

Fujitsu Group Environmental Action Plan

Operating Environment and Growth Strategy

Changing Environmental Activities in Line with Our Business Model Transformation

Originally a manufacturer of telecommunications equipment, Fujitsu developed into a global ICT enterprise with vertically integrated operations in three sectors: Technology Solutions offers a range of IT-based services and solutions, Ubiquitous Solutions designs and manufactures products such as PCs and mobile phones, and Device Solutions is responsible for developing the semiconductor business. Structural reforms undertaken since FY 2015 have channeled most management resources into the core sector of Technology Solutions. In FY 2019, Fujitsu repositioned itself as a Digital Transformation (DX) enterprise that aims to make full use of digital technologies in the creation of innovative services and business processes.

The nature of the Fujitsu Group's environmental impact has changed as a result of this modified business model. As an example, most energy consumption in the past was linked to the manufacture of PCs and our semiconductor and electronic component operations, but that requirement is declining significantly. Conversely, the expansion of cloud computing and the Internet of Things (IoT) is driving increased power consumption in data centers, and this growing trend is expected to continue. We are therefore focusing at present on energy conservation, efficiency enhancements and the use of renewable energy in our data centers. In this way, the Fujitsu Group implements environmental activities that respond to the demands of society while also supporting the corporate growth strategy.

Operating as a Responsible Global Corporate Citizen

Recent years have seen a further ramping up of demand for initiatives aimed at building sustainable communities on a global scale, including the adoption of the Sustainable Development Goals (SDGs) by the United Nations and the coming into effect of the COP 21 Paris Agreement. The Fujitsu Group employed a materiality analysis in a Groupwide review designed to enhance the effectiveness of activities that aim to contribute to sustainable development. This analysis identified seven priority issues including the environment; human rights, diversity and inclusion; wellbeing; and supply chain. The result is a unified framework under the banner of Global Responsible Business (GRB), which will oversee activities that strengthen initiatives in non-financial areas while striving for 'sustainability management' worthy of a responsible global corporate citizen.

History of the Environmental Action Plan

Environmental Awareness Contributes to Sustainability for Our Customers and Society

The Fujitsu Group has formulated an Environmental Action Plan since 1993 and continues to broaden the scope of its environmental activities. Between stages I and V (FY 1993-2009) the objective was to significantly reduce the environmental impact of the Fujitsu Group itself. Far-reaching measures were implemented throughout our factories and offices to cut CO₂ emissions and chemical pollutants, to reduce waste, and so on. In stage VI (FY 2010-2012), we expanded the focus of our activities to three important initiatives. In addition to strengthening measures to lessen our own impact on the environment, we supported similar efforts by customers and society as a whole and also took on the challenge of conserving biodiversity. During stages VII and VIII (FY 2013-2018), we clearly demonstrated our intention of using technology to contribute to the resolution of environmental challenges for our customers and society. To further reduce our own environmental footprint, we extended activities to include key partners and the whole supply chain. The Fujitsu Group will continue responding to the

demands of changing times and will deepen and further develop its environmental activities with the goal of helping to create a sustainable and rewarding society.

Fujitsu Group Environmental Action Plan (Stage X)

Strengthening Our Response to Global Societal Challenges

The Global Risks Report 2021 (*1) ranks as major risks, by likelihood of occurrence and by impact, climate-related matters including climate change, resource circulation and biodiversity loss. Regarding climate change, the IPCC's special report Global Warming of 1.5°C (*2) recommends a more rapid transition to a decarbonized society. The global initiative Science Based Targets set a goal for reductions in greenhouse gas (GHG) emissions to limit global warming to 1.5°C and called on companies to set their own ambitious targets.

In terms of resource circulation, the issue of waste plastics is a global concern and the use of plastics is being questioned in Japan and elsewhere. As for biodiversity, when considering a post-2020 biodiversity target, we are discussing ways of reducing negative impacts on biodiversity throughout our supply chain.

Given this background, the Fujitsu Group has specified targets that address the three global societal challenges of climate change, resource circulation and living in harmony with nature (conservation of biodiversity). As we undertake workstyle reforms and restructure our business operations, we will focus on these targets over the two-year period from FY 2021 to FY 2022 by working to minimize negative environmental impacts in the supply chain.

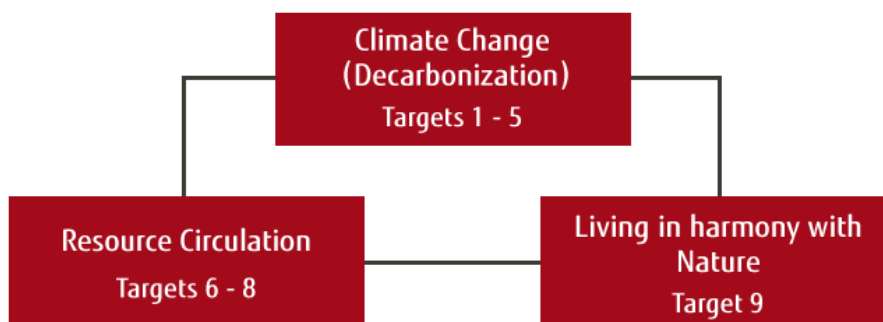
*1 An annual report issued by the World Economic Forum that lists, by likelihood and by impact, the major risks facing the world.

*2 A special report issued by the Intergovernmental Panel on Climate Change (IPCC). This report was submitted to the 48th Session of the IPCC in October 2018.

• **Key Topics :**

As we enter the era of a 'new normal', we have set targets in line with the societal challenges of climate change, resource circulation and living in harmony with nature.

- Climate Change : Strengthening our commitment to meet the target of limiting global warming to 1.5°C
- Resource Circulation : Maintaining and enhancing efforts in the areas of resource-saving product design (with an emphasis on reducing the use of plastics) and water risk assessments throughout the supply chain
- Living in harmony with nature : Based on global trends, a new target to visualize impacts on biodiversity



• **Target Period**

The two-year period from FY 2021 to FY 2022

Environmental Action Plan

Fujitsu's Transition to a Digital Transformation (DX) Enterprise	Upstream Business (partners)	Fujitsu's Business Areas	Downstream Business (customers and society)	Sustainable Development
Climate Change	<ul style="list-style-type: none"> Reducing CO₂ emissions in the upstream supply chain 	<ul style="list-style-type: none"> Reducing GHG emissions at business sites Improving power usage efficiency in data centers Expanding the use of renewable energy 	<ul style="list-style-type: none"> Reducing CO₂ emissions by using products with low power consumption 	→
Resource Circulation	<ul style="list-style-type: none"> Reinforcing awareness of the need to conserve water resources in the upstream supply chain 	<ul style="list-style-type: none"> Reducing water usage 	<ul style="list-style-type: none"> Promoting eco design for resource saving and circulation and increasing resource efficiency of newly developed products 	
Living in harmony with nature (Conservation of Biodiversity)		<ul style="list-style-type: none"> Visualizing and reducing the impact of corporate activities on ecosystems and on biodiversity 		

Climate Change

1. Reduce greenhouse gas (GHG) emissions from business sites each year by 4.2% or more, compared with the base year of FY2013
2. Improve PUE (*3) (Power Usage Effectiveness) of our data centers by 3%, compared with FY 2017
3. Increase renewable energy usage to 16% of total electricity
4. Reduce CO₂ emissions due to power consumption during product usage by 17% or more, compared with FY2013
5. Drive activities to reduce CO₂ emissions in the upstream supply chain.

*3 PUE (Power Usage Effectiveness): An indicator of the efficiency of electric power usage by the data center. This value is calculated by dividing the data center's total electric power consumption by the electric power consumption of servers and other ICT devices. The closer the value is to 1.0, the higher is the efficiency.

