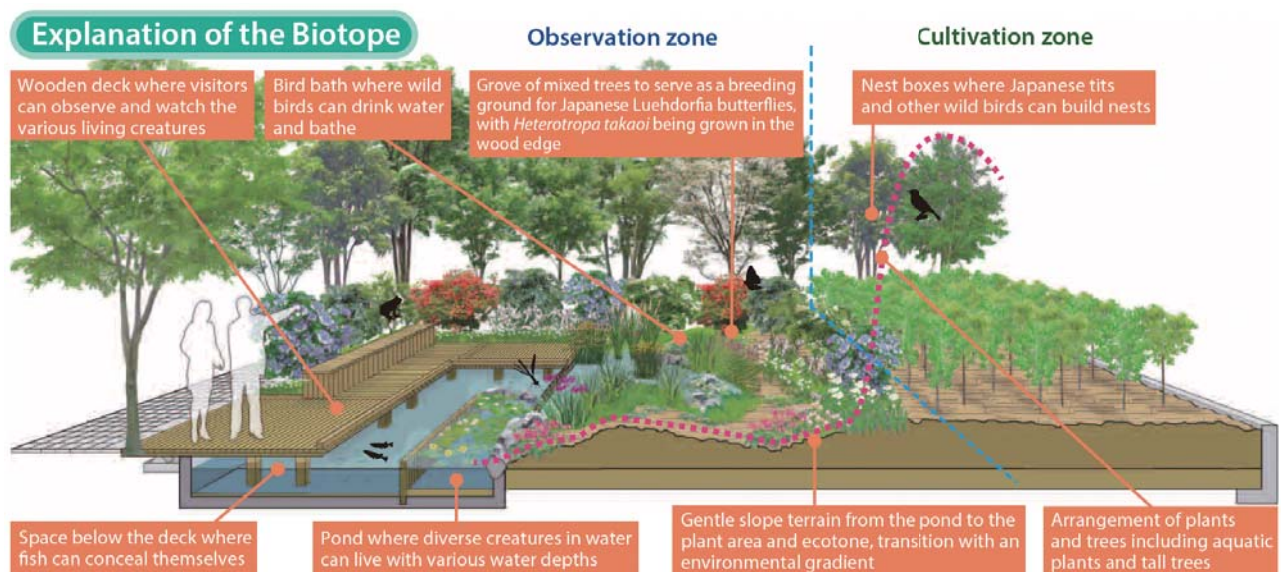
JDI works for the conservation of ecosystems through greening activities at our business sites and nature recovery activities for nearby area of each site.

We will introduce the initiatives of our Nomi Plant.

## ● The Nomi Plant Biotope

Our Nomi Plant has installed a biotope (approximately 540 m<sup>3</sup>) on the green zone to conserve rare flora and fauna there. The concepts for the biotope include providing a new habitat for the creatures that inhabit the region by taking the outstanding Satoyama environment of the surrounding area into consideration; using the plant's wastewater; and making employees and their families relaxing and learning about nature.

In the biotope, treated wastewater from the plant is discharged into a pond, which is home to a large number of aquatic wildlife such as the rare forest green tree frogs, a diverse array of dragonfly species, Japanese rice fish, loaches, and *Cybister brevis* diving beetles.

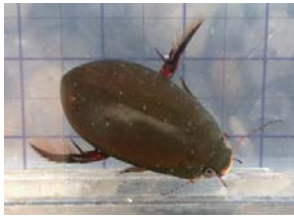


Moreover, a lot of plants, especially a grove of mixed trees, grown in Hokuriku region, have been planted around the pond. *Heterotropa takaoui* and dogtooth violet (Category II endangered species in Ishikawa Prefecture), which is a nectar resource plant, are among the plants that have been planted in the hopes that the Japanese Luehdorfia butterfly (a near-threatened species in Ishikawa Prefecture), which lives in the vicinity, will migrate here in the future. In addition, aquatic plants that have been planted here include the branched bur-reed (Category II endangered species in Ishikawa Prefecture) and four-leaf clover (Category I endangered species in Ishikawa Prefecture).

