Environmental Conservation Activities

Social Requirements

- Reduction of environmental impacts throughout society
- Global warming prevention
- Waste reduction

The FDK Approach

- Providing environmentally-friendly products
- Increasing productivity, upgrading facilities
- Reuse of items of value, thorough sorting

Highlights of Environmental Conservation Activities

8th Environmental Action Plan of 6 target items, **3** were achieved	Design for environment **Target achievement***	Reduction of greenhouse gases **Target achievement***	Improved energy efficiency of 5 sites, **4** achieved targets
Reduction of chemical substances of 4 sites, **3** achieved targets	Reduction of waste of 5 sites, **4** achieved targets	Local environment/ social contributions **Target achievement***	

*See the following page for detailed data.

Initiatives supporting Environmental Conservation Activities

Protecting the Global Environment

Basic Concept

FDK Group positions environmental conservation as one of the most important items of management to further environmental management reflected in its unique businesses under the slogan, "FDK Group Cares about Nature and Safeguards our Planet" to pass down a beautiful Earth to the next generation.

FDK Group Environmental Policy

As a member of the Fujitsu Group, the FDK Group recognizes the need for action toward the realization of an independently sustainable and recycle-oriented society with initiatives toward environmental conservation that follow the business activities of the company, which include not only legal compliance in each country and region, greenhouse gas reduction, waste reduction, and thorough management of chemical substances but also the reduction of our environmental impact through the products that FDK provides.

FDK has established the FDK Group Environmental Policy to promote even more robust companywide environmental management, and are implementing it as shown below to incorporate the FDK Group Vision.

FDK Group Environmental Policy

The FDK Group will promote environmental management under its slogan based on the environmental philosophy below.

Philosophy

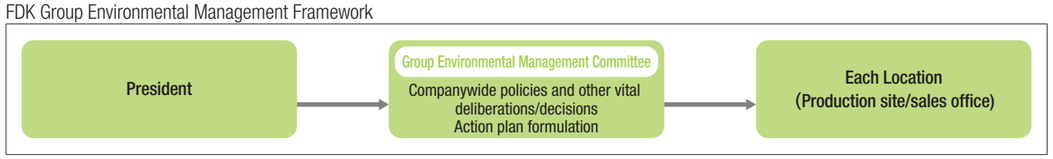
The FDK Group has made its mission to "Contribute globally to society with technology that efficiently uses electric energy." As a Smart Energy Manager, The FDK Group will contribute to the realization of a sustainable society by developing and supplying batteries and electronic device products which benefit the environment while bringing satisfaction to customers.

Moreover, the FDK Group will promote environmental initiatives as "One FDK" with the help of each and every employee through fair corporate activities which comply with environmental laws and regulations to pass down a beautiful global environment rich with nature to the next generation.

The FDK Group Slogan

FDK Group Cares about Nature and Safeguards our Planet.

FDK Group Environmental Management Framework



FDK Group 8th Environmental Action Plan (FY2016 to FY2018)

The FDK Group has formulated a three year plan that conforms to the Fujitsu Group Environmental Action Plan and it has been promoting environmental initiatives. Through these policies and targets, FDK Group contributes to reducing the environmental impact of customers and society while striving to reduce the environment impact of the FDK Group by strategically and continuously expanding these activities to all FDK business regions.

Results for FY2018 are shown in the table below. FDK will respond to themes it was unable to achieve by analyzing the factors which prevented success to build new frameworks.

Items	Action Plan (2016 through 2018)	FY2018 Targets	FY2018 Achievements
Design for environment	Develop at least one battery product or electronic device annually that contributes to better energy efficiency (energy savings).	Develop at least one battery or electronic device annually at each site	Kosai: Developed power supply unit product Takasaki: Developed Ni-MH battery that uses recycled materials Tottori: Improved the capacity of Cylindrical-type Lithium batteries
	Develop at least one battery product or electronic device annually that contributes to better resource efficiency (resource savings).	Develop at least one battery or electronic device annually at each site	Kosai: Miniaturized DCDC module products Takasaki: Developed Ni-MH battery for a low self-discharge model
Reduction of greenhouse gases	Reduce the amount of energy consumption and CO_2 emissions 15% compared to FY2013 by the end of FY2018. (46,169t or less)	Reduce overall domestic emissions by the FDK Group to 46,169t or less by the end of FY2018	43,463t Measures included renewing aged equipment, transitioning to LED lighting, steps taken against air leakage
Energy efficiency	Improve the energy consumption per unit an average of 1% per year.	Improve an average of 1% per year	Achieved target at four of five locations
Reduction of chemical substances	Improve the PRTR* chemical emissions per unit 3% compared to FY2015 by the end of FY2018.	Improve 3% compared to FY2015 at each location	Achieved target at three of four locations
Reduction of waste	Reduce the amount of waste per unit 3% compared to FY2015 by the end of FY2018.	Improve 3% compared to FY2015 at each location	Achieved target at four of five locations
Local environment/ social contributions	Conduct at least two initiatives a year toward local environmental efforts and social contribution activities.	Conduct at least two initiatives a year at each site	Please see page 23 and page 24.