Resource Circulation

6. Promote eco design for resource saving and circulation and increase resource efficiency of newly developed products by 10% or more, compared with FY 2019
7. Reduce water usage by 30,000 kiloliters or more by implementing water resource conservation measures
8. Reinforce awareness of the need to conserve water resources in the upstream supply chain

Living in harmony with nature (Conservation of Biodiversity)

9. Visualize and reduce the impact of corporate activities on ecosystems and on biodiversity

For details on the Fujitsu Group Environmental Action Plan Stage IX (FY 2019 and FY 2020), please click here.

<https://www.fujitsu.com/global/about/environment/approach/plan/stage9/>

Environmental Action Plan

Fujitsu Group Environmental Action Plan (Stage IX)

The Fujitsu Group formulated Stage IX of its Environmental Action Plan (FY 2019-2020) based on a structure of four critically important categories. To address issues in the supply chain and in three areas of societal challenge, namely climate change, resource circulation and the SDGs, a total of 11 targets were set. The results for each target are shown in the table below, and we were able to achieve all the targets. Please refer to the following pages for a detailed approach to them.

Targets (till the end of FY 2020)		Results for FY 2020
Climate Change		
1. Reduce greenhouse gas (GHG) emission from business sites by more than 14% (compared to FY2013). Reduce GHG emission by 2.1% year-on-year through voluntary efforts.		32.7% reduction and 2.4% reduction through voluntary efforts
2. Improve PUE (Power Usage Effectiveness) of our data centers by 2% or more compared to FY 2017.		2.0% improvement
3. Increase renewable energy usage by more than 20% compared to FY2017.		22.2% increase
Resource Circulation		
4. Promote eco design for resource saving and circulation and increase resource efficiency of newly developed products by 25% or more (compared to FY 2014).		27.5% increase
5. Reduce amounts of waste generated by an average of more than 5% compared to FY 2012-2014 (14,226 t/year).		34% reduction
6. Maintain over 90% resource reuse rate of business ICT equipment.		91.6% achievement
7. Reduce total water usage by 1% compared to FY2017.		2.2% reduction
8. Limit the release of chemical pollutants (PRTR) to less than the average of FY 2012-2014 (Target 17.4t/year or less).		6.1 tons
Supply Chain		
9. Reduce CO ₂ emission due to power consumption during product usage by more than 14% (compared to FY2013).		37% reduction
10. Drive activities to reduce CO ₂ emissions and conserve water resources in the upstream supply chain.		<ul style="list-style-type: none"> • Reducing CO₂ emissions: Requests to implement reduction activities were relayed via the Fujitsu Group's key partners (approximately 700 companies) to secondary partners (more than 60,000 companies). • Conserving water resources: Completed requests to the Fujitsu Group's key partners (approximately 700 companies) to undertake activities.
SDGs		
11. Contribute to the achievement of SDGs through ICT services.		Shifted to online presentations and education etc. both internal staff initiatives and external business promotion initiatives, and implemented 39 measures.

Climate Change

External Trends

Cutting GHG Emissions to Ensure a Global Temperature Rise of Less than 2°C

The Paris Agreement, adopted in December 2015, set out a long-term, shared worldwide goal of limiting the average global temperature increase to less than 2°C over pre-Industrial Revolution temperatures (hereafter referred to as the 2°C target), as well as the goal of carbon neutrality (zero real emissions) by the second half of this century. Correspondingly, moves aimed at achieving a decarbonized society have been accelerating on a global scale.

The Task Force on Climate-related Financial Disclosures (TCFD) was established in December 2015 by the Financial Stability Board, which includes participants representing central banks, financial regulatory authorities and finance ministries from major countries. The TCFD requests companies to use climate scenarios such as the 2°C target to evaluate the climate-related risks and opportunities to their business and to assess and disclose the financial impact. Various international initiatives have also been launched, such as Science Based Targets (SBT), which calls for corporate emissions reduction goals designed to meet the 2°C target, and RE100, which calls for companies to source 100% of the electricity they use from renewable energy. Furthermore, CDP(*1), which runs the global disclosure system for investment that takes into account Environmental, Social and Governance (ESG) factors, requests that companies reduce GHG emissions by at least 2.1% year-on-year through voluntary efforts.

*1 CDP:

An international not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage, and share vital environmental information. CDP works with major institutional investors around the world to encourage companies to disclose their impact on the environment and natural resources and to adopt measures that mitigate the impact.

Fujitsu's Position

GHG Reductions are a Critical Issue for the Fujitsu Group

The Fujitsu Group, as an entity with global operations, is fully aware that climate change is a serious worldwide issue that spans national and regional boundaries. For example, disasters triggered by climate change can disrupt procurement, logistics and energy supply networks, which in turn interrupts the process of supplying materials and energy to business sites. Regulations governing GHG emissions have an impact on the development and production of products and services, and any delays in responding to requirements can lead to lost business opportunities.

Since launching the Fujitsu Group Environmental Action Plan, we have treated the reduction of GHG emissions as a critical issue and worked to achieve the defined targets.

Most of the GHG emissions generated by the Fujitsu Group derive from purchased electricity, not from the combustion of oil or gas. Advances in 5G technology will lead to the expansion of cloud computing, IoT and mobile communications, thereby spurring increased power consumption in data centers, and this growing trend is expected to continue. We are therefore focusing on reducing power consumption by conducting energy conservation audits and regular power usage checks in our data centers, as well as in our factories and production lines in Japan and elsewhere.

Approach under the Fujitsu Group Environmental Action Plan (Stage IX)

Focusing on Enhancing Data Center Efficiency and Expanding the Use of Renewable Energy

Fujitsu joined and registered for SBT and RE 100 relatively early compared to other companies in Japan. We specified our medium- to long-term targets with SBT as “to reduce GHG emissions from our business sites by 33% by FY 2030 and 80% by FY 2050 in comparison to FY 2013(*2)”, and with RE100 as “to set a target to source 100% renewable electricity by 2050, with an interim target of 40% by 2030. In the Fujitsu Group Environmental Action Plan (Stage IX), we have set targets and measures based on these medium- to long-term targets.

The Fujitsu Group Environmental Action Plan (Stage IX) stipulates that we will “reduce greenhouse gas (GHG) emission from business sites by more than 14% (compared to FY2013) and reduce GHG emission by 2.1% year-on-year through voluntary efforts”. During the past two years, our voluntary efforts have led to GHG emission reductions in excess of 2.1% over the previous year. However, this improvement is primarily due to gains at specific facilities. To continue this positive trend it is crucial to enhance the power usage effectiveness (PUE) at data centers and to expand the use of renewable energy. In addition to conventional approaches for local cooling using aisle capping, we plan to further reduce power consumption in our data centers by boosting the efficiency of air conditioning equipment through the AI-controlled introduction of external air. Furthermore, we will deploy real-time visualization of the biased heat distribution in our data centers, not only in Japan but also elsewhere, and ensure appropriate heat distribution by optimizing the temperature of air supplied from the air conditioners and by adjusting fan speeds. In terms of renewable energy, Fujitsu intends to boost purchases of renewable energy certificates, after considering relevant regional characteristics and the economic feasibility, and to implement more on-site renewable energy capacity. Use of the Fujitsu Group’s leading-edge technological expertise in areas such as blockchain technology will also contribute to the spread and expansion of renewable energy.

*2 These were SBT certification for 2°C-aligned emissions reduction targets in May 2017. In April 2021, we revised the targets for its business sites in FY 2030 from 33% to 71.4% below FY 2013 levels, and these were successfully validated as 1.5 °C-aligned targets.

Environmental Action Plan

Reducing Greenhouse Gas (GHG) Emissions at Our Business Sites

Our Approach

The Fujitsu Group considers the prevention of global warming an important issue. We have, therefore, formulated our medium- to long-term environmental vision, the FUJITSU Climate and Energy Vision, and aim to eliminate all CO₂ emissions from our business activities by 2050.

