

CSR Report 2018

Maximizing energy conversion
efficiency for the benefit of
humanity and society.

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Reporting period

This report focuses on the results of activities in FY2017 (from April 1, 2017 to March 31, 2018).

Organizations covered in this report

I Shindengen Electric Manufacturing Co., Ltd., Shindengen Group

Reference Guidelines

- ISO 26000 - 2010
- Environmental Reporting Guidelines 2012, Ministry of the Environment of Japan
- Environmental Accounting Guidelines 2005, Ministry of the Environment of Japan

Environment

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Top Message

Management Philosophy

Together with society, our customers, and our employees

- Our activities shall lead to the betterment of society
- Our passion for quality shall foster customer's trust
- Our employees shall have opportunities to be engaged at all levels

Mission Statement

Maximizing energy conversion efficiency for the benefit of humanity and society.

Brand Logo



Our Promise

Listen closely, look ahead, and create a future of value

I am honored to present the 2018 "Shindengen Group CSR Report".

Our group strives to promote CSR management in practice while pursuing the management philosophy of "a company growing with customers and employees, together with society." The company's mission is to "contribute to humanity and society by pursuing energy conversion efficiency to the utmost." Our brand logo conveys our values of utilizing energy effectively, being considerate of the natural environment, and better serving our customers and society.

As we continue to promote CSR management, we will conduct various projects on social issues at home and abroad, such as striving to meet the 17 goals or "SDGs (sustainable development targets)", that are promises to be achieved worldwide by 2030. Taking our place in the value chain into account, we are constantly thinking about how our company can respond in the medium to long term to society's requests and expectations, and how we can contribute to the sustainable development of society and the global environment. We are committed to be a company that is trusted by shareholders, loved by local communities, and is an organization that employees and their families

can be proud of.

We would appreciate it if you would take a look at this CSR Report to gain further understanding of our group's CSR management, and would give us your opinion.



Yoshinori Suzuki, President



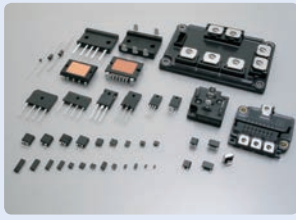



Company Outline

Trade Name: Shindengen Electric Manufacturing Co., Ltd.
 Established: August 16, 1949
 Capital: ¥17,823 million
 Consolidated Sales: ¥91,177 million
 (As of March 31, 2018)

Consolidated Employees: As of March 31, 2018

Independent	4,956
Consolidated	1,136
Domestic consolidated subsidiaries	1,213
Overseas consolidated subsidiaries	2,607

Outline of Business Operations

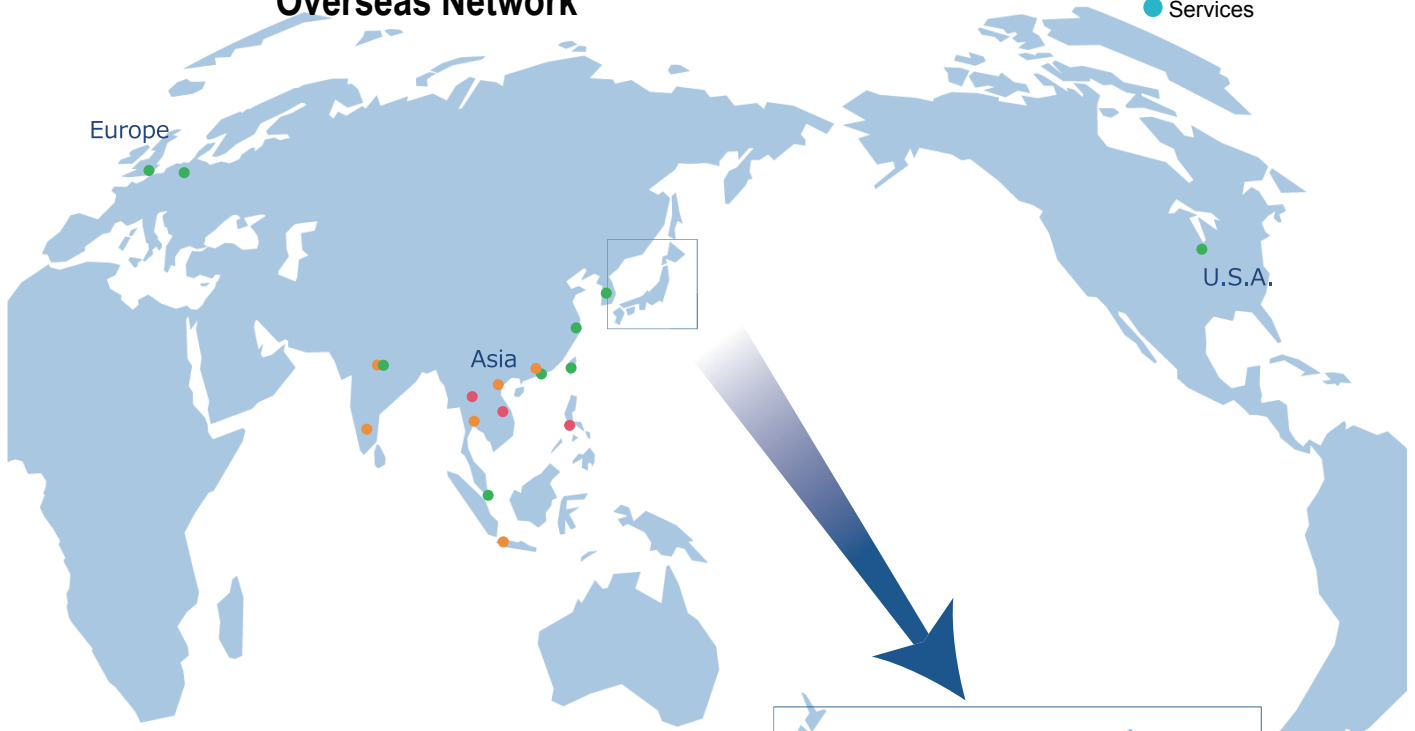
Division	Products	Markets
Power Device	<ul style="list-style-type: none"> • Bridge diodes • High-speed rectifier diodes • Thyristors • SIDACs • Power MOSFETs • Power ICs • Power modules 	 <ul style="list-style-type: none"> • Mobility (four-wheel vehicles) • Industrial machinery market (factories) • Home electronics (air conditioners, lighting, etc.)
Car Electronics	<ul style="list-style-type: none"> • Motorcycle products • Electric motorcycle products • Universal engine control units • Four-wheel EV/HEV/PHEV/FCV* products 	 <ul style="list-style-type: none"> • Mobility (motorcycles, four-wheel vehicles) • Generators
Next Generation Energy	<ul style="list-style-type: none"> • Rectifiers for communication stations • Rectifiers for mobile device base stations • Inverters for communication stations • Monitoring units • EV/PHEV chargers (quick and regular-use) • Power conditioners for photovoltaic generation • Smart energy management systems 	 <ul style="list-style-type: none"> • Information/communication (mobile device base stations, data centers and communication stations) • Next generation energy (photovoltaic generation and energy storage, EV/PHEV chargers)
Other	<ul style="list-style-type: none"> • Rotary solenoids • Push pull solenoids • Tubular solenoids • Proportional solenoids 	 <p>Automobiles, hydraulic equipment, construction machinery, embroidering machinery, and other FA devices</p>



Global Network

- Sales
- Manufacturing
- Manufacturing and Sales
- Research and Development
- Services

Overseas Network



Overseas offices

Asia

- SEOUL OFFICE

Affiliated Companies (Overseas)

Asia

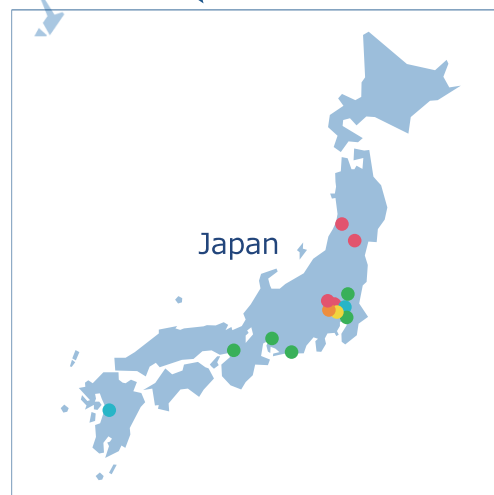
- LUMPHUN SHINDENGEN CO., LTD.
- SHINDENGEN PHILIPPINES CORP.
- SHINDENGEN INDIA PTE LTD.
 - Head Office
 - Gurgaon Office
- PT.SHINDENGEN INDONESIA
- SHINDENGEN VIETNAM CO., LTD.
- GUANGZHOU SHINDENGEN ELECTRONIC CO.,LTD.
- SHINDENGEN (THAILAND) CO., LTD.
- SHINDENGEN (H.K.) CO., LTD.
 - Head Office
 - Taiwan Representative Office
- SHINDENGEN SINGAPORE PTE LTD.
- SHINDENGEN (SHANGHAI) ELECTRIC CO.,LTD.
- SHINDENGEN LAO CO., LTD.
- NAPINO AUTO & ELECTRONICS LTD.

Europe

- SHINDENGEN UK LTD.
 - Head Office
 - German Branch

U.S.A.

- SHINDENGEN AMERICA, INC.



Japan offices

- Shindengen Electric Manufacturing Co., Ltd.
 - Head Office
 - Osaka Branch
 - Nagoya Branch
 - Hamamatsu Office
 - Utsunomiya Office
 - Hanno Factory

Affiliated Companies (Japan)

- Akita Shindengen Co., Ltd.
 - Head Office, Ohura Factory
 - Asuka Factory
- Higashine Shindengen Co., Ltd.
 - Head Office
 - Logistic Center
- Shindengen Three E Co., Ltd.
- Shindengen Kumamoto Technoresearch Co., Ltd.
- Shindengen Enterprise Co., Ltd.
- Shindengen Mechatronics Co., Ltd.



Business Fields

Power Innovation Moving into Various Areas

Industrial Machinery Market

Factories

Various kinds of Power Devices

Environmental/Energy Market

Photovoltaic Center/Storage

PV Inverters
Power Control Units
Monitoring System
Energy Management Systems

LED Lighting

Various kinds of Power Devices

Mobility Market

Automobiles

DC/DC Converter for EV
Various kinds of Power Devices
Quick Chargers, Chargers and Onboard
Battery Chargers for EV/PHEV

Motorcycles

REGs/RECTs, CDIs
Idle Reduction ECUs
Blinker Relays

Information/Communications Market

Mobile Phone Base Stations

Rectifiers for Communication Stations, Inverters for Communication Stations, AC/DC Converters,

Data Centers, Communication Stations

Rectifiers for Communication Stations, Inverters for Communication Stations, Monitoring Units