## Flora and Fauna Observed in the Nomi Plant Biotope (Examples)



Forest green tree frog



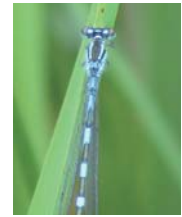
*Cybister brevis* diving beetles



Blue-spotted emperor dragonfly



*Ischnura asiatica* dragonfly



*Coenagrion lanceolatum* dragonfly



Japanese rice fish



*Heterotropa takaoi*



Branched bur-reed



Four-leaf clover



Fringed water lily

This ecosystem conservation activity originally started with the collaboration of proposals from the government, civil groups, and other companies.

(1) Government – Ishikawa Prefecture Satoyama Creation Office (instruction on their creation, etc.), Ishikawa Prefectural Freshwater Fish Laboratory (advice on creating biotopes, providing Japanese rice fish of local lineage, etc.), Ishikawa Insectarium (instruction on establishing habitats for insects, etc.)

(2) Civil groups – Nomi no Satoyama Fan Club (local exchange, instruction on the state of the local environment, provision of edible grasses and nectar resource plants, etc.)

(3) Other companies – Kajima Corporation (local surveys, consultant for matters like biotope design, cultivation, and management)

What is more, these activities were reported in Ishikawa Prefecture's quarterly magazine in spring 2015.



From *EcoNavi*, a quarterly magazine on civil partnerships in Ishikawa Prefecture

# Communication

We promote social welfare and contribution activities that are firmly rooted in local communities at each of our plants in Japan and overseas.

Of these, we will introduce the Kawakita Clean Campaign and delivery lectures to day-nurseries by the Ishikawa and Nomi Plants, the energy conservation award won by the Higashiura Plant, and the dialogue sessions with the local neighborhood by the Tottori Plant and its winning of the Outstanding Office Award for Promoting Waste Reduction.

## Activities by the Ishikawa and Nomi Plants

This year marks the 18th time that we have carried out the Kawakita Clean Campaign & Tedoru River Clean-up Blitz, which is held annually. These consist of clean-up activities over an extensive zone covering a total length of 20 km, and which include major roadways within Kawakita Town and the embankments along the Tedoru River.

For FY2014, on May 24 a total of 334 employees working at the Ishikawa and Nomi Plants as well as other neighboring companies and their families took part in collecting 210 kg of trash.

We gave delivery lectures on environment at three day-nurseries in Kawakita-cho from February 4 - 6. Main lessons for Children learned to value water and other resources through cute characters' images and voices. Lighting of LED lights installed on a handmade Shinkansen (bullet train) model powered by solar panels, wind power, and other renewable energies was demonstrated as well. In Ishikawa area, the children were interested and had fun because the Hokuriku Shinkansen had just opened in March 2014.



A scene from the opening ceremony



A scene from the clean-up activities



Scene from a delivery lecture



Scene from a quiz on the environment and other topics



Handmade LED light-up experiment

## Activities by the Higashiura Plant

At the FY2014 Chubu District Energy Conservation Month Award Ceremony held on February 17, the Higashiura Plant won the Chubu Bureau of Economy, Trade and Industry Director General's Award as a business operator practicing outstanding energy management. Everyone at the plant worked together to carry out energy conservation activities, as a result of which it was commended for its activities befitting a business operator contributing to rationalizing the use of energy.

This was the first time that JDI has received an award as a business operator practicing outstanding energy management since our founding.



A scene from the Award Ceremony

## Activities by the Tottori Plant

On July 31 our Tottori Plant won the Tottori City Outstanding Office Award for Promoting Waste Reduction.

This is a commendation for business operators with particularly remarkable initiatives when it comes to promoting environmentally-conscious business on an everyday basis. This fiscal year, three companies were given the award throughout all of Tottori City. This is the first time that the Tottori Plant has won this award.

Moreover, the Tottori Plant periodically holds a dialogue session to show the environmental activities by Tottori Plant to local residents.

This year neighborhood council members were invited on November 15, 2014.

For the future, the plant will continue to hold plant tours, product exhibitions and demonstrations, and exchanges of opinions in order to deepen understanding among the local people.



