Stop Global Warming

Fuji Electric is promoting the reduction of CO₂ emissions on a global scale and contributing to the prevention of global warming by providing products and services with exceptional levels of energy efficiency and striving to conserve energy at its plants and other operating sites.

Action Plan to Reduce CO₂ Emissions

The Paris Agreement was adopted by COP21 in December 2015. Japan ratified this agreement in November 2016 and began promoting initiatives toward achieving the agreement’s emission reduction targets. The three main points of the Paris Agreement are as follows.
1. All countries are obligated to submit their greenhouse gas reduction targets to the United Nations every five years and to implement initiatives toward achieving these targets.
2. Countries are expected to strive to limit the rise in average temperature to less than 2.0°C above preindustrial levels and to make efforts to keep this rise below 1.5°C.
3. Countries should seek to achieve zero emissions of greenhouse gases on a real basis in the second half of the 21st century.

Japan has submitted to the United Nations its greenhouse gas reduction emissions target of achieving a 26% reduction from fiscal 2013 levels by fiscal 2030. To guide efforts toward achieving this target, the government of Japan has established and enacted the Plan for Global Warming Countermeasures. In addition, each industry has formulated an action plan for commitment to a low-carbon society under the guidance of Keidanren (the Japan Business Federation), based on which they are aiding in the national initiative.

The Action Plan for Commitment to a Low-Carbon Society for the electrical machinery and electronics defines pursuing improved energy efficiency in manufacturing processes and [creating products and services that contribute to reduced emissions / contributing to reduced emissions through products and services] as priority measures.

Fuji Electric has participated in the Action Plan for Commitment to a Low-Carbon Society since fiscal 2011, and through our Environmental Vision 2020 we are working toward achieving the following targets.
1. In addition to targets for reductions in manufacturing emissions and improvement of energy efficiency, we will aim for a 20% reduction by 2020 in global manufacturing CO₂ emissions compared with fiscal 2006 (381,000 tons), and in Japan we will aim for a 10% improvement in energy consumption per base unit compared with fiscal 2012.
2. We will aim to provide products that will contribute to a 30 million ton* reduction in society’s CO₂ emissions by 2020.

* Amounts of CO₂ reductions are based on one year of operation for products shipped in each fiscal year after 2009, when calculations began, that had not reached the end of their service lives as of that year.

In fiscal 2016, the target reduction amount for CO₂ emissions was increased from 17 million tons to 30 million tons.

Relationship Between Environmental Vision 2020 and Long-term Global Targets for Global Warming Prevention

At the 2009 G8 Summit in L’Aquila, Italy, an official declaration was made in support of the goals of realizing a 50% reduction in greenhouse gas emissions on a global basis by 2050 and an 80% reduction in developed countries by 2050. Achieving these targets will require annual reductions of 1.56% (for the global target) and 3.59% (for the target for developed countries). The 2020 targets set in the Environmental Vision 2020, which was established in fiscal 2009, call for reduction of CO₂ emissions from energy consumption at global production sites of 20% from fiscal 2006’s level and a reduction of 40% in Japan by fiscal 2020. Achieving these targets will entail reductions that are in line with those required by the G8 long-term target for global emissions reductions as shown in the graph below.

G8 Greenhouse Gas Reduction Targets and Fuji Electric CO₂ Emission Reduction Targets
Reducing Greenhouse Gas Emissions During Production

Fiscal 2016 CO₂ Emission Reduction Targets and Achievements

Fuji Electric strives to limit energy costs and reduce CO₂ emissions through energy conservation activities. In fiscal 2016, energy conservation activities included implementing top level energy-saving building management practices, upgrading air-conditioning equipment and LED lighting, and consolidating clean rooms. Through these efforts, Fuji Electric reduced domestic energy costs by 4.5% and overseas energy costs by 2.4%, which equated to CO₂ emission reductions of 7,800 tons in Japan and 2,400 tons overseas. However, overall emission volumes increased as a result of the rise in production at Company factories that stemmed from efforts to bring manufacturing operations back to Japan and promote in-house production. However, at 325,000 t-CO₂, total emissions in fiscal 2016 were still lower than the target of 335,000 t-CO₂. Looking ahead, Fuji Electric will advance further energy conservation activities to move toward the achievement of its [fiscal] 2020 targets.