Home Appliance Market

Homes

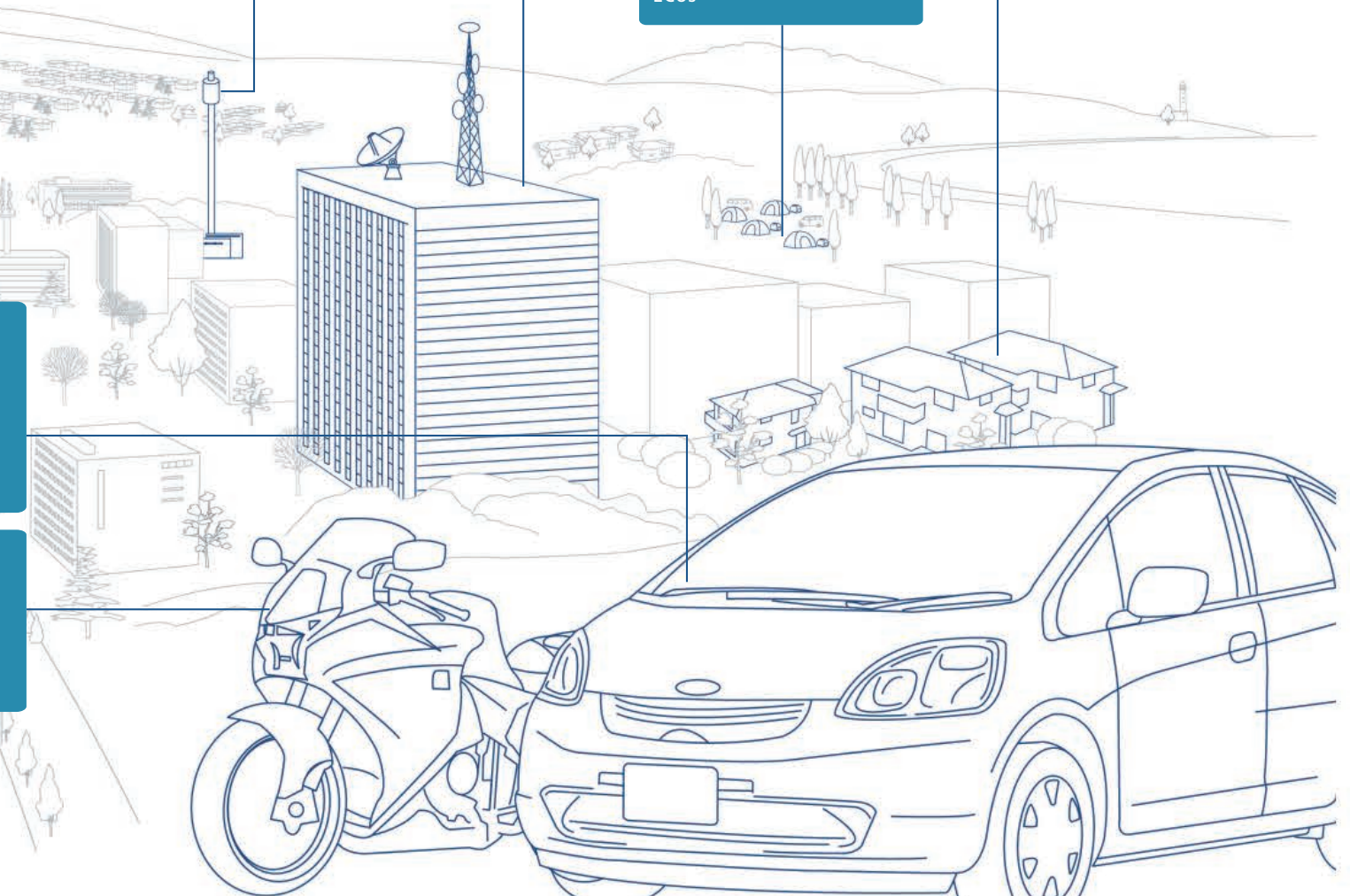
(Home Appliance)

Various kinds of Power Devices

Power Generator Market

Generators

Sine Wave Inverters, DC/AC Inverter, ECUs



Technology & Development Center

Technology & Development Center

A Message from the Head of Center

The Shindengen Group's corporate mission is "Maximizing energy conversion efficiency for the benefit of humanity and society" and as such, we are committed to transferring our new technology to key business fields to better serve our society.



Head of Technology & Development Center Officer

Masahiro Sasaki

Promoting Environmentally Friendly Product Development

Creating core technologies ahead of market changes

In the semiconductor device field, Shindengen is promoting the development of new technology in order to lower associated losses, allow operation in higher temperatures, and to integrate the functioning of multiple parts.

In the power electronics field, we are promoting research and development to increase conversion efficiency, reduced related noise, and provide high-density mounting.

We are passionate about working towards meeting these challenges and developing new technologies that cater to the market demands in a timely manner.

A Mid-term Growth Strategy Considering Social Requirements

Creating core technologies pursuing the limits of energy conversion efficiency

- Development of advanced low loss devices as per the requirements of mobility markets
- Development of advanced element technologies for next generation low loss power devices
- Development of advanced bonding technologies for reliable use in high temperature operations
- Development of high efficiency power circuit technologies for application in next generation low loss devices
- Development of ICs for lighting purposes so as to move towards a society with reduced energy consumption

Creating Environmentally Friendly Products Based on the Growth Strategy

A series of IC products for LED lights with high efficiency and low environmental impacts

- Awarded with the gold medal by the Panasonic Corporation ECO-VC Awards - MCZ 4011 SJ significantly saved energies and improved the energy conversion-efficiency.

(* 1: For details on the ECO - VC Gold Award please see another page)

- MCZ5213ST that realized the world's highest THB characteristics

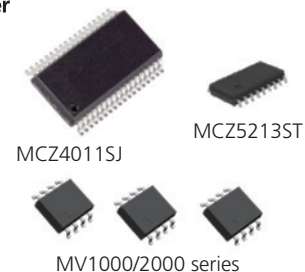
(* 2: THD: Total Harmonic Distortion)

- MV 1000 / MV 2000 series that realized miniaturization of power supply for LED-light.

High efficiency, high precision, miniaturization with non-insulated buck converter.

We will continue to create products that are friendly to the earth by improving energy efficiency and reducing.

Primary environmentally friendly products from the Technology & Development Center



Primary manufacturers

Domestic – Hanno factory

Electronic Device Division

Electronic Device Div. Group

A Message from the Head of Division Group

Technical "A" dvantage, Quality "A" dvantage, and Cost "A" dvantage
We aim to achieve three advantages under our slogan of "Win Triple A." We are working hard to set up a full-scale business operation so that we can establish ourselves as a notable power semiconductor manufacturer that contributes towards improving global energy efficiency.



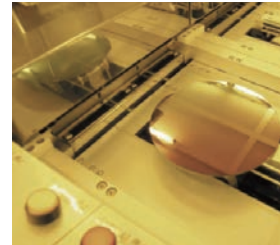
Division Director of
Electronic Device Div.
Group Officer

Tomoaki Nishi

Introduction

Power supplies to bring power semiconductors to life

- Our portfolio of diode-related products, which are used in the automotive industry, is of the finest quality, and as a result, has the largest market share of similar products in the world.
- Our portfolio of Automotive quality power MOFETs and ICs are highly efficient and possess a power-saving feature.
- Our portfolio of power module products combines the features of a multitude of semiconductor devices, rendering the assembling process simple. This is achieved by providing efficient heat dissipation, downsizing, and high integrability with other modules.



Product Introduction

A Mid-term Growth Strategy Considering Social Requirements

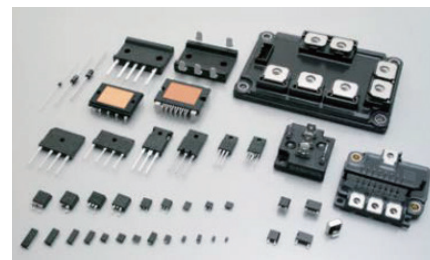
Increasing social environmental awareness has made inverter motor drives and electronic controls more popular in the car electronics and industrial machinery markets. Additionally, there has been a rapid growth in the demand for downsizing and for drive and control parts that are highly efficient. Our divisional group is passionate about contributing to the global society with our new and improved efficient energy conversion process. We have added new features to our already renowned lineup of power semiconductors such as lowering of associated loss, downsizing, and a higher capacity to withstand high pressures and large currents. Additionally, we hope to drive new demand with the creation of our original and unique modularization and mounting technologies.

We are also committed to integrating semiconductor and circuit technologies by increased cooperation with our Car Electronics and Energy Systems Division, thereby promoting the development of advanced devices with features and mounting shapes suitable for use in various sophisticated and highly efficient applications.

Creation of Environmentally Friendly Products Based on a Growth Strategy

- We commit to expanding electrification with consideration of environment in the mobility and industrial machinery markets where sophisticated computerization techniques are being used.
- We commit to promoting the development of eco-friendly devices, such as renewable energy equipment and power storage units, aimed at the fledgling energy market.
- We commit to offering small high-performance energy-saving devices such as lighting and home electrical appliances for domestic use.
- We are also committed to promote development of devices for industrial equipment market, aiming to automation and saving of labor force.

Primary environmentally friendly products from the Electronic Devices Division



Primary manufacturers

Domestic – Akita Shindengen Co., Ltd. Higashine Shindengen Co., Ltd.
Overseas - Lumpun Shindengen Co., Ltd (Thailand). Shindengen Philippines Corp.

Car Electronics Division

Car Electronics Div. Group

A Message from the Head of Division Group

Seeking high conversion efficiency and long-term reliability in the mobility field.

The company employs the latest technology, contributing to environmental preservation and society by providing customers with products of high conversion efficiency and high reliability.



Division Director of Car Electronics Div. Group Senior Officer

Seiji Niizeki

Introduction

Combining core technologies focused on the environmental business for a leap into the future

- A major international share of motorcycle components (e.g. regulators, rectifiers)
- ECU for two-wheel (electronic control unit) with reduced environmental impacts such as idling-stop function.
- 6.6kW on-board charger with the world's highest power density (company investigation, as of April 1 2014)

Product Introduction



A Mid-term Growth Strategy Considering Social Requirements

Strengthening development of low-loss technology using electronic control, and energy recovery technology, and commercialization of products, as a means to reduce environmental impact. The majority were achieved with electronic control. Future introduction of electronics to the mobility field using the company's semiconductor, circuit, magnetic body, software, and mounting technologies in product commercialization, and focusing on continuous expansion.

Creation of Environmentally Friendly Products Based on a Growth Strategy

Motorcycle electronics

- Regulators using low-loss devices and control technology
- Reducing power consumption System for headlight LEDs
- Development and commercialization of ECUs (Electronic Control Units)

Motor vehicle electronics

- High-efficiency, high reliability, light weight vehicle power systems
- Development and commercialization of ECUs (Electronic Control Units)

Primary environmentally friendly products from the Car Electronics Division



HEV applications DC/DC converters TW-60



Non-isolated bidirectional buck-boost converter TW-58

Primary manufacturers

Domestic - Okabe Shindengen Co. Ltd

Overseas – PT. Shindengen Indonesia, Guangzhou Shindengen Co., Ltd. (China)
Shindengen (Thailand) Co., Ltd. Shindengen Vietnam Co., Ltd.
Shindengen India Private Ltd. Napino Auto & Electronics Ltd. (India)

Energy Systems & Solutions Division

Energy Systems & Solutions Div.

A Message from the Head of Division

We offer a variety of new products including power devices and monitoring units, crafted using years of experience and expertise in designing power conversion technologies, aimed at the efficient conversion and usage of energy.

Given the current need to diversify our sources of energy, we are passionate about making our society more sustainable and are committed to facilitating rapid access to new eco-friendly technologies, and the development and subsequent application of advanced technologies to our existing devices so as to limit their environmental impacts.



General Manager of Energy Systems & Solutions Div. Officer

Yoshiaki Kasahara

Introduction

Rapid Response to New Requirements

- Isolated power conditioners for high conversion-efficiency solar power generation
- High quality and high performance charging stations for Electric Vehicles (EV)
- Smart Energy Management System for power storage systems

Product Introduction



A Mid-term Growth Strategy Considering Social Requirements

We commit to the continuous development of highly efficient energy creation, storage, and saving devices based on our advanced power conversion technologies.

- We are promoting the development of power conversion devices and power conditioner units that utilize renewable energy such as that obtained from solar power. We are committed to making a continued effort to reducing environmental impact from our systems and products.
- We commit to contributing to the expansion of the charging infrastructure required by next-generation vehicles if we are to achieve our goal of living in a low-carbon society.
- We are promoting the development of power conversion devices that alter the charging and discharging cycles of batteries so as to ensure stable electrical supply and energy saving.
- We commit to the development of high-voltage DC power supply devices with highly efficient electrical conversion ratio to contribute to reducing the electrical consumption in data centers and telecommunications buildings.

Creation of Environmentally Friendly Products Based on a Growth Strategy

[Energy Saving]

- Rectifiers for Information/Communications
- Chargers for EV/PHEV

[Energy Creation]

- Power conditioners for the generation of renewable energy including photovoltaic generation
- Monitoring systems for power conditioners

[Energy Storage]

- Smart Energy Management System for power storage systems
- Power conditioners for batteries

The Energy Systems Division considers it a mission to contribute to creation of various energy sources in efficient manner for its safe and secure use. The Energy Systems Division contributes to efficient use of energy through development of the power-conversion-related efficiency technology. As such we further enhance the environmentally friendly products.

Primary environmentally friendly products from the Next Generation Energy Division



Power conditioners



HV-DC



EV Rapid chargers

Primary manufacturers

Domestic - Shindengen Three E Co., Ltd.



Shindengen Group Guidelines for Action

Staying true to its management philosophy of “together with society, together with our customers, and together with our employees,” Shindengen Electric Manufacturing Co., Ltd. has made it a corporate mission to maximize energy conversion efficiency for the benefit of humanity and society.

