

Environmental Report

2013-2014



DAISHINKU CORP.

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Company Profile

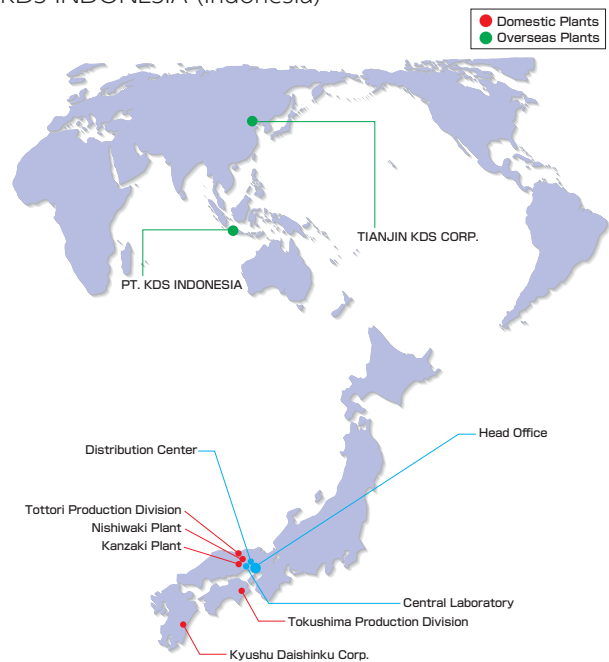
Company Profile

Corporate Name : DAISHINKU CORP.
 Logo : **KDS**
 Head Office : 1389 Shinzaike, Hiraoka-cho, Kakogawa, Hyogo, 675-0194 Japan
 Types of Business : Manufacture and sales of electronic components and electronic equipment
 Date of Foundation : November 3, 1959 (Inauguration of business)
 Organized as Joint
 Stock Company : May 8, 1963
 Representative : President Sohei Hasegawa
 Capital : 19,344 million yen
 Number of Employees : 732 (as of July 1, 2014)

Scope of This Report

DAISHINKU CORP.
 Head Office, Central Laboratory, Distribution Center, Tottori Production Division, Tokushima Production Division, Nishiwaki Plant, Kanzaki Plant

Kyushu Daishinku Corp
 TIANJIN KDS CORP.(China)
 PT. KDS INDONESIA (Indonesia)



Period

This Environmental Report mainly covers environmental activities and achievements during the period from April 2012 to March 2014.

Operational Change during the Period

Not Applicable

Reference Guidelines

Environmental Report Guidelines 2012, published by the Ministry of the Environment, Japan



Message from the President

Company policy **“Reliance”**

Management philosophy

“Reliance” is the policy we offer all our customers worldwide.

Commitment

We contribute to societies’ sustainable development through activities which are harmonious with the global environment.



President **Sohei Hasegawa**

The Daishinku Group contributes to the sustainable development of society through our environmentally friendly business activities, with conservation being one of our top management policies.

Since its founding in 1959, Daishinku Group has been involved in the field of electronic devices. We have developed, manufactured and marketed crystal devices for diverse applications that have met the demands of the times, ranging from color TVs, quartz clocks/watches, citizens band (CB) radios, video cassette recorders, home video game machines, personal computers, mobile phones, digital cameras, car electronics and smartphones. As our society becomes more dependent on electronics, the crystal device market is expected to grow further, with wider applications such as wearable computers, one-time password (OTP) Smart Cards and autonomous driving systems.

In all stages of the crystal device business, including development, manufacturing and sales, the Daishinku Group promotes environmental management for sustainability, thereby establishing its environmental vision. This vision presents strategies in four areas: 1) Integrating Environmental Considerations into Products, for example, by reducing the use of substances with environmental impact; 2) Integrating Environmental Considerations into Business Activities, for example, by pursuing production that will help mitigate global warming and by reducing the discharge of waste; 3) Communication, such as community clean-ups around our business sites; and 4) Environmental Management, such as establishing a Group-wide environmental management system and structure and providing environmental education programs.