Fuji Electric’s CO₂ emission reduction targets were revised at the beginning of fiscal 2016 through the formulation of the Environmental Management Three-Year Rolling Plan. This decision was made based on the increase in sources of emissions overseas due to the reconstruction of production systems as well as to higher production volumes. The rolling plan sets forth a new strategy of offsetting the increase in overseas emissions with activities in Japan in order to achieve the goal of the Environmental Vision 2020 target (204,000 ton reduction in CO₂ emissions by fiscal 2020). In this manner, we have chosen not to revise our target for fiscal 2020, but rather to revise our targets for the three-year period beginning with fiscal 2016 and the target ratios of domestic and overseas emissions.

CO₂ Emissions and CO₂ Emissions per Unit of Sales in Japan

| Year | CO₂ Emissions (Actual) | CO₂ Emissions (Target) | CO₂ Emissions per Unit Sales |
|------|-------------------------|-------------------------|-----------------------------|
| 2005 | 290.1                   | 290.5                   | 2.90                        |
| 2006 | 271.6                   | 272.0                   | 2.71                        |
| 2007 | 259.6                   | 260.5                   | 2.59                        |
| 2008 | 246.6                   | 247.0                   | 2.46                        |
| 2009 | 235.7                   | 236.0                   | 2.35                        |
| 2010 | 221.2                   | 222.0                   | 2.21                        |
| 2011 | 204.6                   | 205.0                   | 2.04                        |
| 2012 | 189.9                   | 190.0                   | 1.89                        |
| 2013 | 183.8                   | 184.0                   | 1.83                        |
| 2014 | 176.2                   | 176.0                   | 1.76                        |
| 2015 | 169.5                   | 170.0                   | 1.69                        |
| 2016 | 164.5                   | 165.0                   | 1.64                        |
| 2017 | 159.3                   | 160.0                   | 1.59                        |
| 2018 | 154.6                   | 155.0                   | 1.54                        |
| 2019 | 149.9                   | 150.0                   | 1.49                        |
| 2020 | 145.5                   | 146.0                   | 1.45                        |

Notes:
1. Collation of figures from the production bases and offices of all domestic consolidated subsidiaries, including Fuji Electric’s offices.
2. Calculated using the Federation of Electric Power Companies of Japan’s fiscal 2006 average power CO₂ emission coefficient (4.10 t-CO₂/10,000kWh) arranged for the targets in Environmental Vision 2020.

Overseas CO₂ Emissions per Unit of Production

| Year | CO₂ Emissions (Actual) | CO₂ Emissions (Target) | CO₂ Emissions per Unit Production |
|------|-------------------------|-------------------------|----------------------------------|
| 2005 | 100                     | 100.5                   | 0.98                             |
| 2006 | 101.2                   | 101.5                   | 1.01                             |
| 2007 | 103.2                   | 103.5                   | 1.03                             |
| 2008 | 104                     | 104.5                   | 1.04                             |
| 2009 | 103.5                   | 103.6                   | 1.03                             |
| 2010 | 102.5                   | 102.6                   | 1.02                             |
| 2011 | 102.7                   | 102.8                   | 1.02                             |
| 2012 | 102.6                   | 102.7                   | 1.02                             |
| 2013 | 102.5                   | 102.6                   | 1.02                             |
| 2014 | 102.4                   | 102.5                   | 1.02                             |
| 2015 | 102.3                   | 102.4                   | 1.02                             |
| 2016 | 102.2                   | 102.3                   | 1.02                             |
| 2017 | 102.1                   | 102.2                   | 1.02                             |
| 2018 | 102.0                   | 102.1                   | 1.02                             |
| 2019 | 101.9                   | 101.9                   | 1.01                             |
| 2020 | 101.8                   | 101.9                   | 1.01                             |

Notes:
1. Total of figures for production sites at overseas consolidated subsidiaries.
2. Overseas energy and electric power conversion coefficients obtained from the JEMA website (Ver. 3, March 2006).
3. Fiscal 2013 and 2014 figures adjusted to reflect credits traded from the China Emissions Exchange.
4. One base in Thailand (Fuji Tusco Co., Ltd.) included in scope of calculation from fiscal 2016.