Among GHGs, our business sites (plants and offices, as well as datacenters) primarily emit CO₂ when energy (electricity, fuel oil, gas) is used, and perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF₆) and nitrogen trifluoride (NF₃) during the semiconductor manufacturing processes. We will set reduction targets in addition to complying with the relevant laws, and we are striving to reduce and control the volume of use and emission of these gases.

Reducing CO₂ Emitted During Energy Consumption

About 99% of the Fujitsu Group’s total GHG emissions arise from CO₂ emissions due to energy consumption. Therefore, we continuously promote the following energy-saving measures to reduce CO₂ emissions.

- Appropriate operation of equipment, improvement in management, and energy-saving measures focused on motive-power facilities (introduction of free cooling, inverters and energy saving equipment, fuel conversion, etc.)
- Increasing efficiency by reviewing the manufacturing process (innovations in production, development of green production technology)
- Maintaining appropriate room temperature for office air conditioning, saving electricity used in lighting and office automation equipment
- Measuring energy consumption for visualization and promoting use of the data so collected

Reducing Emission of GHGs Other Than CO₂

As for GHGs other than CO₂, the Fujitsu Group mainly uses perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF₆) and nitrogen trifluoride (NF₃) at the semiconductor divisions. We are taking continuous steps to switch to gases with lower global warming potential (GWP) and install equipment to remove harmful gases in our new and existing production lines.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce GHG emissions of our business sites by 14% or more (compared to FY 2013) (*1)	Reduction by 32.7% (*2)
Through our own efforts, reduce GHG emissions by 2.1% or more compared to last FY	Reduction by 2.4%

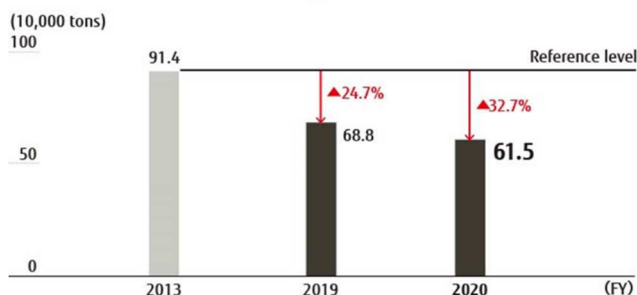
*1 Target organizations: Business sites owned by Fujitsu and the Fujitsu Group. Includes major data centers.

*2 Reduction rate based on market standards

Promoting Reduction in CO₂ Emitted During Energy Consumption

We continue to invest in energy-saving equipment (introduction and upgrade of BAT (*3) equipment, mainly for air conditioning and lighting) and ensure their appropriate operation at the facilities at all business sites. We are also streamlining our production processes, saving electricity used for air conditioning, lighting and automation in offices, making energy consumption visible, and leveraging measurement data.

Environmental Action Plan (Stage IX) GHG Emissions Reductions



For instance, regarding our investment in air conditioners for server room expansions at the Yokohama System Center, by adopting equipment that is highly efficient, we contributed to reducing emissions by 1,548 tons-CO₂ in comparison to conventional air conditioners. We also improved facility operations at the Tatebayashi System Center (1,261 tons-CO₂) by controlling the number of air conditioners, reviewing their operation, suspending operation of pumps and air conditioning devices, and taking other measures. Through our own efforts, we carried out measures to reduce our emissions by roughly

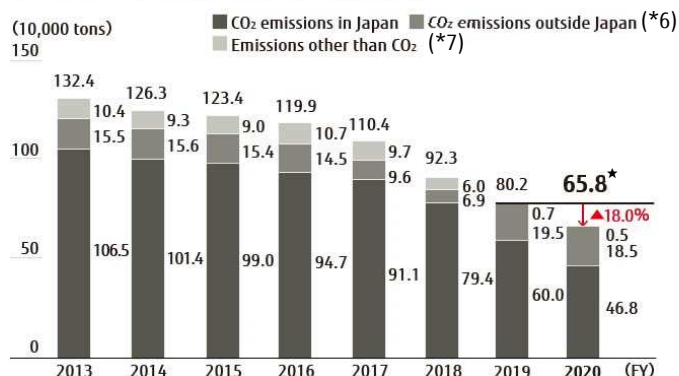
19,000 tons-CO₂ (2.4% in comparison to last fiscal year).

As a result of these initiatives, we reduced our GHG emissions according to market standards in keeping with SBT, which is an objective in the Environmental Action Plan (Stage IX), by 32.7% in comparison to our emissions in FY 2013.

- *3 BAT (Best Available Technologies): Usable state-of-the-art technologies to reduce GHGs.
- *4 Environmental Action Plan (Stage IX) performance values for the reference year (FY 2013) and FY 2020 are the total values for business sites targeted by the Environmental Action Plan (Stage IX).
- *5 CO₂ conversion factors of purchased electricity are market standards in keeping with SBT for both the reference year (FY 2013) and FY 2020 performance values.

Total Emissions of 658 thousand Tons in FY 2020

Trends in Total Greenhouse Gas Emissions



★Indicator assured by third party

Our total GHG emissions in FY 2020 were 658 thousand tons-CO₂* (output level per sales amount: 18.2 tons-CO₂/100 million yen). They increased overseas due to boundary changes (additions of DC with management authority), but decreased by 18.0% in comparison to FY 2019 for reasons such as the business transfer of our semiconductor division.

- *6 CO₂ emissions in Japan and overseas: The CO₂ conversion factor for purchased electric power in performance reports has been calculated with a fixed value of:
In Japan - 0.570 tons-CO₂/MWh from FY 2013 to FY 2015, 0.534 tons-CO₂/MWh for FY 2016, 0.518 tons-CO₂/MWh for FY 2017, 0.497 tons-CO₂/MWh for FY 2018, 0.461 tons-CO₂/MWh for 2019, and 0.444 tons-CO₂/MWh for FY 2020
Overseas - Same coefficients as those used in Japan from FY 2013 to FY 2018, and the latest IEA values (by country) for the relevant FY from FY 2019 onwards
- *7 Emissions other than CO₂: These are converted to equivalent amounts of CO₂ using the global warming potential (GWP) for each gas.

- Case Studies

<https://www.fujitsu.com/global/about/environment/ghg/case-studies/>

Environmental Action Plan

Improve Power Usage Effectiveness (PUE) at Our Data Centers

Our Approach

Energy consumption in data centers is on the rise, due to factors such as the spread of cloud computing, and society is paying greater attention to the environmental performance of data centers.

Data centers account for approximately 40% of the CO₂ emissions (FY 2020) for each business in the Fujitsu Group. Since data center CO₂ emissions are expected to continue increasing along with the expansion of digitalization, the Fujitsu Group has a social responsibility to promote environmentally friendly data centers. At the same time, in terms of enhancing our business infrastructure, it has also become an important topic that we should work on from a long-term perspective.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Improve PUE (*1) at data centers by 2% or more. (Compared to FY 2017)	PUE 1.56 - Improvement of 2.0%

*1 PUE(Power Usage Effectiveness):

An index for power usage effectiveness at data centers. Expresses overall power consumption at data centers as a value divided by the power consumption of servers and other ICT devices. The closer the number is to 1.0, the greater the efficiency.

Promoting Activities to Achieve Our Goals

We are moving forward with activities to improve PUE at data centers in Japan and around the world, based on the Fujitsu Group Environmental Action Plan.

Continuing from last year, some of our activities were restricted in FY 2020 due to the impact of the global spread of COVID-19, but overall, we carried out updates to air conditioning equipment and implemented extensive energy saving, and we were able to achieve our goals for FY 2020. Mainly, we are attempting to reduce air conditioning power usage by striking a proper balance between the amount of heat generated by IT equipment and cooling capacity. In terms of cooling capacity, we check and evaluate whether the air conditioning equipment is performing according to its specifications, review the air conditioning controls, and improve the coolant functions. In FY 2019, we achieved a 90% implementation rate for nine operational improvement measures in total (measures to prevent hot spots and improved airflow, among others), and the impact of that maintenance also contributed greatly to achieving our goals. Furthermore, we are also working to expand our use of renewable energy, with the aim of achieving RE100 (*2) in tandem with our energy conservation activities, and we announced in February 2020 that we would operate 100% of the "FJcloud" with renewable energy by FY 2022.