Scene from a dialogue session with a local neighborhood council



Tottori City  
Outstanding Office  
Award for Promoting  
Waste Reduction

# Communication

We have five overseas manufacturing subsidiaries. They mainly assemble liquid crystal panels and manufacture liquid crystal parts. Each company has acquired ISO 14001 certification, and they promote to continue improvements for environmental aspects.

Their primary environmental burdens come from the electricity and water used in production, as well as their waste. All of the companies promote reductions of their environmental burdens, and work on preventing global warming (reducing CO<sub>2</sub>) and effectively using resources (reusing water resources and reducing the amount of waste generated) as priority issues. We work to communicate with the companies by holding regular meetings to confirm and to ascertain the progress of each company.

The following articles show the activities by Suzhou JDI Devices Inc. (SD).

## Environmental Activities by Suzhou JDI Devices Inc. (SD)

SD is located in Suzhou Industrial Park in Jiangsu Province, China, and has 7,855 employees. It assembles liquid crystal panels. This report will introduce the environmental activities related to production.



Suzhou JDI Devices Inc.

### 1. Actual and Planned Environmental Targets

SD achieved its targets for every item in FY2014. For FY2015, it has been promoting the same activities of FY2014 with setting still higher targets.

Item		Indicator	FY2014 targets	FY2014 performance	Evaluation	FY2015 targets
Prevent global warming	Reduce emissions of energy-derived CO <sub>2</sub>		2.3%	30%	○	31%
Effectively use resources	Reduce the amount of water received	Reduction rate for basic unit for area (Baseline FY: 2012)	5.2%	41%	○	44%
	Reduce the amount of waste emitted		4.4%	51%	○	52%
Reduce atmospheric emissions of VOCs	Reduce atmospheric emission rates for VOCs (amount emitted/treated)	Reduce emissions rates	≤71%	60%	○	68%
Legal compliance	Comply with measuring/monitoring legally-mandated items	Comply with measuring/monitoring legally-mandated items	100%	100%	○	100%
	Comply with legal notifications/reports	Comply with legal notifications/reports	100%	100%	○	100%
Promote environmentally conscious products	Appropriately manage chemical substances in products	Pass rate for customer audits	100%	100%	○	100%
		Use of internal environmental management standards for products	100%	100%	○	100%



## 2. Examples of Specific Initiatives

Examples of environmental activities from FY2014 will be introduced.

### (1) Prevent global warming

- Remodel compressed air and drying agent drying machines (heatless type ⇒ heated type) – Reduction effect: 43 t-CO<sub>2</sub>/month
- Upgrade high efficiency motors (20 motors) – Reduction effect: 3.7 t-CO<sub>2</sub>/month

These improvements were certified as an Energy Conservation Star company by Suzhou City.

### (2) Reduce atmospheric emissions of VOC

- Add VOC abatement equipment (2 units) – Effect: Reduced VOC emissions by approximately 20 t/year

### (3) Activities that Contribute to the Community

- Clean-up and waste collection activities by employees near SD (held once a month between April – October 2014): About 280 people participated in total
- Community bazaar activities (held in May 2014): 877 people participated. The 1,455 yuan in sales from the bazaar were donated to a public benefit organization
- SD was awarded a three-star rating by Suzhou City's Energy Star program\*<sup>1</sup> in November 2014