Third Party verification of CO2 Emissions and Emissions Trading System

Fuji Electric receives third-party verification from external institutions with regard to its CO2 emission data to improve the reliability of the data it discloses. This verification is received for data from ten major factories in Japan and overseas, which accounts for 77% of the Company’s total CO2 emissions.

Publisher; Japan Management Association GHG Certification Center
Coverage; 10 main factories below
In Japan; Tokyo, Fukiage, Matsumoto, Mie, Kawasaki, Suzuka, Tsugaru Semiconductor
Overseas; Shenzhen, Malaysia, Philippines
Verification Statement [PDF]

Emissions trading system

In Japan (Tokyo, Saitama Prefecture)
In Tokyo and Saitama Prefecture, an emission trading system is employed that entails trading the difference between actual emissions volumes and total CO2 emissions reduction targets set by the Japanese government based on past CO2 emissions data. The first phase reduction period ended in fiscal 2014, and we are currently in the second phase reduction period. The reduction targets in the second phase are more demanding than the targets from the first phase.

Overseas (Shenzhen, China)
The city of Shenzhen is acting based on the CO2 emissions per production unit reduction targets requested of 1,000 companies and public organizations. In the first phase reduction period, companies and public organizations were requested to achieve a reduction in per production unit emissions of 32% from fiscal 2010’s levels (reduction of approximately 6.1% each year). The second phase reduction period began in fiscal 2016. Although reduction targets in the first phase were uniform, each organization was assigned an individual target in the second phase based on their emissions over the past three years. As the Shenzhen Factory’s emissions were less than the industry average, its reduction target was reduced slightly (from 6.1% each year to 5.59% each year).

Emissions trading system

| District               | 2st-phase reduction period | Emission volume verification organization | Reduction target (1st) |
|-----------------------|----------------------------|-------------------------------------------|------------------------|
| Tokyo (Tokyo Factory) | FY2015 - FY2019            | Japan Gas Appliance Inspection Association | 15% (▲6%) reduction from emission volume standards |
| Saitama Prefecture (Fukiage Factory) | FY2015 - FY2019 | Japan Quality Assurance Association (JQA) | 13% (▲6.1%) reduction from emission volume standards |
| Shenzhen, China       | FY2016 - FY2020            | 深西部份有限公司 | 5.59% (▲6.1%) annual reduction in emissions per production unit |

Performance of Emissions trading (The first-phase reduction period)

| District | Acquired emissions credits | Purchased | Amortized | Remaining (rolled over) |
|----------|----------------------------|-----------|-----------|------------------------|
|          | 2,452                      | 0         | 0         | 2,452 (1,688)          |
Reducing Greenhouse Gases other than CO₂ including SF₆

Apart from CO₂, greenhouse gases that cause global warming also include alternatives for chlorofluorocarbon and various others. In semiconductor divisions, where emissions of greenhouse gases are particularly large, we undertook a shift to alternative gases over the period leading up to fiscal 2009. In addition, abatement apparatuses were installed on certain production lines for which alternative gases could not be used. As a result, total emissions volumes in fiscal 2009 were 92% lower than in 1995. Aiming to maintain this level after fiscal 2010, we have made a policy of installing abatement apparatuses on all new semiconductor production lines, and we are pursuing further reductions from a long-term perspective, specifically targeting factories in Japan, China, Thailand, and Malaysia through these activities.

In fiscal 2016, we revised the method used for calculating emissions at the Matsumoto Factory, a principle domestic semiconductor factory. The new method entails calculating emissions for each production line and was chosen based on the advice received during an environmental site inspection. The change allowed for the benefits of installing abatement apparatuses to be better reflected in emissions figures. We also stepped up measures for reducing gas purchase volumes. These measures led to a year-on-year decrease of 62.6% in emissions volumes at the Matsumoto Factory.

Overseas, we were able to achieve a 17.4% reduction in emissions at a factory in Malaysia that produces hard disks, which entails particularly high gas usage volumes.

Total domestic and overseas reductions in emissions volumes amounted to 109,626 tons, down 39,900 tons year on year (year-on-year emission reductions of 31.0% in Japan and 17.8% overseas). This amount represented a reduction in emissions of 68% in comparison to fiscal 2006 and 92% in comparison to fiscal 1995, making for emissions that were roughly the same as in fiscal 2009.