Based on our management philosophy and corporate mission, we, the employees of Shindengen Electric Manufacturing Co., Ltd. and Shindengen group companies, act in compliance with the following Guidelines for Action in order to further contribute to society:

Compliance with legislation and other regulations

1 Compliance with legislation and regulations

We act to honestly comply with relevant legislation and company regulations and rules, etc.

2 Fair competition and transactions

We conduct business transactions through fair, just, and free competition.

Above all, in our daily business activities, we observe the Japanese Antimonopoly Act and Subcontract Act, as well as the U.S. Antitrust Act, EU Competition Act, and antimonopoly laws of other countries, while also strictly complying with the following items of our company group:

- i) We do not exchange the following information with other companies in the same business: information on product prices, production amounts, manufacturing capabilities, selection of customers, and other conditions of competition. Nor do we make arrangements regarding such matters (for example, price fixing, market allocation, bid rigging, and order adjustments).
- ii) We do not participate in meetings of organizations and companies in the same business where we may be requested to exchange such information or make such arrangements. We act in accordance with established company rules, etc. when having contact with our competitors.
- iii) We do not commit acts that may hinder fair competition toward distributors and dealers, including restricting resale prices and abusing privileged position.
- iv) We act honestly toward all our business partners and carry out fair and appropriate transactions.

3 Preventing conflicts of interests

We do not act against the interest of our company to promote our own or third parties' interests.

4 Prohibiting bribery and excessive entertainment and gifts

- i) We comply with the rules of different countries that prohibit giving bribes to government officials of Japan and other countries. In addition, we also comply with the rules of different countries that prohibit bribery between private companies and between individuals.
We do not offer, propose, or promise to give bribes (money, goods, entertainment, gifts, or other interests) not only to government officials of Japan or other countries but also to private citizens for the purpose of gaining or maintaining preferential treatment in business. We do not allow those who act on our behalf, including dealers and consultants, to be involved in such acts.
- ii) We do not provide or receive economic benefits exceeding the range of sound business customs and social conventions, including gifts and meals, when entertaining or being entertained by customers or exchanging gifts with them. Nor do we receive personal economic benefits from them.

5 Preventing confidential information disclosure

We keep confidential information under strict control and never disclose it to other parties.

6 Prohibiting insider trading

We do not conduct insider trading or stock trading that may be suspected of being insider trading.

2 A healthy workplace environment

1 A safe workplace environment

We create a workplace environment that provides safety and job satisfaction to employees.

2 Prohibiting harassment

We do not allow sexual harassment or workplace bullying in any form.

3 Attention to health

We pay attention to healthy lifestyles, including eating healthy meals, getting enough sleep, taking sufficient rest, and living fulfilling lives every day.

3 Our relationship with society

1 Customer satisfaction

We provide products and services that meet customers' needs, bring them satisfaction, and gain their trust.

2 Contribution to society

We proactively contribute to society as members of local communities.

3 Environmental protection

We strive to develop, produce, and sell products that contribute to protecting the global environment.

4 Attitude toward anti-social groups

We stand firm in our resolve to fight against anti-social groups and organizations that threaten public order and safety and have no relationship with such groups.

In the event of a violation of these Guidelines for Action, business executives themselves work to resolve problems, to identify their causes, and to prevent recurrence. We also publicly disclose information promptly and appropriately both inside and outside the company.

Revised on April 1, 2016

Yoshinori Suzuki
President
Shindengen Electric Manufacturing Co., Ltd.

Shindengen recognizes that for communities to grow sustainably and develop for the future, companies must recognize the role they play in social responsibility and accountability. We are committed to improving the lives of our people and the world we live in, through initiatives targeting important issues including climate change, and social health and welfare.

Management

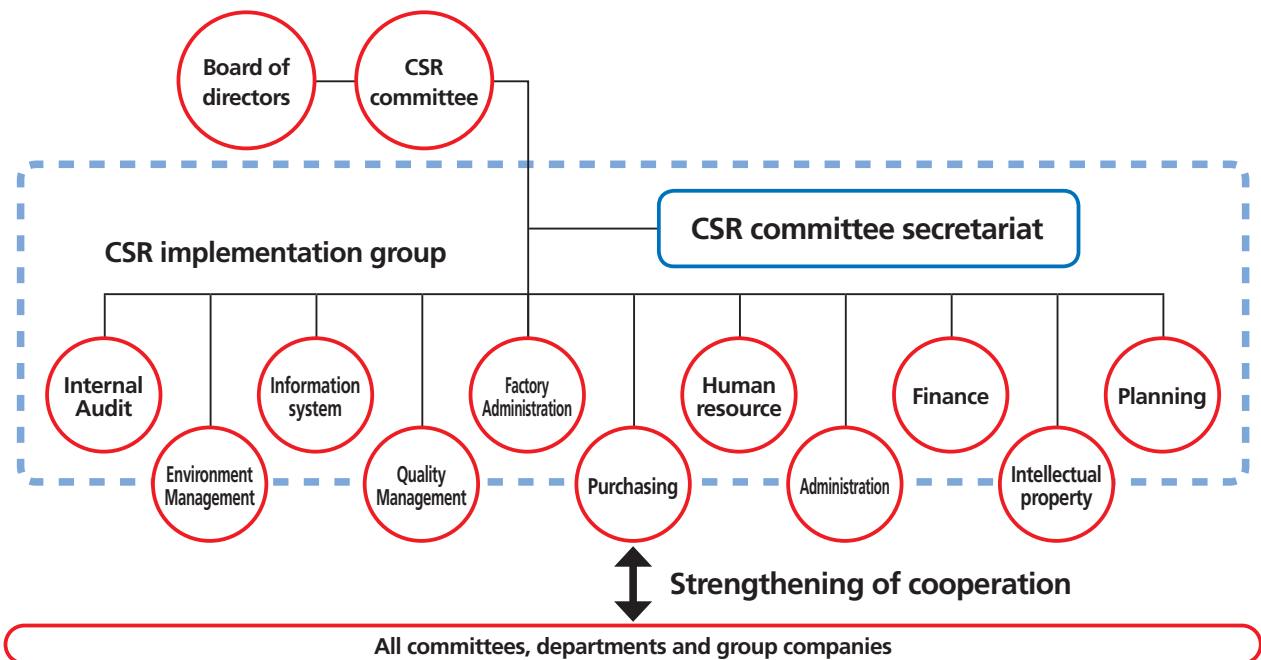
Shindengen's management policy is "To Grow in Harmony with Society, Customers and Employees". Our Corporate Mission is to "Maximizing Energy Conversion Efficiency for the Benefit of Humanity and Society." We aim to contribute to the realization of a low-carbon society by developing products that focus not only on energy conversion efficiency, but also that consider their environmental impact.

With passion and purpose, we work hand-in-hand to empower our people and the communities in which we operate, and in doing so, strive to generate long-term value for our stakeholders. Shindengen aims to continually improve existing Governance and Management structures, in order to respond swiftly and appropriately to changes in its dynamic business environment.

Management Philosophy
<p>Together we succeed We pursue company growth that benefits society, our customers and our employees</p> <ul style="list-style-type: none"> • Our activities shall lead to the betterment of society • Our passion for quality shall foster customer's trust • Our employees shall have opportunities for physical and emotional enrichment
Corporate Mission
<p>Maximizing energy conversion efficiency for the benefit of humanity and society</p>

CSR Management Philosophy
<p>In order for the Shindengen Group to contribute to the advancement of society and prosperity of mankind, we strive to be a "good corporate citizen" on the world stage where employees can be proud to work, that is trusted by our customers and shareholders, respected by society, and in harmony with the earth's environment, by the entire staff energetically building the company.</p>
Long-Term Vision for 2021
<p>Accelerating into the advanced power component field and forging a high-gain business model.</p>
Numerical Targets
<p>Net sales ¥ 150 billion, Operating income margin 10.0%, ROE 10.0%</p>

CSR implementation system



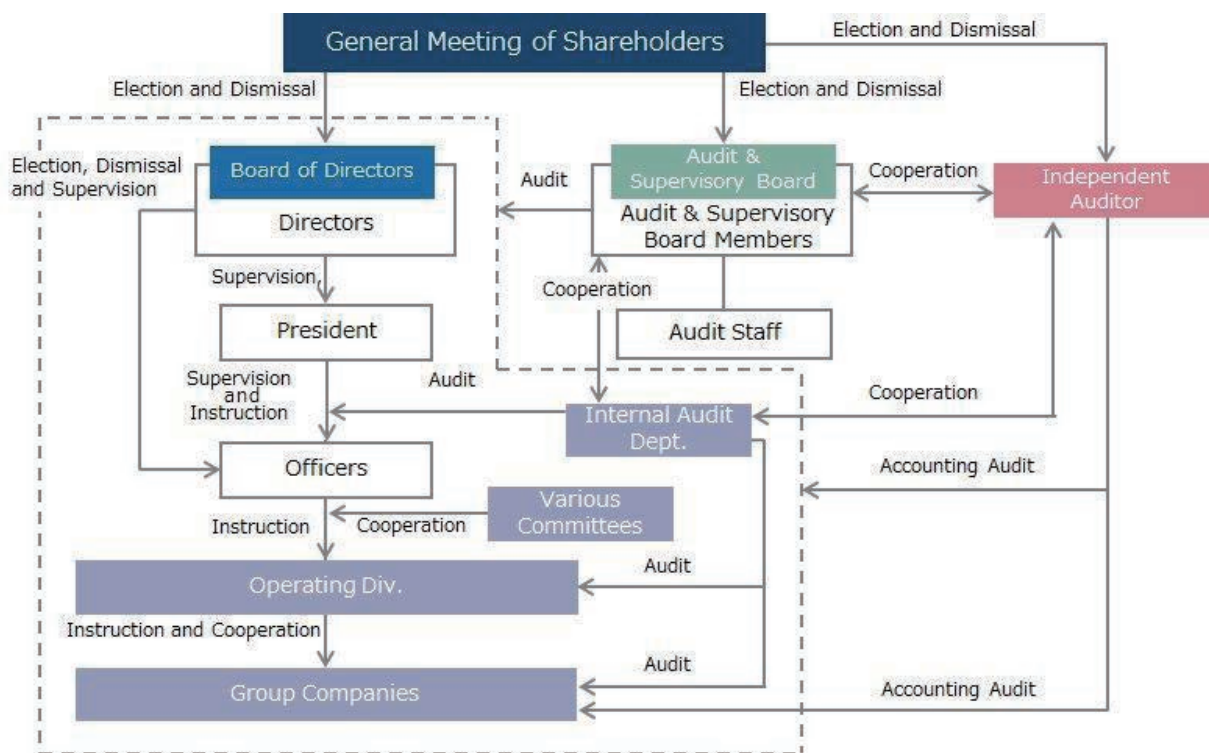


Corporate Governance Code

Our Basic Stance

In recent years, corporations are required to arrange its governance effectively including transparency and compliance of the management. Shindengen has a fundamental principal which is engaged with maintain and improve promptly and precisely its management system in order to respond mutual development to the circumstance that is rapidly changing surrounds the management.

In addition, by separating management and execution, we are planning the coexistence of the decision-making acceleration and monitoring functional enhancement, raising the effectiveness of the internal control system through which the board of corporate auditors conducts the independent audit. As a business-management organization, we are functionally managing various conferences such as the board of directors, the management committee, the board of corporate auditors, the technology- and quality- policy meeting, the general managers' meeting, the division directors' meeting, etc., thereby pursuing organic group management through prompt decision-making and efficient business activities. Regarding information disclosure, we strive to strengthen IR activities in order to enhance the fairness and transparency of management.



Corresponding with the Corporate Governance Code

Effective governance structures ensure honesty and furthers the confidence of our shareholders and other stakeholders. At Shindengen we are continually striving to improve the effectiveness, efficiency and transparency with which we operate. Facilitating appropriate dialogue with all stakeholders (customers, shareholders, investors, suppliers, employees, government, administrative agencies and local communities) is essential.

A Compliance Committee was established in FY2015 to manage compliance risk along with establish a Corporate Governance Code (Details on the compliance are indicated in the Fair Business Practice).



Procurement Policy

Our Basic Stance

In accordance with "Shindengen group guideline for action", the procurement sections of Shindengen group strive to enhance the corporation value, and the mutual development with business partners through purchasing necessary materials and services, etc. from the global market with appropriate quality, cost, and delivery time in order to provide with customers for high-quality products that customers need. In order to obtain materials at competitive cost, Shindengen does not take consideration on supplier's sizes and nationality based on free competition principle. Also, we comply with relevant laws and regulations, and always interact with business partners with faithful manner from an equal, fair, and equitable stance.