*PRTR (Pollutant Release and Transfer Register): The publicly accessible database has companies measure emissions to the environment of chemical substances that could be harmful to the health of people or the ecosystem (air/water/soil) from their business sites as well as emissions transferred off-site as waste to report those emissions to their country. Their country then releases the quantity of emissions and transfer off-site based on the reported data and measurements.

Addition of domestic sales offices to the scope of ISO14001 certification

In FY2018, domestic sales offices were added to the scope of ISO14001 certification.

Production sites and sales offices join together to move forward with environmental action.

FDK ENGINEERING CO., LTD. greatly reduced electrical power use by increasing compactness.

Group company FDK ENGINEERING CO., LTD. rebuilt its factory facilities for greater earthquake resistance.

This enabled progress through the following energy conservation measures.

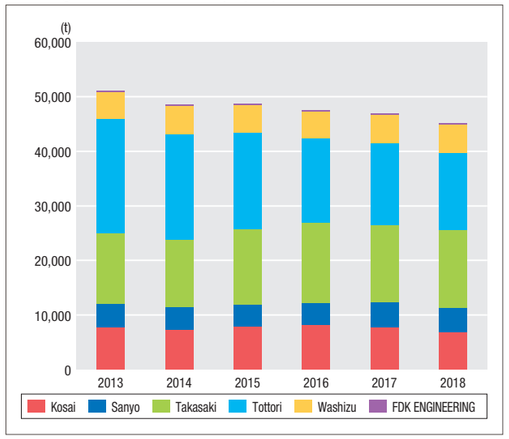
(1) Mobile crane equipment was installed inside the factory, increasing production efficiency and reducing operating space.

(2) Highly energy-efficient roofing, exterior walls and double glazing were used in the new factory, as well as energy-saving air conditioning and LED lighting.

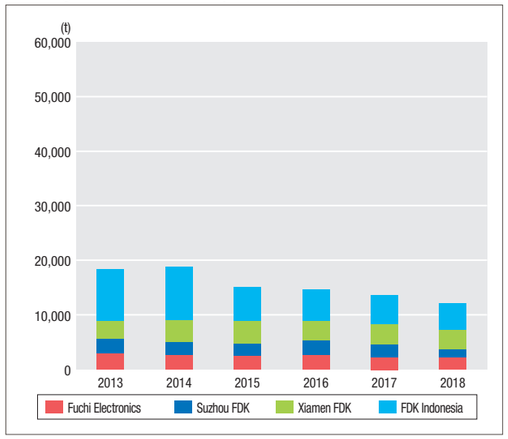
This resulted in a 25% reduction in structural floor area. Electric power use was cut by 38%.

▶ Change in CO_2 emissions (Japan/Overseas) FY2013 to FY2018

Change in CO_2 emissions (Japan)

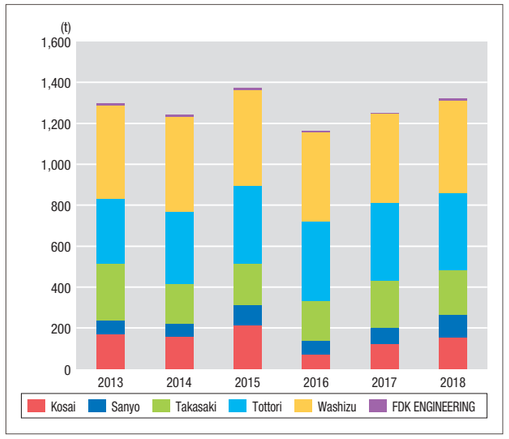


Change in CO_2 emissions (Overseas)