We have established three new semiconductor factories in Japan and overseas and two other factories in China and Thailand since fiscal 2009. Accordingly, this outcome demonstrates that we have been able to almost entirely absorb the increase in emissions from these new factories.

* The previous calculation method entailed calculating greenhouse gas emission volumes based on total gas purchase volumes and a simple average installation ratio for abatement apparatuses on production lines.

Promoting Smart Factory Initiatives

Fuji Electric promotes the Smart Factory Initiative at production sites to optimize energy use through coordination between electric and thermal energy technologies and production planning to use energy more efficiently.
Receipt of Energy Conservation Grand Prize — Utilization of Factory Energy Management System to Conserve Energy through the Optimal Usage of Electricity and Heat

The Energy Conservation Center, Japan awarded the Yamanashi Factory with the highest honor of its FY2016 Energy Conservation Grand Prize (in the energy conservation initiative category): the Grand Prize of Minister of Economy, Trade and Industry (electricity conservation field).

This award was received based on the high evaluation of the Yamanashi Factory's efforts to conserve energy through the optimal usage of electricity and heat by utilizing a factory energy management system while also minimizing energy supply risks.

Through these efforts, the Yamanashi Factory realized a 34% reduction in energy consumption compared to fiscal 2010 in fiscal 2015 and at the same time was able to mitigate power outage and instantaneous voltage drop risks and achieve 100% self-sufficiency in terms of electricity.

Going forward, Fuji Electric will implement exhaustive, Companywide energy conservation activities and supply products and services that utilize its energy and environment technologies to contribute to the realization of a sustainable society.

Case Example from Smart Factory Initiatives

Energy Savings through the Smart Factory Initiative (Mie Factory)

Fuji Electric is advancing the Smart Factory Initiative at the Mie Factory, a principal factory in the Food and Beverage Distribution segment.

This initiative involves pursuing “smarter” operation through the improvement of efficiency of inverter-equipped production and drive facilities, the supply of clean energy via solar power generation and fuel cell systems, and the utilization of a factory energy management system that ensures optimal energy usage throughout the entire factory. In fiscal 2016, these efforts contributed to a 28% reduction in energy consumption from fiscal 2010’s levels.

In addition, given the recent increase in energy used in lighting and air-conditioning equipment, we have installed a system for collecting data via internal LAN networks through points established to measure factory lighting and temperature. Utilizing this system, we are monitoring the environment within factory buildings while controlling energy. The collected data is made available for viewing by employees on a specialized website to facilitate educational activities.

In the future, recorded data will be used to realize automated control in order to create systems that improve workplace environments while conserving energy.

Energy data tracking monitor (energy consumption by area)

Reducing Society’s CO₂ Emissions through Products

Fuji Electric is aiming to reduce society’s CO₂ emissions by innovation in electric and thermal energy technology.

Fiscal 2016 CO₂ Emission Control Targets and Achievements through Products

In fiscal 2016, Fuji Electric’s target for reductions in society’s CO₂ emissions through products in fiscal 2020 was raised from the previous 17 million tons to 30 million tons. The new reduction target amount of 30 million tons is nearly equivalent to the 29.5 million tons of emissions from specified business operators under the Act on Promotion of Global Warming Countermeasures during 2013 in Kanagawa Prefecture, which was ranked 9th among all prefectures in this year. This target is also 100 times higher than the target of 300,000 tons for CO₂ emissions from Fuji Electric for fiscal 2020.

In fiscal 2016, the contribution to CO₂ emission reductions from products was 22,300,000 t-CO₂, up 6,320,000 t-CO₂ year on year and higher than the target of 18,780,000 t-CO₂. This accomplishment was a result of increased sales of inverters and power conditioning sub-systems for stabilizing electricity supplies from wind power systems as well as higher shipments of geothermal and hydro power and other renewable energy generation equipment. This amount of 22,300,000 t-CO₂ is equivalent to 68.6 times the Company’s total CO₂ emissions of 325,000 t-CO₂.
Reduced CO₂ Emissions through Products

(10 thousand tons of CO₂)

| Year | Actual | Target |
|------|--------|--------|
| 2010 | 130.0  |        |
| 2011 | 233.0  |        |
| 2012 | 318.1  |        |
| 2013 | 407.5  |        |
| 2014 | 505.3  |        |
| 2015 | 601.7  |        |
| 2016 | 1,043.3|        |
| 2017 | 1,532.1|        |
| 2018 | 1,220.8|        |
| 2019 | 2,156  |        |
| 2020 | 2,438  | 3,000  |

- Domestic contribution
- Overseas contribution
- Target

* Amount of CO₂ emission reduction contribution based on one year of operation of products shipped for each fiscal year after fiscal 2009.
(Calculated making reference to the quantification method of GHG emission reductions stipulated in the electrical and electronics industries’ Action Plan for Commitment to a Low-Carbon Society.)