In addition, Shindengen complies with relevant laws, ordinances, and social norms (environment, human rights, labor, safety, sanitation, ethics, etc.) in each country/region. And for the matter of related corporate social responsibilities, such as preservation of the local environment, we engage in enhance along with business partners based on the relationship with the mutual understanding and trust.

Shindengen Group Materials Procurement Policy

1 Compliance with legislation and social norms

1 Compliance with legislation and regulations

We observe the applicable laws, regulations, and social norms (environment, human rights, labor, safety, sanitation, ethics, etc.) of each country and region.

2 Fair and equitable business activities

Regardless of business size or nationality, we ensure our procurement operations are handled in a fair and equitable manner with all customers. Quality, cost, delivery time, and reliability of supply are all considered.

2 Green procurement

As part of our global environmental conservation activities, we strive for green procurement. This involves the procurement of materials with smaller environmental impacts taking into consideration energy conservation, materials usage, chemical management, and the impact on biological diversity.

3 Establishment of partnerships

We strive to establish mutually beneficial relationship with our customers based on long-term trust and offering superior products and services.

4 Quality, delivery period, and stable supply

1 Securing high quality

To assure and continually improve the quality of our products, we request suppliers establish quality management systems and undergo third-party quality certification in conformity with the ISO9000 (family of) standards.

2 Securing delivery period and establishing a stable supply system

To best meet our customers' demands of stable supply under changing conditions, we request our suppliers to secure the delivery period and establish stable material and/or service supply systems.

3 Continuing supply in instances of disasters or emergencies

In instances of disasters or emergencies such as earthquakes and floods, we request our suppliers to share supply chain information that may impact the procurement process for our customers. Additionally, we encourage our suppliers even under normal circumstances to engage in their own risk management activities, to minimize any disruption during times of disasters or emergencies.



Procurement policy explanation meeting

5 Support for local procurement
We support local procurement and local production.

6 Requests of our customers

1 Compliance with laws and social norms

We request our customers to fulfill their corporate social responsibility and to observe the applicable laws, regulations, and social norms (environment, human rights, labor, safety, sanitation, ethics, etc.) of each country and region.

2 Sound business activities

We request our customers to promote sound and fair business activities to build long-term mutual cooperation and trust.

3 VA/VE activities

We request our customers to provide suggestions and propose new materials or cost improvement activities through their VA/VE activities.

4 Shortening the procurement period

We request our customers to be capable of adapting quickly and flexibly to changes in the market.

SDGs and Shindengen's Corporate Activities

In September 2015, the United Nations adopted 2030 Agenda of the "Sustainable Development Goals (SDGs)". At Shindengen we share the necessity of solving 17 goals through our corporate activities. In accordance with ISO 26000's 'Seven Core Areas' Shindengen have aligned our activities to achieve the SDGs. These are summarized below.

17 Sustainable Development Goals



SDGs aligned to Shindengen Group's CSR activities

Organizational Governance (12-15P)



Human rights (16P)



Labor Practices (17-20P)



Environment (21-27P)



Fair Business Practices (28-31P)



Consumer issues (32P)



Community participation and community development (33-37P)



At Shindengen Group we respect international human rights in the countries that we, and our partners operate in. Sustainable globalization requires respect for social issues, and the rights of our own employees. We are actively committed to promoting human rights and being an employer of choice.



Human Rights for the Supply Chain

Conflict Minerals – Our Stance

To ensure that Shindengen Group's performance fulfills the social responsibility standards for supply chains, we request our

suppliers to expand their awareness to conflict minerals and participate in the surveys we implement as part of our effort to honor human rights.



Shindengen Group's initiative for conflict minerals

Conflict minerals are gold, tantalum, tin and tungsten mined in the Democratic Republic of the Congo and adjoining countries that are used to fund armed groups and rebel organizations which are involved in human rights problems and the destruction of the environment.

In the final rule of Article 1502 of the "Dodd-Frank Wall Street Reform and Consumer Protection Act" (Dodd-Frank act), which was passed and announced on 22 August 2012 by the U.S. Securities and Exchange Commission, it states that all public companies in the US must submit a report to the Securities and Exchange Commission certifying whether or not "conflict minerals" are contained in their products.

As Shindengen Electric Manufacturing is not a company that has to submit a report to the US Securities and Exchange Commission, there is no obligation to submit any such report about the usage of conflict minerals.

However, the Shindengen Group is taking a humanitarian stance, and actively making it clear as to whether or not conflict minerals are included in our products and working towards the elimination of conflict minerals.

Shindengen Group — Efforts for Abolishing Slave Labor and Human Trafficking

Shindengen Group has issued a statement about slave labor and

human trafficking on the basis of the British Modern Slavery Act 2015, Article 54(1).

Shindengen's statement about the British Modern Slavery Act (extract).

- Shindengen Group respects the international norms with regards to the human rights, labor challenges and employee rights brought out by the globalization. We are also actively committed to promoting human right awareness in the workplace.
- Shindengen Group holds policy of 'Compliance with legislation and social norms' as one of the basic policies of 'Group Materials Procurement Policy'. In materials procurement, we comply with legislation and social norms (e.g. environment, human rights, labor, safety, health hygiene, ethic, etc.) of countries and regions, and make considerations on respects for human rights for our supply chains.



Human Rights for the Employees

Labor Union Relations

Shindengen and the Group (domestic) actively ensure there is a forum available for discussion between Labor Unions, Shindengen employees and Management. We strive to provide our employees with a positive, safe workplace, through regularly holding meetings with labor management councils, in efforts to achieve mutually beneficial results. Shindengen has signed a collective agreement with the Labor Union to guarantee the rights of all members.

Employee Consultation

Shindengen Group (domestic) has established a consultation window where employees and their families can receive specialist counselor advice for daily anxiety, stress and other troubles. Mental health education workshops are also provided to all employees. Since FY2016, annual stress checks (under the Occupational Health and Safety Act) have been performed and reported to the Labor Standards Inspection Office to identify, manage and ultimately reduce the risk of mental health problems of our employees.

Zero Tolerance for Sexual and Power Harassment

Shindengen Group has a zero-tolerance policy towards sexual

harassment and/or power harassment. Group Action Guidelines are in place to effectively manage any instances of such harassment.

Human Rights Awareness Initiatives

In an effort to address the serious poverty and labor problems in the world, Shindengen Group engages in raising awareness about social issues and increasing respect for human rights through CSR training courses and similar initiatives. In addition to promoting CSR activity-related concepts such as employment practices, taxation, and community service etc., enhancing employees' appreciation of international standards (ILO core labor standards, etc.) and consideration for minorities, including LGBT individuals, is part of our commitment. Employees are advised of points regarding human rights as indicated in the UN's SDGs, and we strive to continuously share details about human rights issues using information dissemination tools, such as our intranet and company newsletters.



CSR education

At Shindengen Group, we recognize that our employees are at the core of what we do. Our Group Action Guidelines and internal standards are built around respect for international human rights and labor condition laws and regulations. Provision of a “safe workplace”, “free of harassment” and “awareness of health”, where employees are supported at all stages of their career, is of the utmost importance to us. Establishing a workplace culture that cares for our employees’ wellbeing is especially crucial, in light of increasing globalization coupled with declining birthrate and aging population.

Human Resources Development



Career Support

Education and Training

At Shindengen, we support our employees with the proper education and training at all stages of their career. New employees, third year employees, qualification, and specific tailored (financial, marketing) training is always available, we support everyone’s career-up.

The Group’s domestic companies have also developed self-assessment application systems, and implemented feedback interviews for all employees applying for promotion. We also introduced the expert career system corresponding to the value diversity. By doing so, we aim to foster a culture that promotes learning and supports our employees career development.

Nurturing Global Human Resources

Preparing our employees for the increasingly globalized environment in which we operate, is crucial to the Group’s future success. English training and the TOEIC incentive system are provided to employees to improve English proficiency.

Since FY 2015, we have dispatched young salespeople to our group companies within the English-speaking region for a few months to a year, starting our overseas training for employees to gain on-site, hands-on experiences. In addition, since FY 2017, we have provided overseas training for new recruits assigned to the sales department.

For those assigned to work abroad, external teachers with overseas experience are invited to provide trainings on climate, economics, living standards (safety, environment etc.) and culture. For language training, educational support programs are available either in Japan or overseas.

Providing Training to Human Resources to Support Expansion of Global Operations

To succeed in a globalized environment and to meet the increasing expectations of society, Shindengen has expanded its global operations including product design, production, sales and others mainly into Asian countries. We are developing not only employees from Japan, but also a wide range of employees by various approaches including education for local employees and trainings among overseas factories. We are striving to establish a profitable business structure supported by talented human resources, and always on alert for opportunities for expansion into new markets (mobility, new energy, and health-care markets specifically).



English education

Promotion of Diversity



Assist in Balancing work, childcare, and nursing care

Shindengen and some Shindengen Group companies in Japan offer various types of leave including hospital, maternity, and pregnancy miscarriage, as well as time for child care and health management which includes reduction of working hours, flexible commuting times and extension of break times. Continual expansion of leave programs for childcare and nursing are underway.

Shindengen’s Hanno factory, Shindengen Three E and Okabe Shindengen support Saitama Prefecture’s “Saitama Womanomics Project” and offer a true equal employment environment for female employees. As a result of their efforts to provide a better working environment for women and childcare programs they received the gold certificate-“Company with a Diversified Working Environment” from the local government.

Improvement of work-environments

Shindengen provides employees with the opportunity to take a long-term career leave depend on their career length with the aim of refreshing their minds and bodies and raising their motivations to work. In addition, to ensure that each employee be able to work in a flexible manner with their consideration of their lifestyle and life-stage, we are working on enhancing a comfortable environment by various means such as setting up a no-overtime workday, setting overtime work limits, and promotion for acquisition of the paid holidays.

Encouragement and reward system for raising employees' incentives

Shidengen established a prize-payment system for inventions, suggestions, acquisition of public certifications, and the TOEIC incentive system in order to promote better performance of employees in the R&D activities, various workplaces and duties. In FY 2017, there were 27 prizes awarded for those who acquired public qualifications.

Women in the Workplace

On March 31st 2016, Shindengen notified the Ministry of Health, Labor and Welfare, of its action plan regarding the Act on Women's Promotion. Since the entire female employee ratio is low at Shindengen, there are relatively less number of departments and/or positions where female employees are working in. Shindengen is focused on workforce gender diversity and providing women with opportunities to lead. Gender equality is fundamental to our ability to make progress and for our business to more broadly move beyond the need for target-setting to an environment where true gender equality is achieved. Current initiatives include:

- Increasing the ratio of hiring female graduates to 30%;
- Providing equal opportunity to female employees in a wide range of departments and occupations; and
- Further promotion of work-life balance programs.

With the new graduates recruited in FY 2018, proportion of female employees joining as new graduates reached 30% of the total new recruited employees, resulting in 10% improvement from the last year.

Shindengen Group companies are also preparing "Research and analysis of female employees' status and issues in the workplace", "Development and Notification of action plans" and "Information disclosure".

Diversity Seminars

In March 2017, Shindengen held a diversity seminar that approximately 100 employees attended. At this seminar, external diversity-experts spoke on topics including "subconscious gender bias" and the "gender communication gap between management and female employees." Shindengen is pursuing "promotion of female success" as an important issue, and we will raise the ratio of women among the new graduates, improving proportion of female employees throughout the company, engaging female employees even more, and encouraging them to play an active their part lively in the company's operation.



Diversity Seminars

Equal Employment: Disabilities and Ageing Employees

Shindengen Group is committed to being an employer of equal opportunity. We strive to provide opportunities to people with disabilities, as well as people approaching the retirement age. An example of this, is the 'second career system' which is committed to re-hiring retirees of 60 years of age and extending their career up to 65 years old.

Support of Success of Foreign Employees

At Shindengen, we realize in an increasingly globalized business world, it is essential to harness the strengths offered by individuals from a variety of backgrounds and cultures. We respect different values, cultures and experiences (regardless of nationalities, races and genders) and provide opportunities for employees to exhibit their characteristics. We consider that this will create values and businesses that meet social changes and mentally enrich employees. In addition, the Shindengen Group is promoting production innovation activities and quality improvement activities. In overseas production-plants, local employees are engaged in those activities. Representatives of the group companies gather and present their improvement cases.