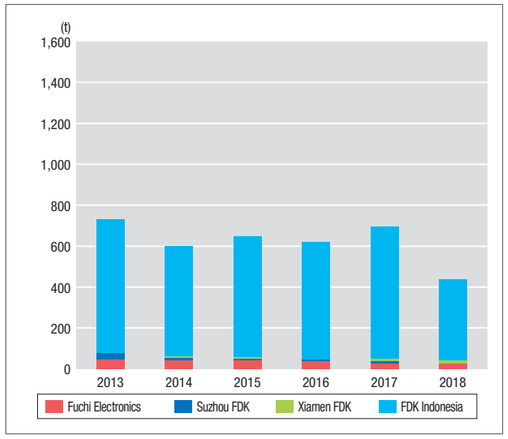


▶ Change in Amount of Waste (Japan/Overseas) FY2013 to FY2018

Change in Amount of Waste (Japan)



Change in Amount of Waste (Overseas)



Environmental performance data by business site

Items (Unit)		Kosai Plant	Takasaki Plant	Tottori Plant	Washizu Plant	FDK ENGINEERING
CO_2 emissions ($t\text{-}CO_2$)	FY2018	6,830	14,179	12,524	5,142	158
	Previous fiscal year	7,772	14,171	15,004	5,105	239
Water usage (m^3)	FY2018	94,707	22,699	69,520	44,865	747
	Previous fiscal year	84,024	24,179	98,717	46,691	739
PRTR chemical emissions (kg)	FY2018	0	0	139	3	–
	Previous fiscal year	3	182	178	–	–
SOx emissions (kg)	FY2018	–	–	–	–	–
	Previous fiscal year	–	–	–	–	–
NOx emissions (kg)	FY2018	375	–	1,728	–	–
	Previous fiscal year	167	–	4,688	–	–
Soot (measured density) (g/Nm^3)	FY2018	–	–	0.001未満	–	–
	Previous fiscal year	–	–	–	–	–
Waste water (m^3)	FY2018	94,707	21,796	33,889	44,863	538
	Previous fiscal year	84,024	23,629	51,816	46,691	739
Waste (t)	FY2018	153	218	380	449	10
	Previous fiscal year	122	231	380	433	5

Items (Unit)		FDK ECOTEC	Xiamen FDK	Fuchi Electronics	FDK Indonesia
CO_2 emissions ($t\text{-}CO_2$)	FY2018	28	3,517	2,319	4,795
	Previous fiscal year	25	3,720	2,227	2,412
Water usage (m^3)	FY2018	–	23,608	9,040	10,087
	Previous fiscal year	–	20,633	7,892	11,366
PRTR chemical emissions (kg)	FY2018	–	–	–	–
	Previous fiscal year	–	–	–	–
SOx emissions (kg)	FY2018	–	–	–	–
	Previous fiscal year	–	–	–	–
NOx emissions (kg)	FY2018	–	–	–	–
	Previous fiscal year	–	–	–	–
Soot (measured density) (g/Nm^3)	FY2018	–	–	–	–
	Previous fiscal year	–	–	–	–
Waste water (m^3)	FY2018	–	18,886	9,040	10,087
	Previous fiscal year	–	16,506	7,892	11,366
Waste (t)	FY2018	–	12	26	397
	Previous fiscal year	–	10	7	645

*"–" indicates an item not measured in the specified fiscal year because it is outside the scope of statistics collected at a given plant, is not pertinent, or is only subject to obligatory measurement every other year.
*The CO_2 conversion coefficient for purchased electric power is calculated as $0.57t\text{-}CO_2/MWh$ to calculate CO_2 emissions.
*Suzhou FDK has been excluded from the above due to suspension of operations from January 2019.
*The Sanyo Plant has been excluded from the above due to an April 2019 decision to transfer of manufactured product operations at the plant.

Concerts, "The Sound of Batteries Powered by the Sun"

Under the theme of "Thinking about the Earth through batteries," FDK supports the concerts "The Sound of Batteries Powered by the Sun" by Yumiko Orishige on the claviola, a rare instrument. Our support for the concerts by Orishige, one of the world's only claviola performers, is a part of our environmental activities. The performances are powered entirely from Ni-MH batteries without the use of commercial power supply. During FY2018, 12 concerts were held both in Japan and overseas, attended by many listeners. FDK will continue to engage in projects that contribute to society and the environment through the activities that utilize the features of FDK businesses.