Fiscal 2016 Breakdown of CO₂ Emissions Reduction Contribution Amount

- **Power Plants**
  - **Geothermal Power Generation Facilities**
    - Geothermal power is energy generated using the geothermal steam created by subterranean magma. As geothermal power generation does not require the burning of oil or coal, CO₂ emissions are substantially lower than those from thermal power generation. Furthermore, this power source is able to provide supplies of electricity that are more stable than other renewable energy sources.
    - CO₂ emissions reduction: approx. 552,000 tons / year
      - (Compared to thermal power generation)
      - Effect calculated under typical operating conditions (when product in use)
      - Geothermal steam turbine: output 147MW, utilization rate 90%
      - CO₂ emission factor 0.476kg-CO₂/kWh

- **Factories**
  - **Inverters**
    - Inverters are used in a wide variety of equipment, including elevators, building air conditioning systems, and factory manufacturing facilities. By optimally controlling the rotation speed of the motors that move such equipment, inverters eliminate energy loss during operation and contribute to energy savings.
    - CO₂ emissions reduction: approx. 11.9 tons / year (50.0% reduction)

* Products that Contribute to Reducing CO₂ Emissions*

Here, we will introduce some of Fuji Electric’s eco-products that help prevent global warming by reducing CO₂ emissions.
[Related Link: Eco-Product Certification System]
Factories
(Compared to damper control)
Effect calculated under typical operating conditions (when product in use)
Operating conditions: Motor output 15kW, air flow 85% (operation 2,000 hours), air flow 60% (operation 2,000 hours)
Damper control: Air flow 85% (load 91%), air flow 60% (load 76%)
Inverter control: Air flow 85% (load 61%), air flow 60% (load 22%)
CO₂ emission factor 0.476kg-CO₂/kWh

Data Centers
Module Type Data Centers
Significant reductions in electricity consumption were realized by using a hybrid air conditioner unit which uses both external air-cooling and an air conditioner using refrigerant at the same time. Also, the centers use a dedicated facility operation management system, to centrally manage electricity, heat source, air conditioning, and the environment for optimal operation.

CO₂ emissions reduction: approx. 156 tons / year (60.0% reduction)
(Compared to Non-hybrid Air Conditioner)
Effect calculation for when product is in use is based on typical operating conditions.
Operating conditions: Annual operation time 8760 hours
Conventional product: Average annual power consumption 62.4 kW
Current product: Average annual power consumption 25.0 kW
CO₂ emission factor 0.476kg-CO₂/kWh

3-level IGBT Modules
IGBT modules are a type of power semiconductor. They are used in UPSs and solar power generation facilities, and are essential to realizing energy savings.

CO₂ emissions reduction: approx. 987 kg / year (23.4% reduction)
(Comparison of 2-level and 3-level IGBT Module)
Effect calculation for when product is in use is based on typical operating conditions.
Operating conditions: With a 100 kW inverter annual operation time 2920 hours
CO₂ emission factor 0.476kg-CO₂/kWh

Stores
Building Energy Management Systems
Building energy management systems are used to monitor and efficiently control energy usage in stores and other buildings. By employing combinations of renewable energy systems and storage batteries, these management systems help equalize electric power loads.

CO₂ emissions reduction: approx. 23 tons / year (8.0% reduction)
(Benefit from introducing Fuji Electric’s building energy management systems)
Current status: Introducing electric power monitoring system, taking measurements and conducting survey of waste from operational aspect
Measures: Monitoring of PC operations during lunch breaks, reduction to standby power at night
Measures firmly entrenched: E-mail sent out asking for reasons why PCs were used at lunchtime, responses collated and corrective action taken
Effect: CO₂ emissions reduced 8.1%, lunchtime PC users reduced by half, nighttime standby power reduced by two-thirds

Vending Machines
Fuji Electric’s vending machines employ innovative hybrid heat pump technologies that utilized external air heat when heating for beverages in vending machines, non-fluorocarbon refrigerants, and state-of-the-art vacuum insulation panels. By combining
Vending Machines

these features with LED displays, we have created ultra-energy-efficient vending machines that realize substantial reductions in electricity consumption.