Annual Statistics for Maternity and Childcare Leave

	Fiscal Year 2015	Fiscal Year 2016	Fiscal Year 2017
Number of people obtaining maternity leave	8	5	2
Number of people obtaining childcare leave	9	5	4
(Within) Number of men obtaining childcare leave	1	0	0
Reinstatement rate following childcare leave (%)	100	100	100

Annual Statistics for Number of Foreign Workers

	Fiscal Year 2015	Fiscal Year 2016	Fiscal Year 2017
Number of foreign workers	21	23	20
Number of foreign workers at management level	6	6	6
(Within) Number of foreign workers at or above director level	0	0	0
Consolidated number of foreign workers	2,567	2,453	2,684



Health and safety

Health and safety management

Structure of Promoting Health and Safety

Shindengen Group is committed to promoting health and safety throughout the entire Group.

Higashine Shindengen held a monthly safety and health committee meeting for the purpose of improving employees' health and safety, creating a more comfortable workplace, etc.

We are making efforts to take into consideration and raise awareness about seasonal and regional issues such as prevention of heat stroke during the summer season and prevention of falling due to ice during the winter season. On February 9, 2018, we held a life-saving workshop with cooperation of the Higashine-shi fire-fighting headquarters. A completion certificate was given to 18 employees who participated in the workshop.



Ordinary lifesaving workshop (Higashine Shindengen)



Traffic Safety Activity

Shindengen has established the 'Traffic Leadership Committee' to manage the prevention of traffic accidents during everyday operations, whilst commuting, and whilst our employees are on business trips incorporating local opinions.

Akita Shindengen received the "Silver Award of Excellent Safety Driving Business Site" from the Akita Prefectural Police and the Automobile Safety Driving Center joint signature for providing "a great contribution to preventing traffic accidents, such as showing a deep understanding of traffic safety and making efforts to actively and appropriately manage safe driving."



Silver Prize Was Awarded for the Excellent Safety Driving Business Site (Akita Shindengen)



Traffic Safety Management (Okabe Shindengen, Shindengen Indonesia)



Activities on Disaster Prevention and Response

The Great East Japan Earthquake (2011) and Thailand Floods are recent reminders of the importance of having a disaster-response plan in place. Shindengen Group's Business Continuity Plan (BCP) ensures risks are managed appropriately at the time of a large-scale disaster. The Business Continuity Management (BCM) Committee has strengthened disaster-response and business-continuity measures to protect employees and the business.

Overseas contacts including Shindengen India periodically, monthly or yearly, holds disaster prevention drills tailored to the characteristics of each country.

Shindengen Three E, composed of one male team and one female team, participated in the "15th Indoor Fire Hydrant Operation Law Conference" sponsored by the Hanno-Hidaka Fire Department on October 3, 2017. The female team won the championship and the male team won fourth place, both receiving good grades.



Disaster-Prevention Training in the Shindengen Group (Shindengen India, Shindengen Three E)



Various Programs on Health Management

Activities on Promotion of Health Management

At Shindengen, as part of promoting work-life balance, we provide activities for employees to help their mind and body healthy.

Shindengen held a walking measurement seminar for preventing locomotive syndrome on November 10, 2017. 63 employees participated in the seminar. After calculating the walking age via the four-item test, we were able to learn a method of lengthening healthy life expectancy with reasonable exercise by implementing a stretch course introduced by a doctor.



Walking Measurement Seminar (Shindengen)

Since 1992, Shindengen has been working on environmental issues as an important management issue. For the implementation, we aim to develop environmentally conscious products that provide greater benefit to society, with a lower environmental impact. Additionally, the Paris Agreement (21st Conference of Parties to the United Nations Framework Convention on Climate Change) and the United Nations' Sustainable Development Goals provide further guidance when consciously managing our environmental footprint and climate change.

Shindengen Group's Environmental Policy

In order to respond to the revision associated with the ISO 14001: 2015, we revised our (Shindengen Group's) environmental policy. We will make continuous improvements to realize sustainable development goals, firmly taking into consideration changes in circumstances surrounding the Group, and our expectations and needs. We will respond appropriately to them, taking into account not only our impact on the environment, but also the environment itself.

Environmental Policy

Our management philosophy and mission statement is "Together with society, our customers, and our employees, we will maximize energy conversion efficiency for the benefit of humanity and society". In doing so, we promise to "Listen closely, look ahead, and create a future of value".

Shindengen Group employees are committed in their pursuit to develop sustainable electronics across all stages of production from development, to design, and to manufacturing. Products include semiconductors, power supply units, electrical components and solenoids.

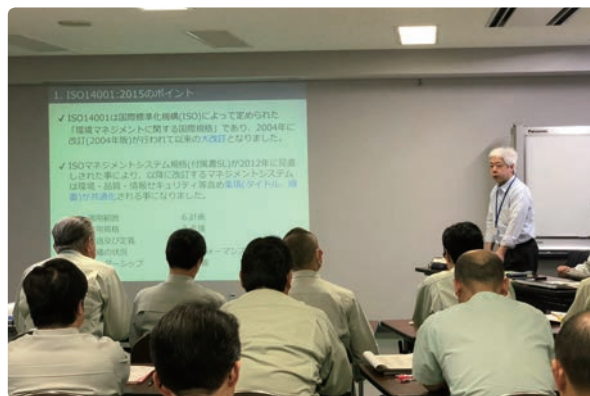
- 1 We are committed to complying with the applicable requirements including laws, regulations, and contracts.
- 2 We will evaluate the impacts our business activities and products have on the environment, and we strive for continual improvement.
- 3 We will regularly update our environment management systems to improve environmental performance.

Environmental policies are applied to ISO14001 certified companies in Shindengen Group (Japan). Other domestic and international companies, engage in environmental activities in accordance with the environmental policies of the Group.

Environmental management

Internal Training on Revised Environmental Management System

We reviewed the environmental management system in line with the major revision of ISO 14001, which took place after 10 years. We invited lecturers from outside of the Group to conduct study sessions on the revised standard and discuss on review of the system, including having the environmental ISO secretariat of each company gather regularly to visualize the differences from the revised part of the standard. It became an opportunity to understand the new requirements of ISO 14001:2015, focusing mainly on objectives associated with the revised standard,



Internal Education at Higashine Shindengen

In the training sessions, participants actively asked questions. In the future, we aim to enhance our environmental performances by continuously improving the system so it becomes our system.

At Shindengen, we set environmental goals based on our environmental policies, and have implemented initiatives that both reduce our environmental footprint and create business opportunities for the future.

Environmental Objectives and Targets

Environmental Objectives and Targets with Key Results (FY 2017)

Objective	Target	Result
1. Greater Chemical Substance Management <ul style="list-style-type: none"> • Appropriate management of information related to chemicals 	[1] Establish a chemical consumption identification system [2] Establish a management system for the added restricted substances from the RoHS directive.	[1] Achieved. (Completion of system to regularly report amount in the unified format) [2] Achieved. (Establishment completed for the production process)
2. Greater Energy Conservation <ul style="list-style-type: none"> • Improve energy consumption efficiency by 1% (average) annually until 2030 	[1] Compared with the FY 2012 base year, improve energy consumption efficiency by more than 4.90%.	[1] Achieved (improvement rate: 21.84%)
3. Zero Emissions, Reduce Waste <ul style="list-style-type: none"> • Maintain zero emission levels • Reduce risks associated with waste disposals 	[1] Maintain the rate of landfill waste rate lower than 0.5% of total waste. [2] Confirmation of waste contractors' official registration.	[1] Achieved (0.01%) [2] Achieved (19 companies reviewed; no issues identified)

Environmental Objectives and Targets (FY 2018)

Objective	Target
Greater Chemical Substances Management <ul style="list-style-type: none"> • Contribute to environmental protection activities through proper management of chemical substance information 	<ul style="list-style-type: none"> • Monitor usage of products containing mercury and take action to reduce risks associated with chemical substances used frequently
Greater Energy Conservation <ul style="list-style-type: none"> • Contribute to the prevention of global warming by utilizing (as appropriate) counter measures including renewable energy 	<ul style="list-style-type: none"> • Improve carbon dioxide emissions per unit by an average of 1% (of base year FY2012) by 2030. (5.85% improvement achieved FY2018) • Address fluorocarbons *1 and substitute CFCs *2 activities and engage in positive action with regards to revisions of laws and regulations *1:HCFC, CFC *2:HFC
Promotion of Zero Emissions <ul style="list-style-type: none"> • Reduce waste and contribute to environmental conservation 	<ul style="list-style-type: none"> • Maintain landfill waste rate below 0.2% of the total waste of the Group • Review and revitalize the supervisory system for waste contractors

Notes: These objectives and targets are only applicable to the domestic entities of the Shindengen Group.

Environmental internal audits are conducted at least annually across the Shindengen Group domestic companies. The environmental ISO secretariat is focused on ensuring the environmental policies, manuals and standards are applied consistently across the Group. Responsibilities include circulating the Plan-Do-Check-Act (PCDA), working on continuous improvement, maintaining compliance with laws and regulations, managing pollution prevention agreements, and engaging appropriately in any industry agreements.

From December 5th, 2017 to December 8th, 2017, a periodic ISO 14001: 2004 review was conducted, and confirmed Shindengen's (domestic) environmental management systems to be robust and effective. Transition to the ISO 14001: 2015 standard has been completed in June

2018.

At the overseas ISO certified companies of Shindengen, internal audit is conducted based on their audit plan and schedule.

At Shindengen, we are committed to increasing environmental awareness amongst our employees. In FY2018, all new starters attended training to learn about Shindengen's environmental activities. Training is not limited to new-starters, with all employees regularly undergoing general environmental awareness update training. Such training is aimed at not only increasing environmental awareness generally, but also focused on developing a workplace culture that recognizes what it means to be an environmentally conscious corporate citizen.



Reducing our Environmental Footprint

Shindengen Group is committed to reducing their environment footprint. Managing activities that contribute to global warming, proper use and disposal of chemicals, safe waste disposal and water-use reduction, as well as protecting the biodiversity of the environment in which we operate, are all ways in which we are reducing our environmental footprint. Following is the introduction of FY2017 main activities including practical cases.

ECO·VC Award “Gold Prize” from Panasonic Corporation

Shindengen received the ECO·VC Award “Gold Prize” in FY 2017, acknowledging that it contributed to the reduction of CO₂ from lighting equipment in facilities set up by the Panasonic Corporation. ECO·VC is an activity that the Panasonic Corporation and their business partners work on together to promote “cost optimization,” “contribution to the environment (CO₂ reduction and consideration for resources),” “enhancement of product capabilities,” and “development,” as well as to positively contribute to the global environment. In addition to these goals, “innovativeness” for actions and “degree of difficulty” are highly valued.

Our IC (MCZ series) for the facility-lighting that was awarded a this time, contributes to reducing number of parts, mounting area, weight, and CO₂ emissions by installing two parts in one package.

We will continue to tackle making the Shindengen Group’s technology contribute to development of more products and higher value.



ECO·VC Award “Gold prize”

Comparison with conventional products

Mounting area	-45%
Weight	-32%
CO ₂ Emissions/year	-50.4t - CO ₂



Contributions to creating a low-carbon society

The Shindengen Group is contributing to creation of a sustainable society that the Paris Agreement aims at, as mitigation and adaptation measures along with the local community.

Since the connection that the production factory which is the mainstay of Shindengen’s semiconductor business is located in Higashine city, Yamagata prefecture, we applied for the “Citizens of Yamagata CO₂ Reduction Value Project” we purchased the credit of the “Citizens of Yamagata CO₂ Reduction Value Project” and were selected as one of the four companies that purchased the credit

In this project, the country certified credits (J-credit) for the amount of reduction or absorption of greenhouse gas emissions such as CO₂ generated by use of renewable energy generation facilities. It is an effort that can be used for achieving goals of the implementation of carbon offsets and realization of the low-carbon society when a company purchases the subject credits.

The signing ceremony was held at the Yamagata prefectural government on February 13, 2018. Governor Yoshimura and the four companies confirm that they work together on measures against global warming, and that those money spent for purchase of credits is used for environmental conservation projects in Yamagata Prefecture.

The Shindengen Group will continue to actively work on reducing greenhouse gas emissions, including utilization of renewable energy as a manufacturer of electrical equipment, making efforts to solve Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all) and Task 13 (Take urgent action to combat climate change and its impacts) of the SDGs (Sustainable Development Goals).