These environmental management activities are stipulated in our mid- to long-term environmental action plan for 2014 to 2016. In accordance with this plan, we will step up our efforts toward global environmental conservation.

We hope this Environmental Report will deepen the understanding of our environmental conservation activities.

Environmental Management System

DAISHINKU GROUP ENVIRONMENTAL POLICY



— Environment Philosophy —

• **Social responsibility**

The Daishinku Group contributes to creating a progressively developing society through environmental conservation activities which are harmonious with the environment.

• **Compliance to legal and regulatory requirements**

Daishinku observes statutes and regulatory requirements and is engaged in the development of environmentally friendly products.

— Policy —

Throughout all areas of its business activities, from the development, production and sales of its crystal applied products, Daishinku Group business policy promotes universally trusted environmental management activities.

The Daishinku Group will:

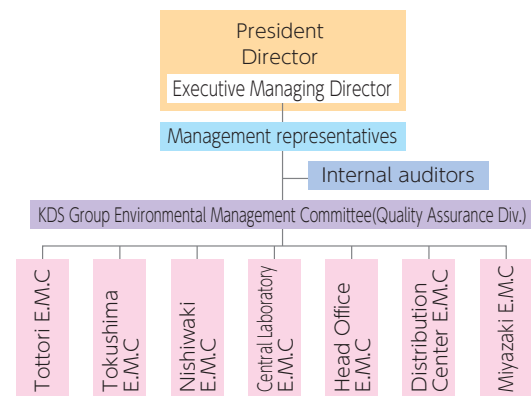
- 1) Take the initiative in energy and resource saving by properly controlling the substances with environmental impact and reducing the use of them.
- 2) Effectively utilize resources and prevent environmental pollution through the reduction and proper disposal of waste, including reuse and recycling.
- 3) Prevent global warming by carrying out energy conservation activities and CO₂ emissions reduction.
- 4) Avoid the sourcing or use of minerals that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo or adjoining countries.
- 5) Observe relevant environmental laws, standards, agreements and any other requirements to which the company subscribes.
- 6) Set environmental objectives and targets based on this Environmental Policy and whilst promoting these activities also review them regularly for continuous improvement of the environmental management system.
- 7) Educate all employees and those who work for our group in our environmental policies and raise their awareness of environmental conservation through the educational and awareness-raising activities.
- 8) Ensure information on our environmental conservation activities is available to the public.



Our company will strive for continuous improvement in its environmental management system through the implementation of our Environmental Philosophy and the Environmental Policy.

Organizational Structure

In order to effectively promote our Environmental Management System, an Environmental Management Committee has been set up at each of our business bases, and a Group Environmental Management Committee has been established to supervise the entire Daishinku Group. The Group Environmental Management Committee determines the goals of environmental activities of Daishinku as a whole, examines and makes decisions on the results of the activities, makes effective use of the PDCA cycle, and works for the continuous improvement of environmental performance.



Environmental Audit

To ensure the efficiency of the Environmental Management System, it is important to check that environmental management is being properly implemented and to correct any problems found.

The Daishinku Group conducts an internal environmental audit once a year to check the status of its management system. The results of the internal environmental audit are reported to the management, to discuss effectiveness and areas for improvement, contributing to the continuous improvement of the Environmental Management System. To ensure that the internal audit is conducted properly, the Daishinku Group selects and trains qualified personnel as internal environmental auditors.

ISO 14001 Certification Status

Daishinku Group has acquired the ISO 14001 international environmental management standard.

Our domestic offices/plants acquired the certification in 2000, to promote implementation of an integrated management system for the whole Daishinku Group.

We will continue to work for environmental conservation by implementing an environmental management system consistent with ISO 14001.

TIANJIN KDS CORP. and PT. KDS INDONESIA, our overseas production bases, have also acquired ISO 14001 certification and are committed to environmental conservation in cooperation with our domestic offices.

Emergency Response

Each plant/office has an “Emergency Response Program” in place that specifies the procedures for dealing with possible emergencies and accidents to minimize impacts on surrounding neighborhoods.

In June, our Environment Month, we hold emergency drills and verify the effectiveness of the Emergency Response Program by checking our emergency communication network, storage locations/quantities of equipment to be used, etc., in order to be prepared for any emergency that may occur.