CO2 emissions reduction: approx. 342 kg/year (78.2% reduction)

(Comparison between models released in fiscal 2002 and those released in fiscal 2014)

Effect calculated under typical operating conditions (when product in use)

Operating conditions: In accordance with vending machine test method JIS B 8561:2007

CO2 emission factor 0.476 kg-CO2/kWh

Energy Conservation Initiatives in Logistics

To reduce CO2 emissions in logistics, specified consigner whose annual tonnages exceed 30 million ton-kilometers have been required to measure and improve their energy consumption since April 2006.

Fuji Electric has established the Guidelines for Consigner’s Obligations to enable each business site to comply with these laws and regulations smoothly and appropriately. The guidelines centrally manage data using FeSMART* to ascertain the environmental burden due to logistics activities. In fiscal 2016, we sought to realize higher levels of efficiency in logistics activities by devoting effort to developing a shared, underlying distribution network while also implementing conventional improvement activities at specific factories and sales bases. As a result, we were able to limit year-on-year increases in energy consumption and CO2 emissions per logistics amount to 2%, despite logistics amount rising 5% year on year.

Going forward, Fuji Electric will continue to reinforce its energy conservation activities in its logistics operations and work to reduce its environmental footprint, including reducing transportation weight by minimizing product size and changing the mode of line-haul transportation.

* FeSMART: (Fuji Electric Sustainable Management suppoRT system)

Enables registration of and access to all environmental data relating to the Company's factories and operating sites using a web browser on the Company’s Intranet.

Environmental Impact of Logistics (In Japan)

Example of initiatives to reduce the environmental impact of logistics (In Japan)

Fuji Electric has been consolidating bases to rationalize logistics activities since the second half of fiscal 2015. As one facet of these efforts, we consolidated manufacturing processes related to switchboards, which had previously been manufactured in the Kansai region and inspected in the Kanto region, into the Kanto region. Full-fledged operation under this new structure began in fiscal 2016. As these products are primarily shipped toward the Kanto region, this move helped reduce wastes in terms of transportation.

Scope 3 Emissions

Greenhouse gases emitted indirectly upstream to downstream on Fuji Electric’s supply chain (Scope 3) have been calculated since fiscal 2012 based on guidelines*1 issued by the Ministry of the Environment. As a result, we found that emissions from use of products sold were highest and confirmed this as an important item to address. It was affirmed that raising the energy efficiency of products and contributing to more efficient electricity use within society is an important activity*2 for Fuji Electric tied to preventing global warming.

*1: Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain Ver. 2.1 issued by the Ministry of the Environment.

*2: For 2020 activity targets, refer to the section “Reducing Society’s CO2 Emissions Through Products.”

Scope of Calculations for Greenhouse Gas Emissions

- Scope 1: Direct emissions from fuel use and production processes at the Company
- Scope 2: Indirect emissions from use of electrical and thermal energy purchased by the Company
### Scope 3 Emissions