Signing ceremony at Yamagata Prefectural Office
(Right: Governor Yoshimura)

Initiatives for biodiversity

Recognizing the relationship between biodiversity and business activities, we are conducting the education by our original DVD for employees at domestic Group companies and setting up bird's nest boxes at the Hanno Factory in accordance with "Action Guidelines for Conservation of Biodiversity in the Electrical and Electronic Industry." We have been promoting relevant activities in accordance with the eight items listed in the Aichi Biodiversity Target.

From FY 2017, we are working on reducing forest loss by adopting FSC-certified paper for business cards, product catalogs, etc. in addition to corporate profile and IR reports. Shindengen Philippines employees at charity marathon for the environmental activities hosted by local communities., Furthermore, for the conservation of water resources and biodiversity, we are involved in recovering irrigation system of paddy fields and afforestation activities organized by the electric power companies.



Recovering activity for irrigation system of paddy fields



Environmental activities charity marathon participation



Participation in afforestation activity

LCA & Scope 3 for High-voltage DC power supply (HVDC) Systems

LCA (Life Cycle Assessment)	
Evaluation target	CO ₂ emissions (per vehicle)
Energy (electric, hydroelectric)	0.2t - CO ₂

Scope of evaluation: Shindengen Three E Co., Ltd. factories

[1] Implement inventory analysis

[2] Evaluate effects of CO₂ emissions

Scope 3	
Category	CO ₂ emissions (per vehicle)
1 Purchased goods and services	0.6t - CO ₂
4 Transport and delivery (upstream)	0.35t - CO ₂
5 Waste products from operations	1.0t - CO ₂
7 Staff commuting	9.0t - CO ₂
9 Transport and delivery (downstream)	21.1t - CO ₂

Trial calculations conducted for part of 15 categories of Scope 3.

[1] Calculations using primary data

[2] Calculations using estimated values and secondary data



Chemical Management

The Shindengen Group is committed to appropriately managing chemicals that are used in the manufacturing process and contained within our products by establishing "promotion of chemical substance management" for our environmental policy. The Chemical Substance Management Committee (consisting of Shindengen Hanno Factory employees and the domestic Group

companies) regularly share with Group companies, the latest information of domestic and international laws and regulations related to REACH, EU RoHS directives, phthalate esters and mercury pollution restrictions, green procurement, and non-fluorocarbon equipment.





Environmental Risk Management



At Shindengen, we have been conducting field surveys of soil and groundwater contamination since FY1997, for companies within the Group that employed trichloroethylene in the cleaning process of semiconductor manufacturing. In February 2012, the remediation of the Shindengen Three E site was completed, and further remedial measures are underway at five more sites including Shindengen Hanno factory. Progress is regularly reported to the relevant administrative authorities. PCB wastes owned by the Shindengen Group as well as wastes

containing trace amounts of PCBs are managed according to the "Special Measures Law on Proper Disposal of PCB Waste". In FY 2017, processing and disposal of high-concentration PCB waste stored in Akita Shindengen was safely completed. Going forward, local and national government waste disposal facilities will be utilized.

In FY2017, there were no violations of environmental laws or regulations within the Shindengen Group.

PRTR Report

(Unit : t)

Name of Substance	No.	CAS No.	Amount handled FY 2016	Amount handled FY 2017	Emissions				Amount transferred	
					Atmospheric	Public water-way	Soil	Landfill deposit	Sewage	Waste material
n-Alkylbenzenesul-fonic acid and its (alkyl C=10-14)	30	27176-87-0	15.9	17.8	1.2	0.0	0.0	0.0	0.0	16.6
Antimony and its compounds	31	—	17.3	22.0	0.0	0.0	0.0	0.0	0.0	9.2
Ethylbenzene	53	100-41-4	17.8	16.3	1.9	0.0	0.0	0.0	0.0	2.7
Ethylenediamine	59	107-15-3	1.3	1.5	0.1	0.1	0.0	0.0	0.0	0.0
Xylene	80	1330-20-7	47.2	39.0	3.4	0.0	0.0	0.0	0.0	0.0
Cumene	83	98-82-8	1.2	1.9	0.3	0.0	0.0	0.0	0.0	1.6
Tetrahydro methyl phthalic anhydride	265	11070-44-3	14.2	16.5	0.1	0.0	0.0	0.0	0.0	2.1
1.2.4 -trimethylbenzene	296	95-63-6	32.6	36.2	1.6	0.0	0.0	0.0	0.0	28.4
1.3.5 -trimethylbenzene	297	108-67-8	7.1	8.5	0.5	0.0	0.0	0.0	0.0	6.5
Naphthalene	302	91-20-3	1.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0
Lead	304	7439-92-1	15.7	20.7	0.0	0.0	0.0	0.0	0.0	7.7
Hydrazine	333	302-01-2	2.3	2.3	0.1	0.2	0.0	0.0	0.0	0.0
Pyrocatechol	343	120-80-9	2.3	2.6	0.2	0.0	0.0	0.0	0.0	2.4
Phenol	349	108-95-2	3.4	3.4	0.2	0.0	0.0	0.0	0.0	0.0
Hydrogen fluoride and its water-soluble salts	374	—	62.1	86.7	0.2	2.8	0.0	0.0	0.0	63.8
1-Bromopropane	384	106-94-5	17.1	14.5	7.1	0.0	0.0	0.0	0.0	0.3
Boron compounds	405	—	—	7.4	0.0	0.0	0.0	0.0	0.0	0.5
Methylnaphthalene	438	1321-94-4	31.4	28.5	0.3	0.0	0.0	0.0	0.0	0.0
Total			290.0	326.8	17.1	3.2	0.0	0.0	0.0	141.9

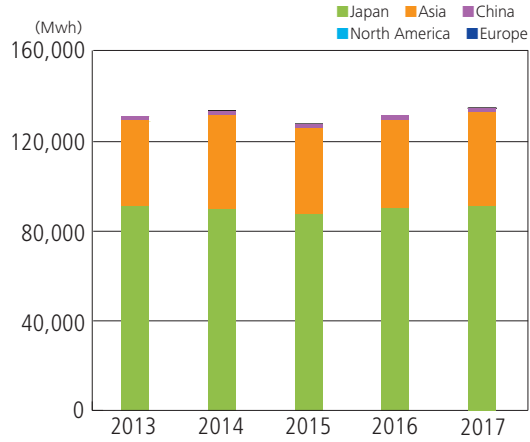
* This table lists all substances for which the Domestic Shindengen Group as a whole handles 1 t or more annually.

* The amounts handled have been rounded off to the nearest tenth, and therefore the amount handled does not always match the sum of emissions and amount transferred.

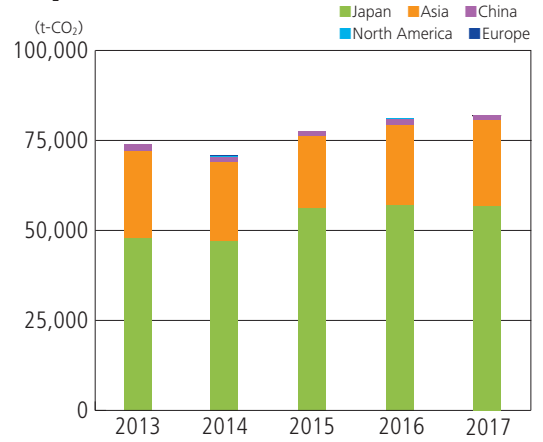
Trends in primary environmental loads associated with manufacturing activities

Energy

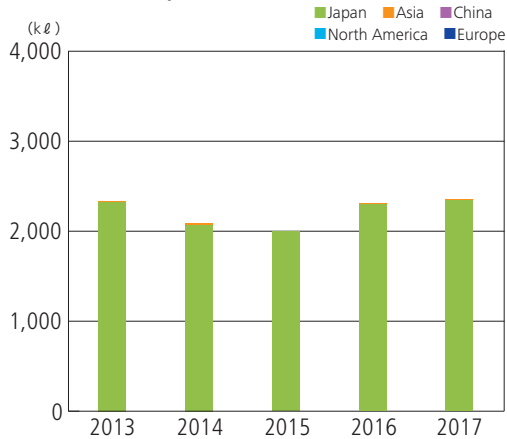
Electric Power Consumption



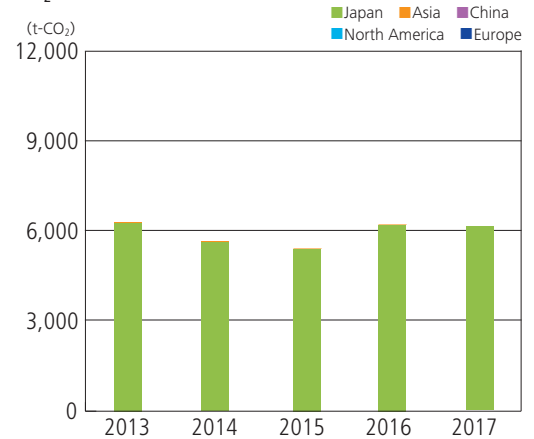
CO₂ Emissions



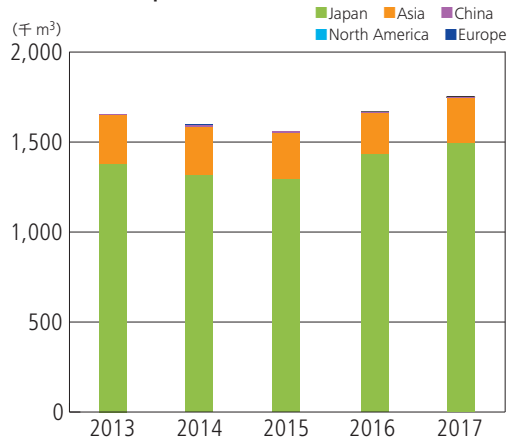
Fuel Oil Consumption



CO₂ Emissions

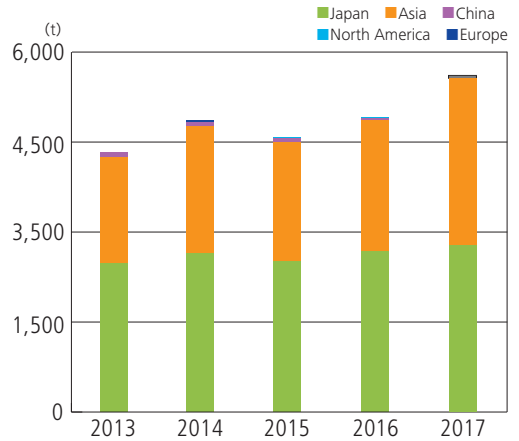


Water Consumption



Waste

Total Waste Emissions



Environmental Accounting

The Shindengen Group has introduced environmental accounting to better promote effective environmental management. It identifies and discloses environmental conservation costs and benefits quantitatively (economic benefits in monetary values

and environmental impacts in physical units).

The below figures are calculated or estimated according to our own standards and the Environmental Accounting Guidelines by the Ministry of the Environment, Japan.

Environmental Conservation Cost

(Unit : ¥ million)

Category	Item	FY 2016		FY 2017	
		Investment	Cost	Investment	Cost
1 Business area cost		89	295	142	279
Breakdown	Pollution prevention cost	72	139	27	157
	Global environmental conservation cost	15	39	113	32
	Recycling, disposal costs	2	117	2	90
2 Upstream/downstream cost	Cost of green procurement, and cost of analytical instruments	0	15	6	11
3 Administration cost	Environmental education fees, certification costs, and internal audit costs	0	212	0	231
4 R&D cost	Development of smart energy management system, power conditioner for solar power generation, ECU with idling function, and chargers for EV/PHEV	0	54	0	69
5 Social activity costs	Participation in local community environmental activities	0	4	0	4
6 Environmental remediation costs	Remediation of contaminated soil and groundwater	0	29	34	27
Total		89	609	273	621

Notes: Some numbers are estimates. Totals are subject to rounding differences.

Environmental Conservation Benefit

[1] Economic Benefit associated with environmental conservation activities

(Unit : ¥ million)

Item		FY2016	FY2017
Revenue	Revenues from sale of recycled products	189	255
Expense reduction	Energy expense savings from energy conservation (electricity, fuel oil, etc.)	61	72
	Disposal cost savings from reduced material usage or recycling	1	0
	Other expense savings from environmental improvements	0	0
Total		251	327

[2] Environmental Conservation Benefit (physical quantities)

Item	FY2016	FY2017
CO ₂ emissions	73,622	81,505
Electricity consumption	122	131
Fuel oil consumption	2,213	2,364
Water consumption	1,619	1,763
Amount of waste	104	692
Amount of material recycled	4,135	4,957

Notes: For domestic electricity consumption, the following CO₂ emission factors are used: 0.000496t-CO₂/kWh (Tokyo Electric Power Co., Inc.) and 0.000573t-CO₂/kWh (Tohoku Electric Power Co., Inc.), 2004. For overseas electricity consumption, each country's CO₂ emission factor is determined using in the Greenhouse Gas Protocol Initiative guidelines.