*2 RE100:

An international initiative which aims for 100% of power usage to be derived from renewable energy. The Climate Group, an NGO, operates the RE100 in partnership with the CDP.

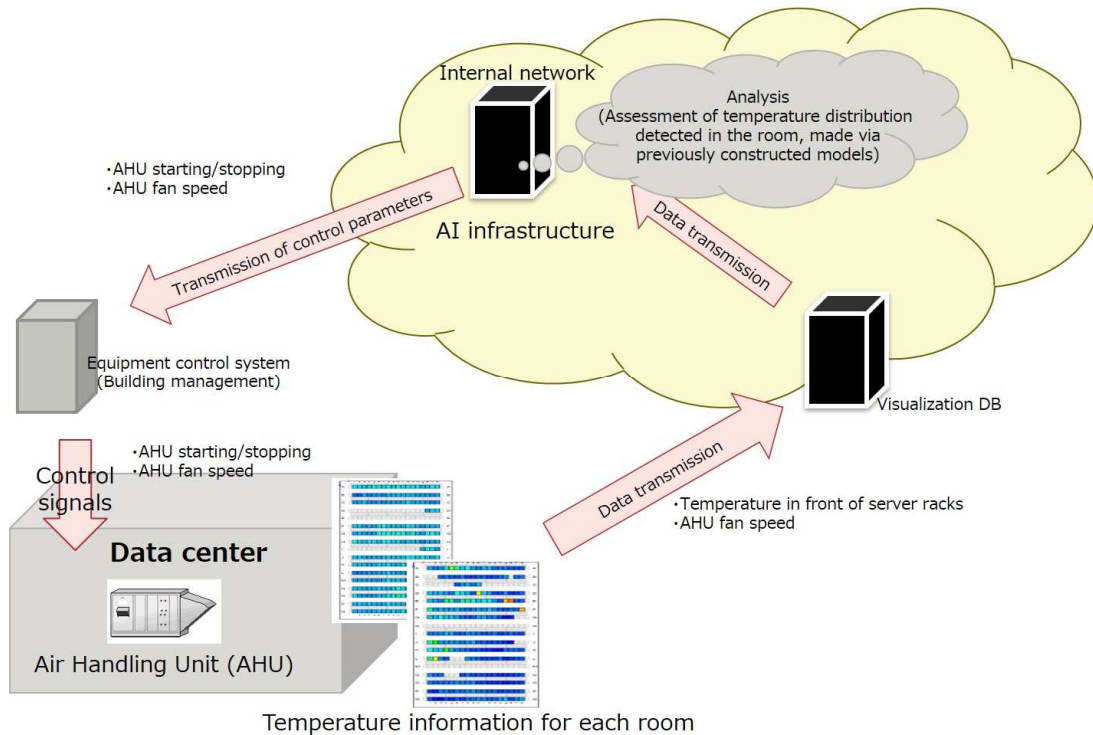
PUE values and calculation methods

PUE Value	PUE calculation method, other
Range: 1.35 to 2.10 No. of data centers: 25	<ul style="list-style-type: none"> Apply the Green Grid Work to implement improvements using DCMM DCMM: Data Center Maturity Model

Examples of Initiatives in FY 2020

Making Energy Use for Cooling More Efficient Through AI-Controlled Air Conditioning

We began full-scale operations in the first half of FY 2019 at one major data center in Japan, and have covered approximately 60% of all server rooms by AI controls. We reduced the overall energy used for air conditioning by 15-20%, and we plan to continue the rollout to include other data centers in FY 2021.



Promoting Improvements through Better Information Sharing with Overseas Data Centers

In order to coordinate our PUE improvement activities with overseas data centers and further enhance our activities, we are striving to share information via the company intranet and conducting regular meetings remotely. We are planning to take the methods for assessing improvement effects and the knowledge gained at each location, and share that information with data centers across the entire Fujitsu Group, so that improvement activities will progress more smoothly in the future.

- Case studies
<https://www.fujitsu.com/global/about/environment/pue/case-studies/>

Environmental Action Plan

Expand the Use of Renewable Energy

Our Approach

The popularization and widespread use of renewable energy is becoming increasingly necessary as a way of addressing global warming, securing stable energy supplies through the diversification of our energy sources, and as an energy-based foundation for economic growth.

The Fujitsu Group has established an environmental vision aimed at realizing a decarbonized society. The main pillars for this vision are a dedication to energy conservation, and the active implementation of renewable energy. To achieve this vision, we have set quantitative targets under the Environmental Action Plan, and are actively promoting the introduction and installation of solar power generation equipment at our business sites, as well as the purchase, use, and expansion of green power (electric power generated through 100% renewable energy).

FY 2020 Performance

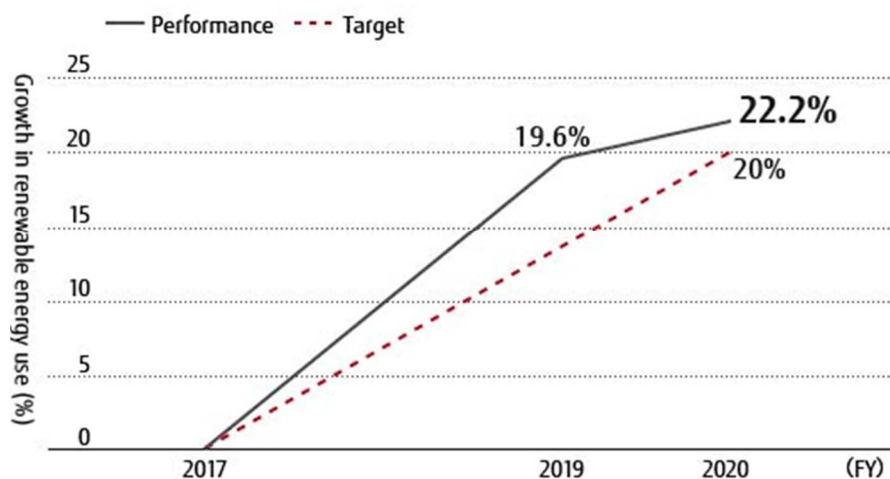
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Expand the amount of renewable energy used by 20% or more in comparison to FY 2017	Renewable energy use grew by 22.2%

Environmental Action Plan (Stage IX) Initiatives

With the aim of achieving the Fujitsu Group’s medium-term environmental goal of “using more than 40% renewable energy in FY 2030), we set a FY 2020 target under the Fujitsu Group Environmental Action Plan (Stage IX) of expanding the amount of renewable energy we use by 20% or more in comparison to FY 2017. In FY 2020, through the purchase of green power and power generation through solar panels, our renewable energy use grew by 22.2% in comparison to FY 2017.

We will continue to work toward the implementation of renewable energy in both our domestic and overseas business offices, in order to further our purchase and usage of renewable energy.

Change in Growth of Renewable Energy Use



Renewable Energy Procurement Principle

Mandatory Requirement

- Renewable energy that can be reported through RE 100 activities
 - Power sources are Solar, Wind-power, Geothermal, Biogas, Small-hydro etc.
 - Environmental value (renewable attribute) can be pursued and verified
 - No double counting of environmental value
Ex.) Amortization of environmental value of renewable energy, to be executed through the system of public agency

Recommended Requirement

- The electric power, in which power consumption to be combined with environmental value
 - The electric power, in which grid power and environmental value certification to be one set (The renewable energy to be generated in the same grid)
 - Power balancing to be managed. In time of emergence, minimum gap of power consumption and environmental value to be generated (within one year etc.)
- To select the renewable energy, by which we can contribute to local society
 - For example, by selecting the renewable energy in the same area as grid consumption, we can make “Local generation for local consumption” possible.
Or to support the power generation company which makes effort to enlarge renewable energy power
- To procure the power from relatively new sites, in order to contribute the enlargement of renewable energy (Additionality)
 - To promote new project conjuncture, then to procure the power from it, we can contribute to increase the capacity of renewable energy of whole society
- To procure from the power generation site which was developed and constructed with the agreement of local society
 - To avoid making significant impact to the environment or society in which the power generation site is located

Examples of Initiatives in FY 2020

Introduction of Green Power

At Fujitsu, from FY 2020, we switched approximately 3 GWh of the electric power used at three system laboratories—in Aomori, Kumamoto, and Oita—to 100% renewable energy.