**Category** | **Details** | **fiscal 2015** | **fiscal 2016** | **Scope of calculation**
--- | --- | --- | --- | ---
**upstream** | 1 Products and services purchased | 158,532 | 155,372 | Emissions related to production of raw materials purchased by factories in Japan
| 2 Capital goods | 79,499 | 77,777 | Emissions related to construction/manufacture of capital facilities domestically and overseas
| 3 Fuel and energy purchases (outside Scope 1/2) | 30,788 | 31,207 | Emissions related to fuel procured domestically and to production of fuel necessary for generation of electrical energy
| 4 Transport and delivery (upstream) | 11,679 | 12,172 | Emissions related to company transport (domestic) (same as reported for environmental impact from logistics activities)
| 5 Waste discharged from business operations | 5,035 | 5,173 | Emissions related to processing waste discharged from domestic factories
| 6 Business travel | 1,922 | 1,922 *1 | Emissions related to business travel by domestic employees
| 7 Commuting | 8,396 | 8,396 *1 | Emissions related to commuting to domestic business sites
| 8 Use of lease assets (upstream) | 0 | 0 | Displayed as “0” as emissions from use of lease assets are included in the calculation of Scope 1 and Scope 2.
**downstream** | 9 Transport/delivery (downstream) | - | - | Excluded from scope of calculation because transportation from product delivery sites (Category 4) is marginal.
| 10 Processing of sold products | - | - | Excluded from scope of calculation because intermediate products requiring downstream processing are not sold.
| 11 Use of products sold | 2,898,124 | 2,985,048 | Emissions assuming that products for the consumer sector*2 shipped domestically and overseas during the fiscal year are used until the end of their service lives.
| 12 Waste processing of products sold | - | - | Excluded from the scope of calculation because Fuji Electric products have high metal compositions and emissions at recycling are assumed to be low.
| 13 Use of lease assets (downstream) | 0 | 0 | No applicable emissions
| 14 Franchise | 0 | 0 | No applicable emissions
| 15 Investment | 0 | 0 | No applicable emissions

**total** | **3,193,975** | **3,277,067**

*1. The figures from the previous year have been used for CO2 emissions from business travel and commuting. Although emissions from these sources have been calculated since fiscal 2012, the previous year’s figures have been used as there has been no significant change in emissions amounts and the effect of these emissions on overall emissions amounts is low.

*2. Emissions from use of products sold to the industrial sector are included in customers’ emissions reports and have therefore not been included in the calculations of the Company’s emissions. Emissions from use of products sold to the consumer sector are calculated based on the emissions to which the Company’s products are directly linked, which include those related to lost electricity from the power supply components of televisions and computers, electricity consumption by vending machines, and refrigerant gas contained within vending machines.

### Initiatives for Utilizing Renewable Energies

Fuji Electric promotes use of renewable energies through development and supply of geothermal and hydropower facilities and solar and wind power systems, all of which have low environmental impact, to contribute solutions to increasingly diverse global energy issues.

In fiscal 2016, we delivered a binary geothermal power plant in Oita Prefecture that boasts one of the largest generation capacities in Japan (5 MW). Binary geothermal is a form of geothermal power generation that can be used to generate electricity from low-temperature heat sources. Overseas, we delivered a total of five geothermal power plants, two in Indonesia, two in Iceland, and one
in the Philippines. As a result, the total amount of geothermal power generation capacity delivered in fiscal 2016 was 187 MW, a substantial increase from the 80 MW provided by the two plants delivered in fiscal 2015.

Hydropower generation projects were conducted at 12 power plants in Japan with a total generation capacity of 115 MW (compared with 24 MW in the fiscal 2015). These projects were primarily renovation projects. Combined with biomass, solar, and wind power generation projects, the total reduction to CO2 emissions from the renewable energy generation systems delivered in fiscal 2016 will be 56,400,000 tons, assuming that these systems are used throughout their entire service lives. This figure was 25,840,000 tons higher than the figure for the previous fiscal year.

Utilization of Renewable Energies in Production Activities

With respect to power consumed at the Company, we purchased renewable energy certificates of 1 million kilowatts each year for seven years from 2005 to 2011. We are currently promoting power generation using our own products, and installed large-capacity power systems at the Mie Factory and a new factory in Thailand in fiscal 2013 and a 50-kW solar power system at the Fukiage Factory in fiscal 2014. As a result, self-generated power capacity as of the end of fiscal 2016 totaled 957 kilowatts.

Renewable Energy Utilization in Production Activities

Note: Solar power capacity is average capacity utilization multiplied by total capacity installed as of the end of the fiscal year. (12%)

Renewable Energy Supply Initiatives

Fuji Electric contributes to the prevention of global warming by participating in power projects and supplying renewable energies. Subsidiary Fuji Green Power Co., Ltd. built the Nishime wind power plant, which went online in fiscal 2009, and a mega solar power facility on the premises of our Yamanashi Factory. In fiscal 2012, it began selling the total amount of power produced by these systems.

Supply Capacity of Fuji Electric’s Renewable Energy Business

Note: Wind power and solar power capacity is average capacity utilization multiplied by total capacity installed as of the end of the fiscal year. (Wind power 20%; Solar power 12%)