[3] Energy-Saving Impacts of Products

The reductions in electricity consumption and fuel consumption by major energy-saving products of Shindengen Group developed and produced in FY2016 are shown in the table below, as well as the equivalent reduction of CO₂ emissions.

Item	Reduction of electricity consumption	Reduction in CO ₂ emissions
IC series	75 million kWh	36 thousand t-CO ₂

Notes: Reduction of electricity consumption = (annual power consumption of old series – that of new series) x annual sales volume.

Item	Reduction of fuel (gasoline) consumption	Reduction in CO ₂ emissions
DC-DC converter for hybrid vehicles	52,265 kℓ	122 thousand t-CO ₂

Notes: Reduction of fuel consumption = (annual consumption of gasoline vehicle – that of hybrid vehicle) x production volume.

The Shindengen Group is committed to conducting business in a way that is both ethical and that complies with laws and regulations and to be adaptable to the ever-changing social values and expectations. The Shindengen Group Action Guidelines have established a set of internal ethical principles that guide the Group's actions at each stage of the value chain including marketing, product development, material procurement, production and logistics.

Approach to Compliance

Setting a Compliance Committee

Shindengen Group considers compliance with laws and regulations such as Competition Laws and Bribery Prevention Laws as one of its top priorities. Establishment and timely improvement of effective compliance management procedures and standards is essential. Regular compliance training, as well as keeping up to date with the latest laws and regulations ensures Shindengen can meet its compliance obligations. On October 1, 2015, a Compliance Committee was established with Shindengen's President as the Chair, and it aims to support the establishment, implementation, and improvement of compliance management at domestic and overseas sites.

Committee actions include:

- **Revised Shindengen Group Guideline for Action**

In April 2016, we renewed "Shindengen Group Guideline for Action" to add in terms of observance of competition laws and bribery regulations. We sent this revised guideline to all employees of Shindengen Group companies under the name of the chairperson and updated the website with it. In FY 2017, overseas Group companies translated these action guidelines into the local languages of each country, and are thoroughly informed and educated.

- **Competition Law**

In FY 2016, the working team of the Compliance Committee took the initiative to establish internal rules and emergency response manuals to obey the relevant laws. In FY 2017, the Compliance Committee Secretariat supported the establishment of compliance programs at overseas group companies, and the development of regulations, etc. for each group company. The subject activities were almost completed.

While implementing competition law education and training on an ongoing basis, in FY 2017, the Secretariat focused on business combination and conducted in-house training on staff divisions and sales departments concerning notes on pre-notification systems, etc. to authorities.

- **Bribery Prevention Actions**

In FY 2016, as with the competition law, the working team set up anti-bribery provisions, operational manuals, etc. In FY 2017, we implemented the same support as for the competition law, and the classifications, etc. of overseas group companies were upgraded. We also conducted in-house training on bribery regulation in the US, UK, and China for the sales department.



- **Initiatives for the Personal Information Protection Law**

With the enforcement of Japan's revised Personal Information Protection Law, we created a new working team, mapped personal data, developed regulations, etc. Based on the enforcement of the EU General Data Protection Rule (GDPR), the Secretariat and the European subsidiary (Shindengen UK) are working together to grasp the contents of laws, regulations, and guidelines while seeking advice from experts, and have implemented practical measures such as data mapping of Shindengen UK. In January 2018, we invited experts on education and training on the Personal Information Protection Law, including the GDPR, for board members and department managers.



In-house Training on the Personal Information Protection Law

Whistleblowing System and Internal Reporting on Corporate Compliance

To ensure Shindengen Group operates to the highest legal and ethical standards, an internal whistle-blowing system has been established. This aims to provide a safe communication channel for employees to report and respond appropriately to illegal and/or unethical conduct. A whistleblower hotline was established which is responded by the internal audit department, and/or an external lawyer. The communication channels are available to domestic group companies. Overseas subsidiaries have similar safe communication channels, and report periodically to head office management.

Compliance with the Subcontract Act

Shindengen Group considers compliance with the Subcontract Proceeds Payment Delay Prevention Laws (Subcontract Act), a special Law under the Anti-Monopoly Laws, essential for the promotion of fair trade. Shindengen's Materials Division is responsible for regular education training sessions, preventative actions, and on-site compliance inspections for all group companies.

Anti-Social Forces

Shindengen is committed to fulfilling its social responsibilities, by not engaging with any group or individual that endangers or harms society. Any group or individual that endangers or harms society identified internally, or with business partners is ceased immediately. Therefore, we kindly ask our stakeholders to sign the "Memorandum of the Anti-social Forces".



Risk management

Business Continuity Plan

Shindengen Group's Business Continuity Plan (BCP) ensures risks are managed appropriately at the time of a large-scale disaster. The BCP conforms to ISO 22301 (Business Continuity Management) and provides guidance in managing operational and supply chain risks, until such a time as the business can restart operations as per normal.

The Business Continuity Management (BCM) Committee was established in FY2012, and is chaired by the President. This Committee has strengthened disaster response and business continuity measures under the "Disaster Prevention and Business Continuity Policy" and regularly distributes and collates risk management information from across the Group both domestically and internationally.

Annually, training and top management reviews are held to continuously improve the suitability, appropriateness, and effectiveness of the BCM system.

Information security

Shindengen is committed to ensuring the security of all workplace information. An information security division is tasked with both protecting the Group's information systems from external attack, and also preventing external leaks from internal sources. Information security education workshops are held annually for all employees (including temporary staff and part time workers). Intrusion detection and prevention software helps to protect, identify and respond to any external threats that may potentially compromise Shindengen's information systems. Additionally, surveillance of employee internet activities, and computer operational logs through integrated monitoring software are designed to manage the risk of an information leak from an internal source.

Personal Information Protection

Shindengen's "Privacy Policy" recognizes protection of customer privacy and personal information is of the utmost importance.



Business Continuity Training





Emergency Response and Business Continuity Plan-Statement of Principles

The Shindengen Group Emergency Response and Business Continuity Plan is designed to promote a coordinated and effective response to a natural disaster or other unforeseen event in order to minimize the disruption to the operations of the Group as a whole.

1 Objectives

- 1 To ensure the safety of employees, customers and affiliated staff
- 2 To fulfill our delivery obligations to customers and enable the resumption of normal business operations as soon as practicable
- 3 To retain the confidence and respect of our customers and suppliers
- 4 To work together with and make a meaningful contribution to both the local community and wider society, particularly with regards to preventing secondary disasters

2

The Emergency Response and Business Continuity Plan will be reviewed both regularly and on an as-needs basis to ensure ongoing relevance and efficacy.

3

This Statement of Principles will be circulated widely both within and outside the Shindengen Group.



CSR activities in the area of procurement

Primary Challenges in Materials Procurement Based on ISO26000 Core Themes

Core theme	Topic	Primary challenge
Human rights	Avoiding complicity	Conflict minerals The Shindengen Group is not an enterprise covered under the US Dodd-Frank Wall Street Reform and Consumer Protection Act., however from a human rights perspective, the inclusion of conflict minerals in products is investigated, and all possible efforts are made to effect their removal.
Fair business practices	Preventing corruption	Compliance Materials procurement based on 'Compliance with Laws and Regulations' as determined in the Shindengen Group Behavioral Guidelines. <ul style="list-style-type: none"> • Prevention and early discovery of illegal behavior • Preventing conflict of interest • Preventing leakage of confidential information • Prohibiting insider trading
	Fair competition	Compliance with Subcontracting Law The Shindengen procurement division, acting with overall responsibility, circulates through the Group companies periodically implementing preventative measures (e.g. hearings, education) to promote compliance. <ul style="list-style-type: none"> • Regular interviews • Education • Individual discussions Evaluation of suppliers To strengthen healthy relationships with suppliers, and to contribute to the development of these relationships, suppliers are evaluated annually on quality, prices, delivery dates, and business service, and awards presented to superior suppliers.
	Promoting social responsibility in the value chain	Exclusion of anti-social elements To ensure sufficient awareness of the importance of breaking relationships with anti-social elements, and from the viewpoints of social responsibility, compliance, and enterprise defense, the Shindengen Group promotes efforts to break these relationships. <ul style="list-style-type: none"> • Memorandum: Requests signing of a 'Memorandum on Exclusion of Anti-social Elements' with its suppliers. • Education : Implements participation in periodic compliance education in the materials division, and external lectures.

Note: See 'ISO26000:2010' (published by Japan Standards Association) for core themes and topics.



Intellectual Property Protection

Intellectual Property Rights Policy

Shindengen understands the importance of respecting and protecting intellectual property rights. Three principles guide our actions:

- Do not infringe upon intellectual property rights of other companies;
- In the instance where another company's patent is required, obtain agreement from that company prior to commercialization; and
- In the instance where a patent is infringed upon accidentally and subsequently identified, terminate such infringing activities within 6 months.

Invention Compensation

To encourage innovation, Shindengen guarantees the invention credit rights of employees.

Under the "Rules for Handling Inventions" we have established a compensation system that pays incentives for new designs as prescribed under the Patent Act, Utility Model Law and Design Law. Compensation can include application fees, registration fees, licensing fees, and any transfer of license fees. Additionally, compensation is not strictly limited to instances of registered inventions, but rather assessed on a case-by-case basis before determination of compensation from the 'internal awards provision'.

Intellectual Property Rights Education

By increasing awareness through education about intellectual property rights, Shindengen aims to encourage innovation, whilst maintaining compliance with the relevant legislation. Thorough research is conducted before any commercialization commences, in order to prevent infringement of intellectual property rights.

Shindengen is also committed to protecting personal and privileged information. Regular training is provided to employees to empower them with the knowledge as to what constitutes intellectual property rights, and privileged information. Regular brainstorming events to encourage inventions in the workplace are also held for each department.



Counterfeit Products – Zero-Tolerance

Shindengen Group has a zero-tolerance policy for counterfeit products that infringe patents, models, designs and trademarks. trademarks.

Export Control and Security

To maintain international peace and security, Shindengen Group complies with export laws including the "Foreign Trade Control Law" and has established a strict export control system. Shindengen strives to prevent the spread and accumulation of excessive weaponry, with particular regard to weapons of mass destruction or social harm.

At Shindengen, the "Security Trade Control Committee", is tasked with ensuring export transactions meet the high ethical standards imposed by "Security Trade Control Regulations". Additionally, even in the case of domestic sales, the end-user is checked, in order to determine whether the product is ultimately exported, and has the potential to cause social harm and/or endanger international peace.

Creating Value for Customers

At Shindengen Group, we understand that the quality and the accumulation of knowledge of all employees engaged in the whole supply chains are the core of the “quality with real value”. Further, we understand the importance of delivering our product and services to our customers quickly, and consistently, whilst maintaining the highest of quality standards. We have established a robust quality management system that includes design, manufacturing and quality assurance.

Quality Management

ISO 9001 Certification within Shindengen Group

ISO 9001 is an International Standard that gives requirements for an organization’s quality management system. Shindengen Group (both domestic and international offices and affiliated companies) has obtained ISO 9001 to contribute to the customers by consistently providing products and services that meet their needs and expectations.

Promoting Activities for Improvement/ Kaizen

Annually, a presentation is held in June at the “Shindengen Group’s Showcase of Improvement/Kaizen” event to share improvement activities undertaken across the Shindengen Group. Specific case studies are examined with a focus on

building knowledge upon such successes, further across the manufacturing processes and the Group.