Aomori system laboratory

- Case Studies
<https://www.fujitsu.com/global/about/environment/renewable-energy/case-studies/>

Resource Circulation

External Trends

Strengthening Global Resource Circulation

Goal 12 of the Sustainable Development Goals (SDGs), adopted by the United Nations in September 2015, is 'Responsible consumption and production'. The actions urged to meet this goal include the efficient use of natural resources, the appropriate management of chemical substances and waste products throughout the entire product life cycle, and a significant reduction in the volume of pollutants emitted into the air, water, and soil. In December 2015, the European Union (EU) adopted its first Circular Economy Package, which included measures to boost the sustainable use of resources and recycling as well as to stimulate job creation. This was the start of an ongoing EU program of specific policies and actions aimed at reducing environmental impact while also achieving economic growth. Given the global shift from a linear economic system to a circular one, there are expectations that companies will accelerate and broaden their efforts in resource circulation.

The Problem of Plastic Waste

According to a 2018 OECD report, the volume of plastic waste generated globally jumped six-fold between 1980 and 2015 – from about 50 million tons to about 300 million tons – and the increase in plastic use and improper disposal were highlighted as having a serious impact on the environment. It has become widely recognized in recent years that a global response is needed to deal with the problem of marine pollution caused by plastic waste dumped at sea, and countermeasures are being taken. China and various other countries previously accepted plastic waste as a resource but are now imposing import bans or restrictions. These moves have triggered business risks, such as rising treatment costs and difficulties in securing partners to process plastic waste.

Fujitsu's Position

Aiming for Resource Circulation

The Fujitsu Group has a long-standing commitment to the "three R's" (reduce, reuse, recycle) relating to plastics and other resources. We are continuing to promote the use of recycled plastics in our ICT products, switch from plastic to cardboard packaging materials, and reduce the number of components used in our products while making them smaller, thinner, and lighter. Another focus for Fujitsu is the recycling of resources from used ICT products and from waste generated at business sites. Changes in our business model are resulting in reduced volumes of waste, but we will bolster our efforts to further limit waste and recycle resources in order to make a stronger contribution to a society oriented toward resource circulation.

Approach under the Fujitsu Group Environmental Action Plan (Stage IX)

Focusing on Plastic Waste and Contributing to Resource Circulation

Reducing the volume of plastic waste, which accounts for approximately 20% of the total waste generated by the Fujitsu Group, is a key focus in the Fujitsu Group Environmental Action Plan (Stage IX). We plan to promote material recycling and reuse activities involving our suppliers, primarily by targeting plastic packaging materials used with purchased components.

We will further reduce the amount of non-plastic waste that is generated and continue to conserve and recycle the resources used in products. To ensure continuing improvements, the Fujitsu Group will also strictly control the volumes of water and chemical substances both used and emitted, which are environmental issues that companies must address on an ongoing basis.

Environmental Action Plan

Improving the Resource Efficiency and Resource Circulation of Products

Our Approach

As risks that threaten the sustainability of society and companies continue to rise, such as environmental destruction due to resource depletion and excessive mining, major fluctuations in resource costs around the world, and concerns about the supply of rare metals, the European Commission (EC) has established a new Circular Economy Action Plan (2.0) as a growth strategic pillar of the European Green Deal, and is moving forward with measures to accelerate further implementation of resource efficiency into society. For example, the EC has proposed the Circular Electronics Initiative as a priority area, as well as maintenance for the eco design directive, and is promoting a circular economy through the entire life cycle of products. This is a growing trend all over the world. We believe that from the perspective of recycling resources, it is important for us to make efficient use of the resources in the ICT products that we provide to customers. We have engaged in a 3R design that draws on the principles of reduce, reuse, and recycle, and have developed our products with technology that is effective in reducing the amount of resources we use. We are also making efforts to improve resource efficiency and reduce our environmental burden by designing products to be lighter and smaller, using recycled plastics, reducing the number of parts, enhancing ease of disassembly, and improving recyclability. Our goal is to offer such products so that they provide even the customer with benefits, whether it be by making these products smaller, more lightweight, or designing them so they take up less space.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Promote eco design for resource saving and circulation, and increase resource efficiency of newly developed products by 20% or more (compared to FY 2014).	Improved by 27.5%

Improving the Resource Efficiency of New Products

In FY 2012, the Fujitsu Group created its own definition of resource efficiency, as the Group had previously not had a system that could comprehensively and quantitatively evaluate improvements in resource efficiency, and due to the fact that there were as of yet no public indices that could measure resource efficiency.

In FY 2020, we continued to use our indicators to evaluate products newly developed by Fujitsu, and worked to reduce product part quantities and reduce product size through smaller, thinner, and lighter parts and higher-density mountings.

Achieved 27.5% Improvement in Resource Efficiency

By reducing the size and weight of our servers, PCs, network devices, and imaging devices, we were able to achieve an improvement in resource efficiency of 27.5%, against the 25% target value we set for FY 2020 in the Fujitsu Environmental Action Plan.

Working Toward Our Targets

To achieve the targets set in the Fujitsu Group Environmental Action Plan, Fujitsu will continue current initiatives, while expanding development of new lightweight, rigid materials and the use of recycled materials. We will also widely publicize the eco-friendliness of our products in order to expand sales.

Reference Information

Definition and Calculation of Resource Efficiency

Resource efficiency is evaluated by dividing the value of a production, by the environmental burden (in terms of use and disposal) of the elements (resources) comprising the products.

$$\text{Resource efficiency} = \frac{\text{Product value}}{\begin{matrix} \text{Environmental burden} \\ \text{from resource usage} \\ \parallel \\ \Sigma (\text{Resource burden coefficient} \\ \times \text{Resource usage volume}) \end{matrix} + \begin{matrix} \text{Environmental burden} \\ \text{from resource disposal} \\ \parallel \\ \Sigma (\text{Resource burden coefficient} \\ \times \text{Resource disposal volume}) \end{matrix}}$$

Definition of Each Item

Product value	To place emphasis on the valuation of reduction in environmental burden due to resource usage and disposal, product value is limited to those that related to resource usage and is set on a per-product basis. (Example of factor not considered: CPU performance improvements)
Resource burden coefficient	Environmental burden weighting coefficient that is specific to a particular resource and considers factors like exhaustibility, scarcity, and environmental impact from mining and disposal. Activities will begin with this figure set to a value of "1" for all resources.
Resource usage volume	Mass of each resource used in the product (excluding the mass of recycled plastic used).
Resource disposal volume	Mass of each resource disposed of (not reused) in connection with a post-use product (design value). Activities will begin with this figure set to a value of "0".

Examples of Initiatives in FY 2020

The LIFEBOOK U7511/G Laptop, Which Strikes a Balance between Convenience for Mobile Workers and Resource Efficiency

The LIFEBOOK U7511/G is a laptop aimed at mobile workers. Weighing in at a light 1.32 kg(*1), and its 15.6-inch liquid crystal display is easy to work with. This makes it possible for the laptop to have the lightness needed by mobile workers, while also improving work productivity. Furthermore, to go along with the implementation of a BIOS tampering check and self-recovery functions, a fingerprint sensor, palm vein sensor, and smart card slot can be installed to provide optimal security measures in response to the usage environment and the kind of work. In terms of environmental friendliness, the installation of an Intel® Core™ i5 processor (Tiger Lake), a narrow-frame design that reduces the size of the case, and the use of recycled plastic for some parts of the case have achieved resource efficiency of 26.1%, while improving the laptop's functions in comparison to conventional models. Additionally, by designing the model with energy conservation in mind, we have achieved compliance with the International Energy Star Program, as well as "AA" energy consumption efficiency (FY2022 standard) based on the Energy Conservation Act.