Heating drying machines



VOC abatement equipment

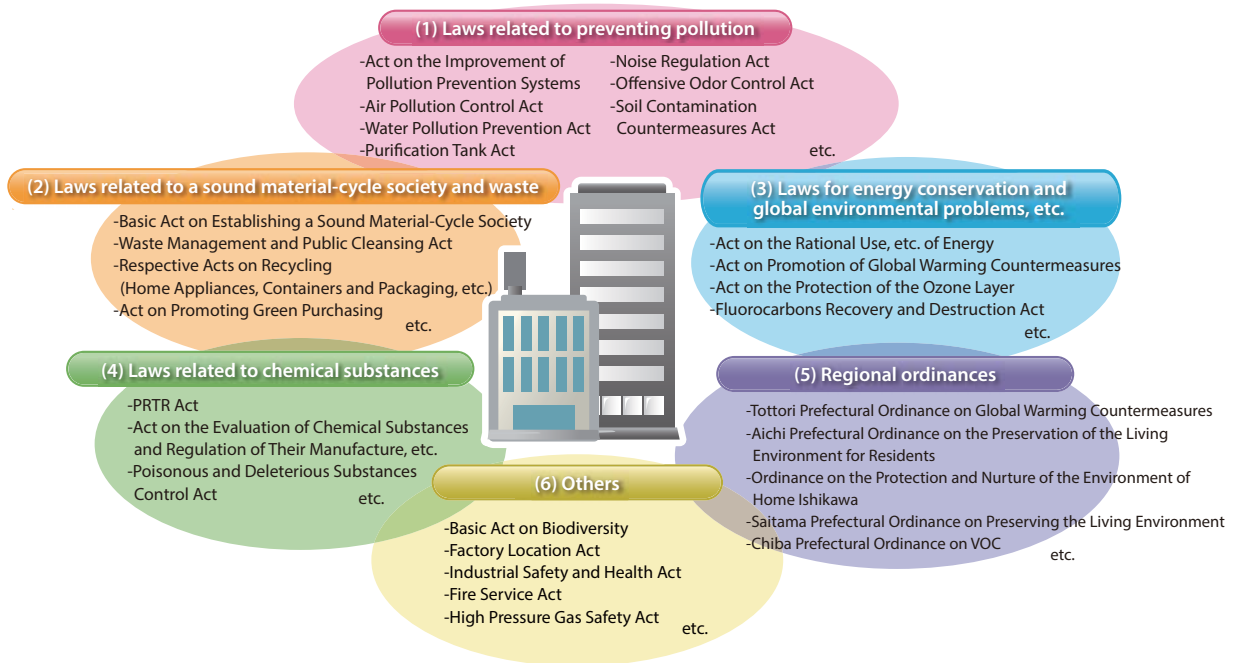


A scene from the clean-up and waste collection activities near SD

\*1: The Suzhou, China version of the International Energy Star Program. It is a system that certifies companies with outstanding results over a broad range that includes everything from low CO<sub>2</sub> expenditures and products that aim to optimize energy efficiency, to production processes and green procurement. The highest rating is five stars.

# Legal Compliance

Compliance is one of the most fundamental challenges when it comes to companies fulfilling their social responsibility. We pre-emptively prevent the discharge of environmental pollutants and other contaminants into the soil, groundwater, and atmosphere, while also creating systems for compliance to environmental laws and undertaking environmental conservation activities. This fiscal year, there were no violations of environmental laws, neither in Japan nor overseas. Major laws related to the environment in Japan are indicated below. Of these, this report will introduce the Tottori Plant's compliance with the revised Water Pollution Prevention Act and the Mobara Plant's countermeasures against soil contamination.



## ● The Tottori Plant's Compliance with the Revised Water Pollution Prevention Act

The Water Pollution Prevention Act was revised in 2012 to prevent the risk of companies polluting groundwater with three years of grace. It imposed mandates on matters including compliance with structural standards for production equipment, storage facilities, and other targeted facilities, as well as the holding of regular inspections and the preservation of records.

Since the Tottori Plant's drainage and waste liquid pipes and water tanks that contain toxic substances did not meet the revised structural standards, improvement work was performed and completed in April 2015 within the three-year grace period.



Underground water tanks



Visible water tanks

## ● Soil Contamination Countermeasures at the Mobara Plant

The Mobara Plant carried on the construction work for countermeasures for the designated areas with contaminated soil with the guidance of Chiba Prefecture since December 2013. This construction was completed in June 2015, 6 month forward than planned schedule. It will continue to carry out appropriate management for this in the future.



A scene from the excavation work on the contaminated soil



A scene after the excavation work on the contaminated soil

<Overview of the construction work on countermeasures against contaminated soil>

- Construction period: December 2013 - June 2015
- Targeted area: 8,700 m<sup>2</sup> (100 m<sup>2</sup> x 87 sections)
- Construction work details:
  - Excavation and removal of the contaminated soil
  - Containment measures for the contaminated soil (installation of impermeable walls)
  - Prevention of scattering of the contaminated soil (asphalt paving)



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