Presentation on Improvement Case



Office Names	Applied Standards	Certifying Institution	Acquisition Date
Shindengen Electric Manufacturing Co.,Ltd. Shindengen Mechatronics Co.,Ltd.	ISO 9001	JAB/UKAS	August 5 2018
Shindengen (Thailand) Co., Ltd.	ISO 9001	UKAS	September 15 2018
Lumphun Shindengen Co., Ltd.	ISO 9001	UKAS	June 27 2018
Shindengen Philippines Corp.	ISO 9001	UKAS	December 6 2017
Guangzhou Shindengen Electronics Co., Ltd.	ISO 9001	TGA	August 24 2018
PT.Shindengen Indonesia	ISO 9001	UKAS	February 22 2017
Akita Shindengen Co., Ltd. Oura Factory	ISO/TS 16949	IATF	September 14 2018
Akita Shindengen Co., Ltd. Asuka Factory	ISO/TS 16949	IATF	September 14 2018
Higashine Shindengen Co.,Ltd.	ISO/TS 16949	IATF	September 14 2018

(June 21, 2017)

Customer Consultation Desk of Power Conditioner for the Solar Power Generation System

As society places increasing focus on renewable energy, improving the customer service aspect of our power conditioners business is essential. Since September 2013, a customer

consultation desk has actively worked with customers to solve problems, and improve customer satisfaction.



Community Participation and Development

Shindengen Group recognizes that long-term corporate value creation is essential in order to be part of the contribution to solving social challenges, including the climate change issue. With passion and purpose, contributing to the development of local communities through business and social contribution activities, we work hand-in-hand to empower local communities in which we operate.



Moving Towards a Low-Carbon Society



Quick charger for electric cars installed in Vietnam Da Nang

Prior to the November 2017 APEC Ministerial Conference and the Summit Meeting held in Da Nang, the third-largest city in Vietnam, Shindengen delivered the EV Quick Charger to the country at the end of August 2017, as the first shipment of the series of the production to overseas markets. In accordance with the APEC theme of "Creating new dynamism, fostering a shared future" future promotion of smart energy projects is expected in the ASEAN region. Our Group will continue to work on product development and value provision that will contribute to the sustainable development of society in both overseas and domestic markets.



Our company's "Quick Charger for electric cars"

Exhibited at the "10th Car Electronics Technology Exhibition"

Shindengen participated in the "10th Car Electronics Technology Exhibition" (held from January 17, 2018 to January 19, 2018 at Tokyo Big Sight).

In addition to the high-power rapid charger for electric vehicles showing a rapid rise in social awareness in recent years, we also exhibited power semiconductors, car chargers, and isolated DC/DC converters that support them. We received high praise from those who visited us.



Display in the Exhibition

Community Participation and Development



Engaging Local Communities

Dispatch of instructor to Hanno civic ski classroom (Shindengen)

Shindengen ski team currently enrolls 16 people, and during the season, they practice according to their respective levels and are working toward acquiring certifications such as becoming instructors. As a development for the local community, volunteers are participating as lecturers in the “Hanno citizen ski classroom” held by Hanno City twice each year. In FY 2017, it was held on February 3 at Yu no Maru Kogen Ski Resort in Nagano Prefecture, and from February 24–25 at Yomase Hot Spring Ski Resort in Nagano Prefecture. The sessions were crowded with children and other family members, they were blessed with fine weather, and the Hanno citizen ski classroom became a very popular ski classroom for participants. The ski team members also participate as volunteers with other cultural groups at Oku Musashi Ekiden, which is held in Hanno City every January and supports the management of the event.



“Shindengen ski team” activity.

Participating in the “Industrial Park Summer Festival” (Shindengen Vietnam)

Shindengen Vietnam is located in Hunyien Province in the northern part of Vietnam, and a summer festival is held every year at Thang Long Industrial Park where the factory belongs. On September 23, 2017, Shindengen Vietnam also participated for the first time and opened a stall. The cuisine made by the employees was very delicious and well received, and all the ingredients were completely used up and sold out. For the first time, the summer festival ended in a great success, and it was also a great opportunity for the participating employees to interact with the employees of other companies in the industrial estate, community, and the neighborhood. The company is planning to participate in the festival continuously.



Industrial park summer festival

Community Participation and Development

Participation in the Kumamoto Reconstruction Assistance Event (Shindengen Kumamoto Techno-Research)

Two years have passed since the Kumamoto earthquake occurred, but more than 40,000 people still live in temporary housing. The Shindengen Group has raised contributions from employees and donated them to the stricken area. The necessary support for the affected people seems to be changing from material support to psychological support. In the afflicted areas, various volunteer organizations hold events, exchange meetings, and provide reconstruction assistance for the residents. On 21st March, community volunteer groups invited residents living in temporary housing to events such as a mini concert, food bazaar, and dock therapy experience group. By renting the venues of sports facilities in Mifune-machi, the "Mifune-machi resident exchange meeting" has been held. At Shindengen Kumamoto Techno-Research, employees belonging to volunteer groups are actively participating in the planning, preparation, activities, etc. of reconstruction support activities with all their family.



Volunteering in the reconstruction support event

Shindengen's Athletics and Sports Team

Shindengen's Athletics and Sports Team since its foundation has been supporting the development of local community in Hanno, Saitama Prefecture, through sports activities for the past 60 years, primarily through the long-distance relay race – the 'Ekiden'. Although, Shindengen team is not a professional team, we succeed the spirit of "amateur athletes" as part of our tradition. While working as an employee of Shindengen, we do the training throughout the entire year on holidays and after work. We look forward engaging with the local community in a race traditional in Japanese local communities as well as nationally.



Shindengen Athletics and Sports Team

Community Participation and Development

Founding Anniversary Activities

- Lumphun Shindengen, Shindengen Thailand

Shindengen Group operates two subsidiaries in Thailand. Annually, on the anniversary of our foundation, - The two companies invited local monks to pray in a style of local traditional ways for the safety and further growth for both the employees, and the companies. Shindengen Thailand marked its 30th anniversary in 2017. The company celebrated the 30th anniversary ceremony on February 23, at the venue rented from Bangkok University. At the party, the 30-year history was introduced via slideshow, a game called Lucky Draw was played, and a stage performance was given. The event was quite exciting.



Founding Anniversary Activities

Participation in the "FUN RUN Event"

- Shindengen Philippines

On May 27th, 2017, Shindengen Philippines participated in the FUN RUN Event. Every year, employees, families and friends gathered to participate and donate in relations to how long they have run. Donations are given to aged care facilities and beds and blood pressure monitors are donated to elementary schools. In 2016, Shindengen Philippines was awarded a commemorative shield from "Schools Division of Columba City" as a token of thankfulness.



FUN RUN Participants

Community Participation and Development

Acceptance of overseas training (Lamphun Shindengen)

Lamphun Shindengen welcomed the 13 students from Aomori Gakuin University on January 23, as a response to the request from the University. The students' overseas activities and learning became a corporate visit as part of "Overseas training where employees can learn about different cultures, expand the international perspective, and learn the realities of management while exploring issues. On that day, the students took a business introduction and factory tour of Lamphun Shindengen. It was a very meaningful day for exchanging opinions with students. In Shindengen, we are focusing on supporting global careers, even in the training of human resources, so if we have a request from educational institutions in the future, we will actively consider putting programs in place.



Accepting overseas training (Lamphun Shindengen)

Third-Party Written Opinion



Naoko Hase
ESG Analyst
The Center for the Strategy of Emergence: ESG Research Center
The Japan Research Institute, Ltd.

I wish to submit a Third-Party Opinion on the Shindengen Group's CSR activities and the information contained in the "Shindengen Group CSR Report 2018," as well as comment on the site visit and opinion exchanges at the Higashine Shindengen Co., Ltd. factory.

This is the second site visit to the Higashine Shindengen Co., Ltd. factory as part of the "SPIS (Shindengen group Productivity Innovation System) activity." The environmental, quality, productivity, and safety improvements developed throughout the Shindengen Group were progressing steadily. Especially in recent years, you have been promoting the use of the IoT, connecting the production facilities in the factory to the intranet, and monitoring the operation status of facilities at each factory, including overseas factories, in real time at the head office. Thereby, you are trying to improve productivity and efficiency of energy use. You are making efforts to efficiently deal with troubles occurring in various places by aggregating troubleshooting achievements of facilities to the headquarters. In addition to introducing such an IoT, it was impressive that the robotization of the production line was also advanced. Simple work is left to the robot as much as possible, and employees are able to engage in higher value-added work. Furthermore, we also evaluate that you are shifting from simple, automated robots to collaborative robots that can introduce safety fences without requiring safety fences and considering the safety of employees.

With respect to environment-conscious products, such as devices that contribute to the reduction of electricity consumption, electrical components for motorcycles that can comply with environmental regulations in each country, in-vehicle DC/DC converters for electric vehicles, large and fast chargers, non-contact chargers, etc., you are promoting advanced technology development in a wide range of fields. In IC products embedded in lighting equipment for facilities produced by Higashine Shindengen, you implemented weight saving by mounting two parts in one package, and

the "ECO·VC Gold Prize" was awarded for this measure by the Panasonic Corporation in November 2017. I believe that your enthusiasm for technological innovation has been reflected in this award. Through the provision of a wide range of products, we appreciate that you contribute to the reduction of CO2 emissions for society as a whole.

Regarding the introduction of renewable energy at the factory, which I pointed out last time, we evaluate that in February 2018, an action to conclude the "Citizens of Yamagata CO2 Reduction Value (J-credit) sales contract" derived from renewable energy was begun for the purpose of offsetting a CO2 discharge to affect the use of electricity at the Hanno factory of your company. As your products contain products that consume large amounts of energy during manufacturing, such as semiconductors, we believe that a stable supply will be the top priority, and it will be difficult to introduce re-energizers for in-house use. However, with regard to the initiative called "RE 100*," which has been spreading mainly in Europe and the United States, numerical targets for promoting the introduction are set as a country in Japan, and the move toward the introduction of renewable energy is accelerating. Since it is expected that manufacturers will request suppliers to use re-energy electricity in the future, we are expecting your company to consider this as much as possible. For example, when establishing a new plant as scheduled in FY 2020, we regard it as one idea to develop power generation equipment such as solar power for in-house use.

As efforts to give consideration to employees, you are working on reducing overtime labor hours by means such as improving labor productivity and setting overtime limits. Regarding the acquisition of paid vacation, Higashine Shindengen has devised a plan such that one day is divided into four divisions and partial pay can be acquired. Also, while there is factory work taking place at night, it is difficult to hire female employees, and

female employment is proactively promoted. In FY 2018, the female employment ratio was raised to 50% at Higashine Shindengen (30% even at Shindengen Industry). For the diversification of working styles, you have also started to introduce short-time work for nursing care. In the future, we are hopeful that you will continue your efforts to improve working environments so that everyone can work easily regardless of childcare or nursing care responsibilities. On the information disclosure side, we evaluate that you have disclosed information such as the acquisition rate of paid vacations and the number of acquirers of childcare leave or nursing care leave.

Finally, we appreciate that the CSR Report 2018 clearly states that it contributes to achieving targets in SDGs (Sustainable Development Goals) throughout business activities. Regarding SDGs, they have been disclosed since the last fiscal year, but in this fiscal year especially, each product specifies which product that is contributing to achieve. Furthermore, we evaluate the clear disclosure that you strive to contribute to achieving SDGs targets throughout your business activities, such as by showing employee-friendly initiatives, promotion of diversity, and efforts to consider human rights in the supply chain in relation to the goals of the SDGs. Hereafter, we think that it will become even more convincing if you will quantitatively understand and disclose as much as possible about how each initiative contributes toward the achievement of SDGs; for example, disclosing about the impact of the initiatives, the ripple effect, and the impact on the environment and society as much as possible.

(*) Initiative launched in 2014 by “The Climate Group” of international environmental NGOs to promote conversion to renewable energy throughout the international community. Companies that set the goal of procuring business operations with 100% renewable energy become members.

Comment on the third party written opinion

We thank Naoko Hase, an ESG Analyst from the Japan Research Institute, Ltd., for her valuable comments on, and suggestions for, our Group’s CSR activities.

Naoko Hase appreciated that, as a SPIC activity, we are making efforts to improve quality and productivity by considering the environment and safety, and promoting robotization by introducing the IoT and production line. About efforts in consideration of employees, Naoko Hase appreciated that we are promoting improvement of labor productivity, working on reduction of overtime work, and establishing a flexible system as a type of duty form for the acquisition and nursing care in the paid vacation.

In addition, we received valuable opinions on future actions in terms of the Paris Agreement and SDGs, which are international initiatives.

Based on the evaluation and advice received, the Shindengen Group will further strengthen our efforts in the future and make efforts toward social issues with the aim of becoming a valued company under the Mid-to-Long-Term Vision to earn the trust of all our stakeholders.

Thank you for your guidance and support

CSR Committee Secretariat
Shindengen Electric Manufacturing Co., Ltd.

Shindengen Electric Manufacturing Co., Ltd.

<https://www.shindengen.com/>