Chemical leaks drill (Tokushima Production Div.)

Observance of Laws and Regulations

Observance of laws and regulations is a key factor for a company when implementing its business activities. The Daishinku Group tries hard to prevent violation of laws and regulations from occurring by making effective use of the Environmental Management System.

At each site we list up the applicable relevant laws, and regularly check compliance.

Environmental Performance

Prevention of Global Warming

The Daishinku Group is committed to reducing emissions of greenhouse gases such as CO₂.

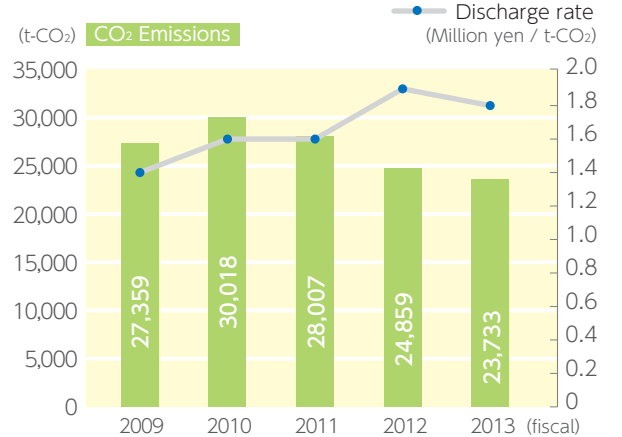
Our production bases have introduced inverter lighting apparatus and energy-saving air-conditioning equipment, while engaging in activities to improve the operating efficiency of production facilities and decrease the defective rate with the aim of reducing unit energy consumption.

We actively encourage each and every employee to be environmentally responsible by setting moderate air-conditioning temperatures and turning off lights, OA devices etc.

We replaced nearly 800 fluorescent lamps with LED lights in the Central Laboratory and Distribution Center in fiscal year 2013.

As a result of the above efforts, the 2012 - 2013 fiscal year saw a reduction in CO₂ emissions by 11.7% and 15.4% respectively compared to the 2011 level. In terms of the discharge rate indicator (CO₂ emissions per unit of production value), for which environmental targets have been set, no improvement was made, since the decrease in production values was greater than the reduction in energy consumption.

CO₂ Emissions and Discharge Rate



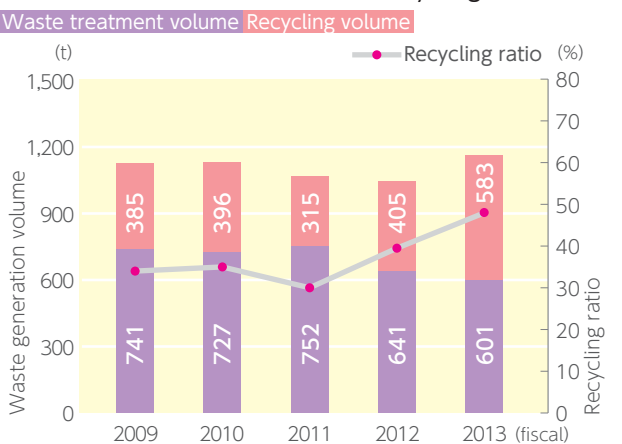
Waste Reduction, Resources Recycling

The Daishinku Group has been working to reduce the amount of waste for landfill and incineration, as well as the volume of waste generated.

The volume of waste generated has remained almost flat since fiscal 2009.

Sludge accounts for about 80% of waste generated in our facility. We have been working to suppress the generation of the sludge by improving the chemicals and controlling the amount of chemicals used in wastewater treatment plant. In addition, we have been working to reduce industrial waste by recycling or reusing materials which were previously just disposed of.

Waste Generation Volume and Recycling Ratio



Waste treatment volume Recycling volume Recycling ratio

- Waste generation volume : Waste treatment volume + Recycling volume
- Waste treatment volume : Volume for landfill / incineration
- Recycling volume: Volume for recycling
- Recycling ratio : Recycling volume / Generation volume

Appropriate Management of PCB Waste

PCB (polychlorinated biphenyl) is highly toxic to living organisms and the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes requires proper disposal of PCB by March 31, 2027.