LIFEBOOK U7511/G

In addition to this, ScanSnap iX1600/1400, the personal document scanner targeted at individuals, has adopted recycled plastic materials made from recovered PET bottles for product parts. Thus, we have been contributing to lessening our environmental impact also in terms of parts.

*1 Product weight is the weight (average value) with a standard battery installed.

- Case studies

<https://www.fujitsu.com/global/about/environment/energy-efficiency/case-studies/>

Environmental Action Plan

Limiting the Amount of Waste Generated

Our Approach

The Fujitsu Group considers wastes as valuable resources and has continued to work toward recovering resources from its waste or using the waste as a source of energy. In Japan, our volume of final waste disposal has been decreasing every year. However, the environment surrounding waste disposal remains challenging as building new disposal sites is difficult and the existing ones have limited lifespans.

We are actively working to install new equipment and reuse waste with the objective to reduce the amounts of waste acid, waste alkali and sludge generated in the production of semiconductors and printed circuit boards. These efforts are in line with Japan's Fundamental Law for Establishing a Sound Material-Cycle Society to (1) reduce waste generated, (2) reuse it, (3) recycle it and (4) recover heat from it.

We have also established the company-wide Standards for Consignment of Waste Disposal to properly dispose of waste, based on the Waste Management and Public Cleansing Law.

On-site Audits for Outsourcing Contractors

We conclude contracts with waste processing companies. These contracts are common for the whole Fujitsu Group. We conduct on-site audits of the waste processing companies with which we have contracts to periodically confirm that waste is being appropriately processed. If multiple business sites have contracts with the same processing company, then a representative business site conducts on-site audits based on the representative auditing regulations. In other cases, each business site individually conducts audits to confirm that waste processing is appropriate.

FY 2020 Performance

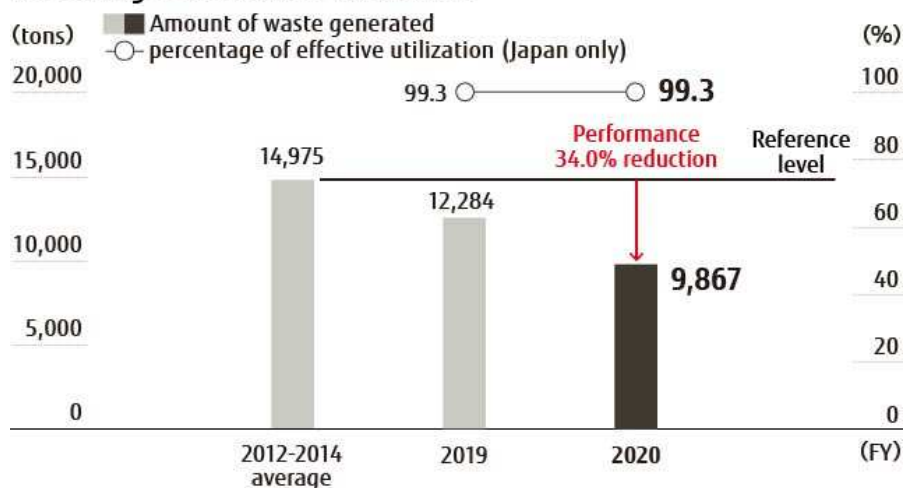
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce the amount of waste generated by 5% or more of the average amount generated from FY 2012 to FY 2014 (Target 14,226 t/year or less) (*1)	34% reduction

*1 Target organizations: Fujitsu and Fujitsu Group manufacturing sites

Promoting Measures to Reduce Waste Generation and Plastic Waste

Starting in January 2020, Fujitsu I-Network Systems Ltd. has taken parts reels, which had previously been waste material, and converted them into valuable resources. By doing so, it was able to reduce the amount of waste it generated by 7.6 tons in FY 2020. In addition, as a new measure to reduce the amount of waste plastic we generate at our Oyama Plant, starting in FY 2020, we began collaborating with external reuse companies to partially reuse the IC trays that are used when procured parts are delivered, and were able to reduce the amount generated by 10.7 tons. As a result of these initiatives, we could achieve our target by reducing the amount of waste we generate to 9,867 tons (basic unit per sales amount: 0.27 tons/100 million yen).

Changes to the Amount of Waste Generated and Percentage of Effective Utilization



Breakdown of Waste Generated, Effective Use, and Final Disposal (in tons)

Type of Waste	Waste Generated	Effective Use	Final Disposal
Sludge	1,275	1,185	90
Waste oil	1,021	1,010	12
Waste acid	1,055	1,052	3
Waste alkali	1,653	1,576	77
Waste plastic	2,177	2,130	47
Waste wood	463	429	35
Waste metal	628	628	0
Glass/ceramic waste	228	225	3
Other(*2)	1,367	1,234	133
Total	9,867	9,467	399

*2 Other includes general waste, wastepaper, septic tank sludge, cinders, rubble, textile waste, animal and plant residue, and infectious waste.

Environmental Action Plan

Product Recycling

Our Approach

The Fujitsu Group's product recycling programs are based on Extended Producer Responsibility (EPR) and Individual Producer Responsibility (IPR). EPR holds that producers bear responsibility for products, from design and manufacturing to disposal and recycling. IPR holds that producers bear responsibility for their own products. IPR in particular has been a major challenge for the Fujitsu Group as we expand our business globally. However, we believe that responding to this challenge, and that of EPR, in collaboration with industry associations and governments, will allow us to help create a recycling-minded society that meets the requirements and demands of all stakeholders.

The Fujitsu Group thus carries out recycling programs that comply with the laws and regulations of the various countries in which it operates.

In Japan, Fujitsu is certified under the Industrial Waste National Permit System, which is based on the Act on the Promotion of Effective Utilization of Resources, and as such, accepts industrial waste and puts them through appropriate processing at Fujitsu recycling centers across Japan. We also try to do as much collection, reuse, and recycling as we can, even in countries where recycling is not obligatory.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Maintain over 90% resource reuse rate for business ICT equipment at Fujitsu recycling centers.	Achieved a 91.6% resource reuse rate.

Promoting Recycling of ICT Products

The Fujitsu Group has built a recycling system that covers the entire country of Japan. We have worked steadily to implement Extended Producer Responsibility, providing safe and secure services with high resource reuse rates in order to promote the recycling of ICT products. We have, at the same time, also ensured thorough traceability and security of these processes.

Achieved a 90% or Higher Reuse Rate

We processed 2,991 tons of recycled ICT products (used ICT products for business applications) from corporate customers in Japan, and achieved a resource reuse rate of 91.6%. We have now also collected a total of 67,185 end-of-life PCs from individual customers.

Changes in Resource Reuse Rates of End-of-Life Business ICT Products (Japan)

FY	2017	2018	2019	2020
Resource reuse rate(*1)(%)	91.5	91.7	91.1	91.6
Amount processed (tons)	3,844	3,436	3,210	2,991

*1 Weight percent ratio of recycled parts and materials to end-of-life products.