The Daishinku Group completed the proper disposal of the substance by Japan Environmental Safety Corporation (JESCO) in October 2010.

Since the waste electrical facilities contaminated by a small amount of PCB still remain, we are committed to their proper storage and the early disposal.

* "Waste electrical facilities contaminated by a small amount of PCB" refers to electrical equipment and other materials that do not use PCBs but are contaminated by insulating oil containing low concentrations of PCBs (over 0.5 mg/kg). They are divided into three categories: 1) Waste insulating oil contaminated by small amounts of PCBs, 2) Waste equipment etc. contaminated by insulating oil containing small amounts of PCBs, and 3) treated waste oil and equipment etc. contaminated by small amounts of PCBs.

Throughout the whole process of product design, manufacturing and sales we work towards the prevention of global warming through the promotion of energy conservation and waste reduction activities.

Management of PRTR Chemicals



The Daishinku Group controls the amount of chemical substances controlled by the PRTR law and report their use in accordance with the law.

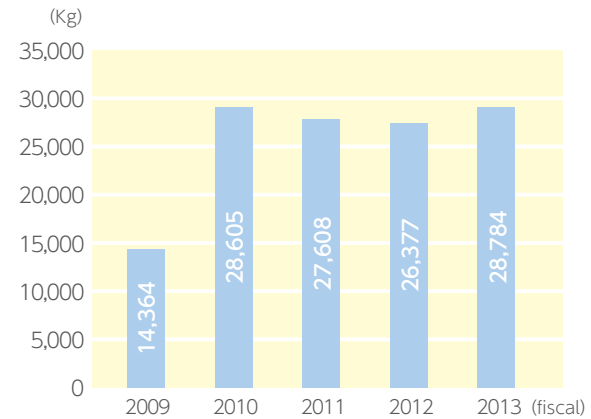
As a result of changes to the law in November 2008, from fiscal year 2010 onwards the number of chemical substances controlled by the PRTR law were increased from 354 to 462, and as a result, the volume of PRTR specified substances handled at Daishinku increased too.

*PRTR law:

Requires the documentation etc of the amounts of the specified chemical substances released into the environment and calls for the speedy improvement in the handling of such substances.

Requires business operators handling chemical substances to submit the amounts of chemical substances emitted and transported.

Handled volume of materials subject to PRTR



Waste Risk Management



We use outside waste disposers to dispose of industrial waste discharged by our business activities. In recognition of the responsibility that an industrial waste generator bears for its disposal, we have established rules concerning waste disposal and management and conduct audits of the firms we entrust with waste treatment.

Before the entrustment of industrial waste disposal, we conduct a site inspection of the firms concerned. Furthermore we continue to do annual patrols of the disposal firms after the contract has been handed out.

Topics We contribute to society with renewable energy



In November 2013, Daishinku launched its solar power business. On idle land on the premises of its Tokushima Production Division in Yoshinogawa City, Tokushima Prefecture, a photovoltaic power facility was constructed. By selling electricity at fixed prices and effectively using the company's idle land, this project is expected to contribute to both revenue creation and realization of a low-carbon society.

With an annual output of approximately 1,500 MWh, which is equivalent to the total annual power consumption of 400 households, this power plant will contribute to reducing CO₂ emissions by approximately 500 tons, equivalent to carbon sinks in a 1.4 km² area of forest. In constructing the solar power system, we took a comprehensive approach to CO₂ reduction, employing solar batteries that require low energy consumption in the production process and using local construction materials.

To maximize its corporate contribution to society, Daishinku not only pursues energy conservation in products and production, but also promotes energy creation.



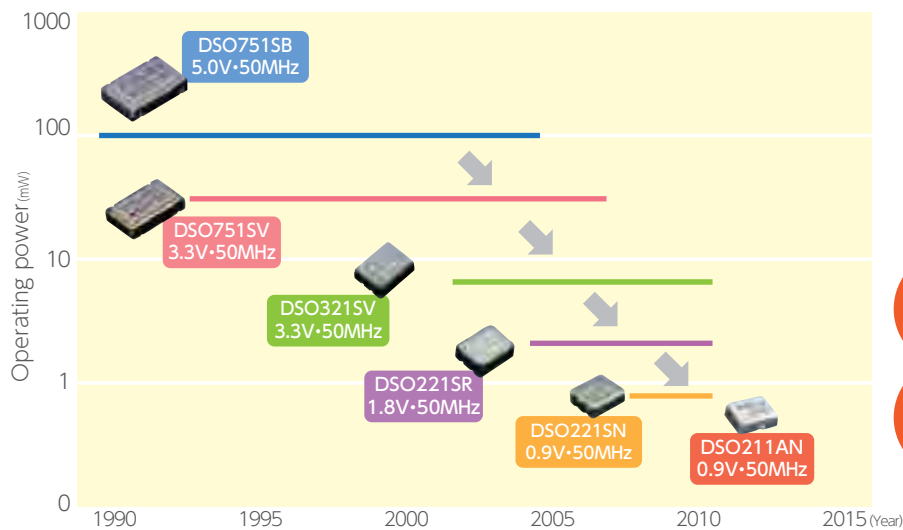
Environmental Considerations Relating to Product

Power-saving Products



The power consumption of electronic devices such as PCs, smart phones and flat-screen televisions can be lowered by reducing the power consumption of crystal products used in these devices. Since power is partly generated by thermal power plants, which are associated with generation of CO₂, reduction of power consumption contributes to the reduction of CO₂. An example of how we help reduce CO₂ generation through innovative product design is our crystal oscillator DSO221SN (2.5 × 2.0 × 0.815mm) and its downsized version: DSO211AN (2.0 × 1.6 × 0.72mm). We have achieved a driving voltage of 0.9 V which is about 1/5 that of the older DSO751SB type of oscillator, and have reduced electric power consumption to less than 1/100, from 90 mW to just 0.9 mW.

Transition of low power consumption products



Compared with DSO751SB

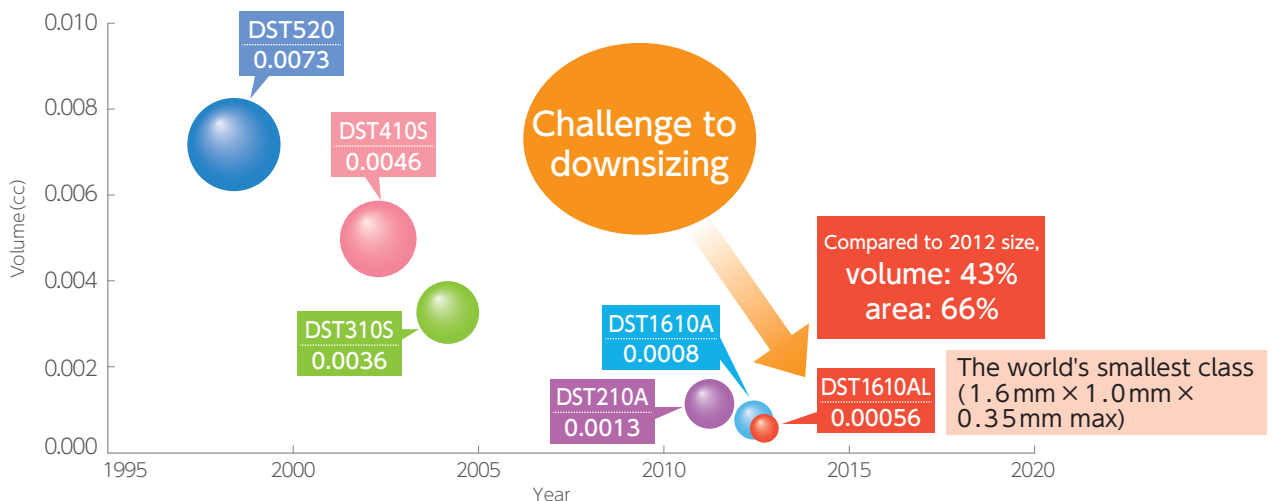
- Less than $\frac{1}{5}$ the power supply voltage
- Power consumption $\frac{1}{100}$

Miniaturization of Products



The trend in electronic equipment toward miniaturization and height reduction also demands similar improvements of their constituent components such as crystals. Miniaturization of our crystal products not only results in the reduction of materials used in our products, but leads to space saving on the boards where our parts are mounted. In this way we contribute to the reduction of resource usage throughout the whole supply chain.