Changes in Numbers of End-of-Life PCs Collected from Individual Customers (Japan)

FY	2017	2018	2019	2020
End-of-life PCs collected (units)	59,144	53,481	58,560	67,185

Examples of Initiatives in FY 2020

Helping build a sustainable future in the UK: Collaborative recycling projects with Heathrow Airport

Fujitsu UK worked collaboratively with Heathrow Airport on two significant projects to help build a more sustainable future and help update Heathrow’s environmental standards. Together Fujitsu and Heathrow removed and recycled 24,250kg of fiber cabling. By updating the existing fiber standards to new Glass Reinforced Polymer (GRP) fiber cabling, this decreased the environmental impact of manufacturing Steel Wired Armoured (SWA) Cable, and also reduced chemical impact deployed at Heathrow. Supporting the Development and drive of sustainable water treatment, the Eastern Balancing Reservoir Project installed the longest single runs of new sustainable and non-toxic fiber cable across the airfield. The non-stop fiber replaced 10km of legacy copper cabling, of which all 11,354kg was then recycled.



The circular nature of these collaborations generated a sum for the Heathrow Community Fund of £15,318. This gave enough funding for 6 community projects. As an example, the ‘Digital Inclusion’ project trained adults with learning disabilities in how to use computers and provided work experience within their community shop. This project also refurbished unwanted computers, taught the clients how to sell them online to make a profit, which then helps the scheme to continue.

Other community projects included The Older people’s festival which funded 9 new raised beds for elderly gardeners, The good company Café, Change R&R and Feltham in Bloom were all assisted from the money generated from recycling the fiber and copper cables.



Computer training through the ‘Digital Inclusion’ project



Presentation of the Heathrow Community fund by CEO John Holland-Kaye (far left) and Stuart Birrell CIO (far right)

“I also love the ‘circular’ nature of the collaboration – replacing old, unwanted IT infrastructure generates income to fund training for adults with learning disabilities in skills which enables them to recycle and sell old unwanted computers, and hence get into employment . The project really demonstrates the huge improvement in local communities that can be made by just pausing at

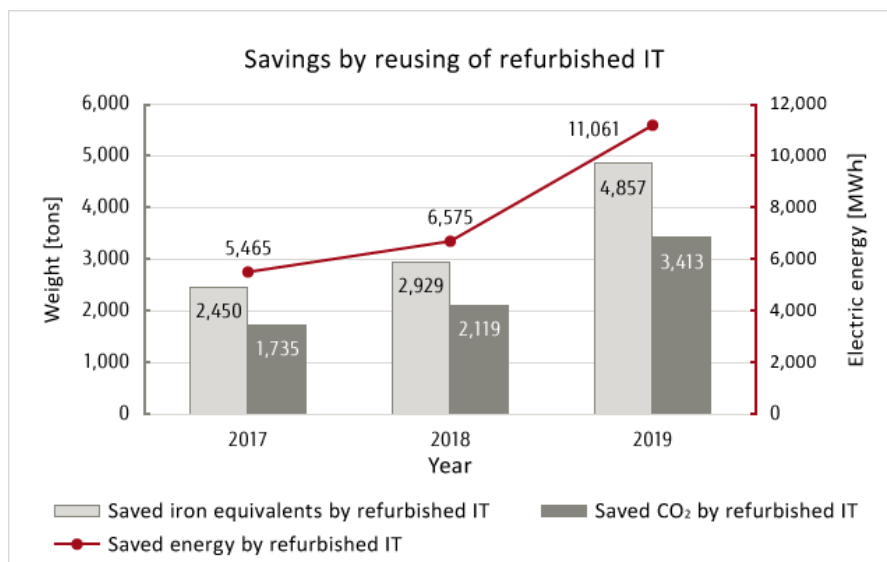
the start of a piece of work and thinking 'right, how can I maximize the benefit of this project.'

Quote from HCT Director Dr Rebecca Bowden

Refurbishment(*2) and Remarketing of old IT equipment in Germany

With 20-years of recycling experience Fujitsu Technology Solutions (FTS) in Germany has a recovery rate of more than 90% with its take-back products, considerably more than the 75% in the legal direction. FTS have set ambitious KPIs for Refurbishment and Remarketing of old IT equipment inline with Fujitsu's Global environment. Our commitments looks further to collaborate with diverse companies that positively impact society. FTS have an agreement with a refurbishment and recycling partner "AfB – Arbeit für Behinderte – Work for disabled people". AfB is a large non-profit IT company, specialised in the extension of product lifecycles of used IT and mobile devices through high-quality refurbishment and remarketing. They offer multi-faceted jobs for people with and without disabilities. All of their work steps are designed barrier-free, promoting people's potential and helping them realize their professional and personal goals with an optimum work-life balance. Throughout our partnership with AfB, Fujitsu have sponsored 63 jobs for people with disabilities over 2019 have contributed to saving 4,856,647 kg of iron equivalent resources and 3,413,304 kg of CO₂ equivalents. 82 % of the devices collected from Fujitsu could be remarketed following data destruction, hardware testing and refurbishment.

*2 Refurbishment means that the manufacturer replaces deteriorated parts such as initial defects and used products and refurbishes them to make them look like new products. This is recommended as a resource utilization model in the circular economy.



- Case studies
<https://www.fujitsu.com/global/about/environment/recycle/case-studies/>

Environmental Action Plan

Reducing the Amount of Water Used

Our Approach

The risk of a global water shortage is on the rise, due to such factors as climate change, the destruction of forests, and the economic growth and population boom in emerging and developing countries. Such a water shortage is a risk for companies as well, since it may very well affect the survival of their businesses. As such, it is important for us to recycle and reduce the amount of water we use.

Since the Fujitsu Group uses particularly large amounts of water in the manufacture of semiconductors and printed circuit boards, we believe it is necessary to reduce our water consumption in these areas especially. In addition to our general water conservation efforts, we have also worked to reuse and recirculate water, through methods such as pure water recycling and the reuse of rainwater. We are continuing our efforts to effectively use water resources in the Environmental Action Plan (Stage IX).

FY 2020 Performance

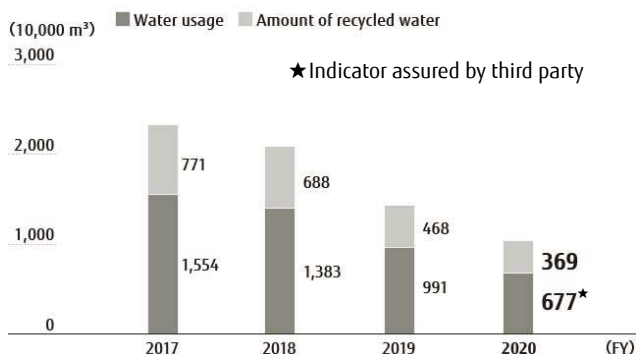
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce water consumption by 1% in total, compared to FY 2017 (83,000 m ³).(*1)	2.2% reduction compared to FY 2017 (180,000 m ³ reduction)

*1 Target organizations: Japan; Fujitsu and Fujitsu Group offices (excluding data centers) Overseas; Fujitsu and Fujitsu Group manufacturing sites

The policies we established in FY 2020 to reduce water usage include reducing the amount of water used in coating and cleaning processes, reviewing our water supply and wastewater through actions such as optimizing the water supply for our scrubbers, and reducing the amount of water supplied by introducing high-efficiency compressors, were implemented at each business site, plant, etc., so that we could make more efficient use of our water resources. As a result, we reduced our water use by 180,000 m³ for the last year, and achieved 217% of the target value of 83,000 m³ which was set in the Fujitsu Group Environmental Action Plan (Stage IX).

6.77 million m³ of Water Used in FY 2020 (A 31.7% Reduction Compared to the Previous Fiscal Year)

Trends in Water Usage and Amounts of Recycled Water



The total amount of water we used in FY 2020 was 6.77 million m³* (output level per sales amount: 188.6 m³/100 million yen), a 31.7% reduction compared to FY 2019. 3.69 million m³ of that usage was recycled water, which was a reduction of 21.2% in comparison to FY 2019. Since there was a decrease in the total amount of water we used, recycled water comprised 54.5% of our total water usage a 7.2%pt increase from FY 2019.