Trend of miniaturization

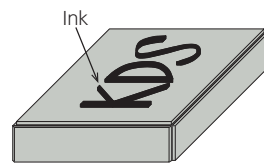


Our products are used in everyday electronic devices such as smart phones and tablet PCs, audio visual equipment and car electronics. At the stage of product development and design, we are committed to providing environmentally friendly products under the three keywords, “power saving”, “miniaturization”, and “proper management of chemical substances.”

<Improvements Resulting from Miniaturization>

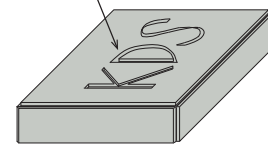
• Laser marking

Downsizing of crystal packages has led to relief printing using ink to be abandoned in favour of more environmentally friendly laser marking in metals, ceramics and resin products. Laser marking also enables the marking on the surface of smaller products.



Marking by stamp

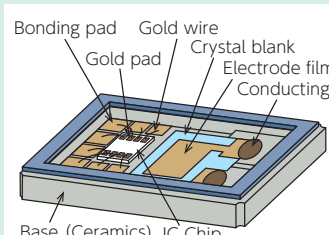
Carved surface by laser



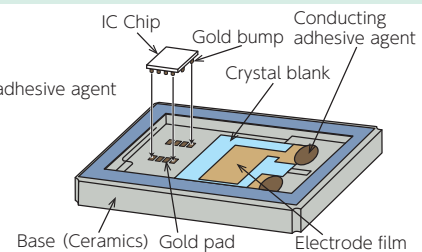
Laser marking

• Flip Chip Bonding

Gold bump terminals on the underside of the IC directly connect the IC and package instead of gold wires leading from terminals formed on the top surface of IC. This results in not only space saving and height reduction but also reduces the amount of material used.



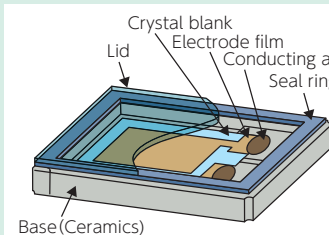
Wire bonding



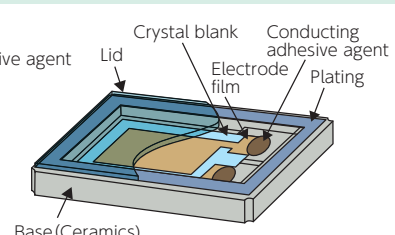
Flip chip bonding

• Welding without seal ring

Instead of using a seal ring for crystal package sealing, our innovative plating technique employed in the sealing joint makes it possible to directly join the base and lid by welding. This method, which requires no sealing ring, results in both a reduction in height and the amount of materials used.



With Seal ring



Without Seal ring

Compliance of Laws and Regulations for Chemical Substances



Laws and regulations governing chemical substances are being strengthened in every country in the world. Examples are the European RoHS Directive, ELV Directive and REACH regulations. The Daishinku Group has established "Standards for the Management of Environmental Chemical Substances" which specifies requirements to upstream suppliers. Through the use of it, we communicate with our suppliers, and have established a system to provide the appropriate information for customers.

Chemical Substances Management at Design Stage



For each crystal product, we examine its impact on the environment in the design/development stage and confirm based on the data provided by the suppliers that no environmentally hazardous substances are used for the component materials of the product.

We also conduct periodic checks not only in the product design stage but also for mass produced items to determine whether any environmentally hazardous substance is contained in them, using in-house XRF analyzers, with the aim of preventing outflow of hazardous substances.

Response to Conflict Minerals

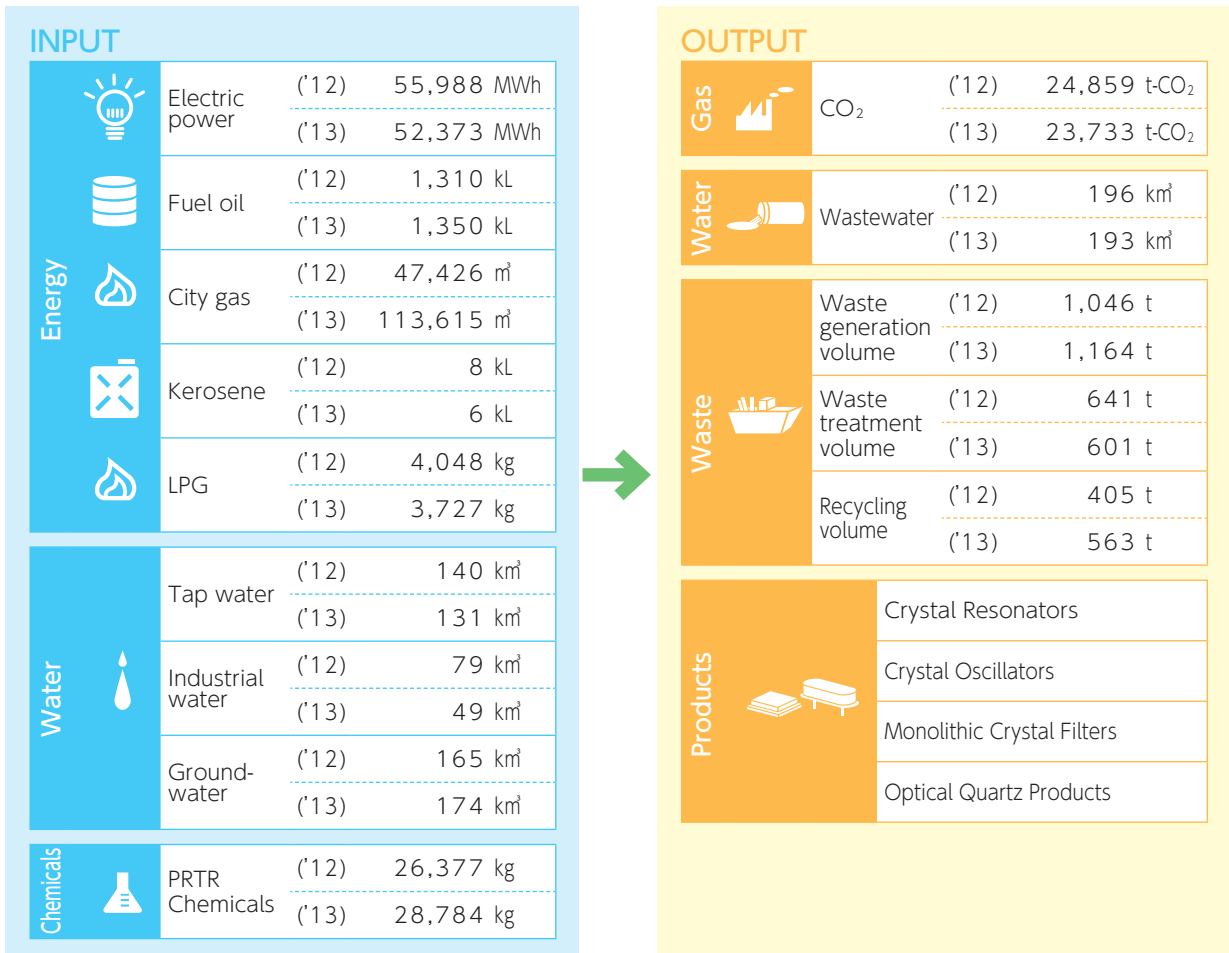


The U.S. Reform and Consumer Protection Act signed in July 2010 requires companies to survey supply and disclose the use of “conflict minerals” (gold, tantalum, tin, and tungsten) originating from the Democratic Republic of the Congo (DRC) or adjoining countries, the sale of which could finance certain armed groups in those countries. As a mid-tier supplier with a defined policy relating to conflict minerals the Daishinku Group both surveys its suppliers and provides information to its customers relating to these materials.

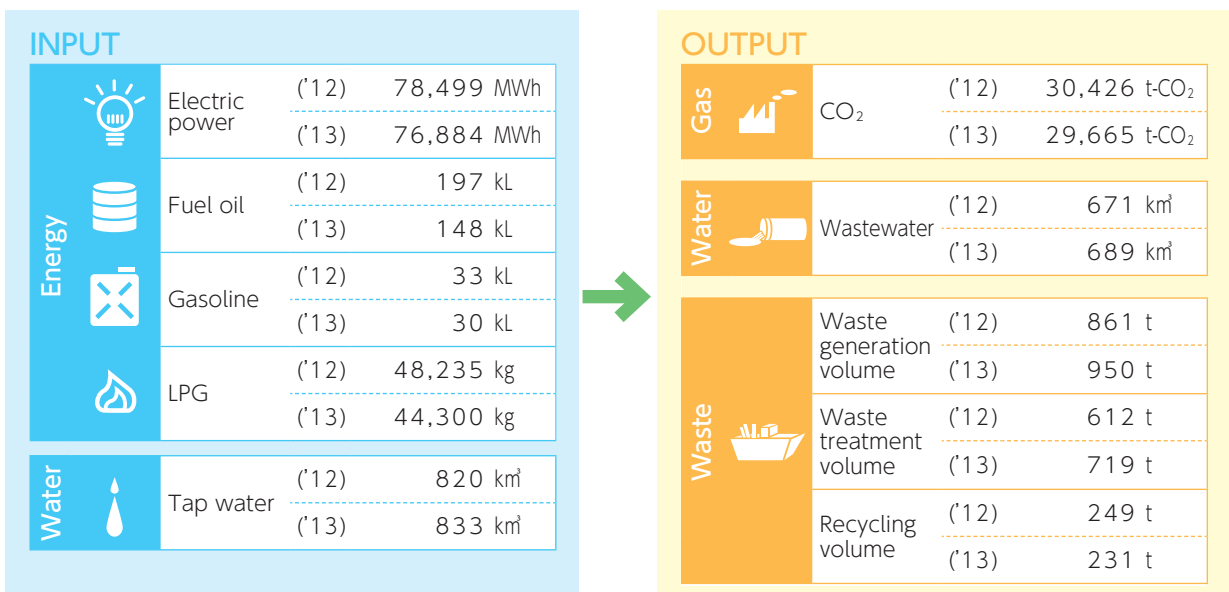
Environmental Impact

At each stage of product development and design, manufacturing and sales we use resources such as water, energy and raw materials. We try to understand the environmental burden resulting from these business activities and endeavor to reduce its impact.

Environmental Burdens Generated by Offices/Plants in Japan



Environmental Burdens Generated in Overseas Offices/Plants



To achieve its environmental vision, the Daishinku Group places emphasis on strengthening communication with stakeholders and conducting corporate social responsibility (CSR) activities. We continue to actively promote information disclosure and engage in community-based activities that contribute to society.

Contribution to Local Communities



The Daishinku Group holds cleanup activities as a member of the local community every year.



Cleanup around the factory

One example of this is the Tottori Production Division's participation since 2001 in the "Tottori Sand Dunes Cleanup" program which has been running since 1980 and is organized by the Tottori municipal government in spring and autumn of every year. Although the amount of garbage has been decreasing year by year, the Daishinku Group continues to participate in this community based activity and thereby contributes to the local area.



Cleanup of Tottori Sand Dunes (Tottori Production Div.)

On its website the Daishinku Group publishes past Environmental Reports, ISO accreditation and environmental compliance information relating to its products.

URL : http://www.kds.info/index_en.htm





DAISHINKU CORP.

<http://www.kds.info/>

Comments and inquiries about this report may be sent to the following

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This report uses the form that considers the environment for the global environment protection.