★Indicator assured by third party

- Case Studies

<https://www.fujitsu.com/global/about/environment/water-use/case-studies/>

Environmental Action Plan

Limiting Chemical Substances Emissions

Our Approach

Here at the Fujitsu Group, we manage approximately 1,300 types of chemical substances, in order to prevent the risks associated with the use of toxic chemical substances (health issues, pollution of the natural environment, etc.).

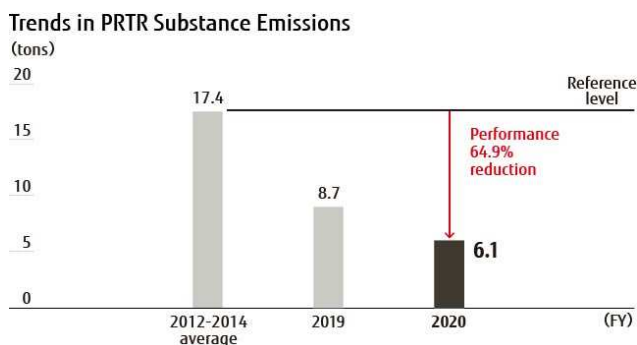
We operate a chemical information system called "FACE," which we use to register and monitor chemicals at every site, manage Safety Data Sheet (SDS), control income and expenditures using purchasing data and inventory data, and boost our level of management and efficiency with respect to chemical usage.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce chemical pollutant (PRTR) release to less than the average level of FY 2012-2014 (17.4 t/year or less). (*1)	PRTR: 6.1 tons

*1 Target organizations: Fujitsu and Fujitsu Group manufacturing sites
 *The sites that handle less than 100 kg of chemical substances per year are excluded.

Achieved Ongoing PRTR Substance Emission Target



In FY 2020, we were able to limit our Group-wide chemical substance (PRTR) emissions to 6.1 tons, which is under the reference value set in the Environmental Action Plan (Stage IX).

Supply Chain

External Trends

Growing Calls for Activities and Reporting across the Entire Supply Chain

Traditionally, companies have been held responsible for measuring and reducing their greenhouse gas (GHG) emissions in two broad areas: Scope 1 (direct emissions: from company factories, offices, etc.) and Scope 2 (indirect emissions at energy sources: from energy consumed by the company, such as electricity). Following the establishment of these standards, the basis of measurement expanded to include Scope 3 (other indirect emissions). This category encompasses all upstream and downstream business activities, such as the procurement, transportation, and usage of products and services. As a result, GHG emission reductions are now expected across the entire supply chain. It is becoming an increasingly common requirement to identify and disclose GHG emissions throughout the supply chain when conducting ESG evaluations for companies and when processing procurement orders for governments and public agencies.

In addition, the TCFD recommendations(*1) call for measures to be taken against risks such as torrential rain and floods triggered by extreme and abnormal weather related to climate change. There are also growing calls to respond to and disclose potential risks faced not only by companies themselves but also by partners in their upstream supply chains.

*1 The Task Force on Climate-related Financial Disclosures (TCFD) issued a Recommendations Report in June 2017. The Financial Stability Board established the TCFD at the request of the Group of Twenty (G20) to reduce the risk of financial market instability linked to climate change. The report includes recommendations for companies and organizations to voluntarily identify and disclose information related to risks and opportunities posed by climate change.

Fujitsu's Position

Management of the Upstream and Downstream Supply Chain is Critical

When considering the lifecycle of Fujitsu's business activities, approximately 90% of the Fujitsu Group's total GHG emissions are accounted for under Scope 3. Within Scope 3, the major sources of emissions are "purchased goods and services" and "use of sold products". These two categories make up around 90% of our Scope 3 emissions, so we set medium- to long-term SBT targets to focus on reductions in these two key areas. In dealing with upstream supply chains, Fujitsu is not only concerned with reducing CO₂ emissions but also investigates the implementation status of water risk assessments by partners, from the viewpoint of business continuity planning. If floods or water shortages impact a partner who manufactures materials or components, it is possible that costs could increase while replacements are sourced, sales opportunities could be lost, and so on. In terms of downstream supply chains, global data traffic is continuing to increase, with the volume forecast to roughly double from 2018 to 2021, according to the 2019 edition of an annual information and communications white paper published by Japan's Ministry of Internal Affairs and Communications (MIC). In the face of growing demand for data communications, we believe it is critical to develop products with even higher levels of energy efficiency.

Approach under the Fujitsu Group Environmental Action Plan (Stage IX)

Promoting Reduction of CO₂ Emissions and Conservation of Water Resources in the Supply Chain

In the Fujitsu Group Environmental Action Plan (Stage IX), we set a target to drive activities to reduce CO₂ emissions and conserve water resources in the upstream supply chain. Regarding reductions in CO₂ emissions, we have boosted our efforts to encourage not only our primary partners, but also our secondary partners through those primary partners, to undertake activities to cut their emissions. Furthermore, we intend to support our partners' emission reduction activities by providing advice on energy conservation and direct assistance based on our own experience in this field. As for challenges regarding water, we believe that appropriate measures are necessary to respond to the specific water risk situations of our partners, and we will work with them to assess and analyze water-related risks. In addition to our in-house initiatives, in FY 2018 we started collecting information and encouraging our partners to reduce CO₂ emissions, mitigate water-related risks, and cut water usage volumes through the internationally standardized methodology of the CDP Supply Chain Program(*2). To address issues in the downstream supply chain, we will pursue the development of advanced energy-saving technologies to create products with lower power consumption requirements than in the past.

*2 CDP Supply Chain Program: One element of CDP's services, this program requests companies and government-designated suppliers to respond to a questionnaire on environmental impacts in three areas – climate change countermeasures, water resource conservation, and forest preservation – and feedback is provided on the results.

Fujitsu Group received the "A" in the "Supplier Engagement Rating" from the CDP

The Fujitsu Group received the highest grade of A in the "Supplier Engagement Rating (SER)" from the CDP, an international NGO that conducts environmental information surveys and discloses information, and was certified as a "Supplier Engagement Leader Board". The assessment will be conducted with more than 5,640 companies and organizations worldwide that have responded to the CDP's Climate Change Questionnaire from the perspectives of "supply chain engagement", "Calculation of scope 3 emissions" and "Governance". In 2020, only 396 companies (top 7% of companies) received an A rating.



Environmental Action Plan

Reduction of CO₂ Emissions by Reducing Power Consumption When Using Products

Our Approach

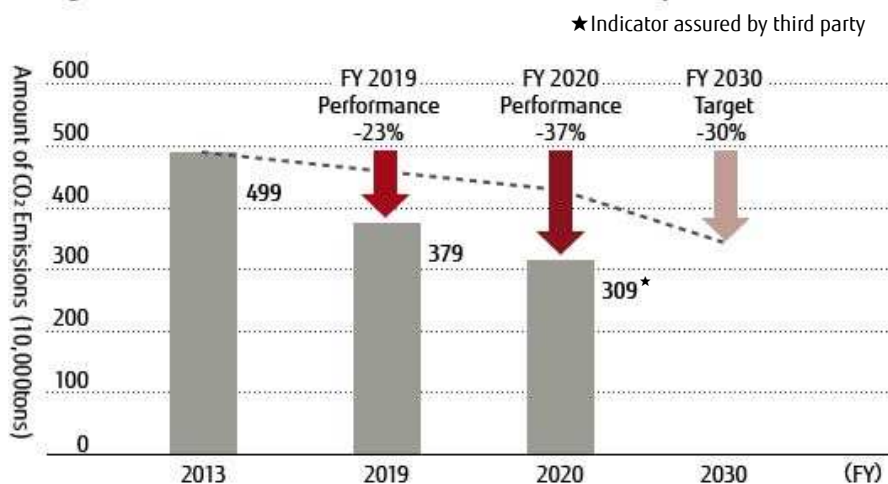
As ICT grows more and more common, we expect there to be an increase in energy demand in proportion to the higher performance and higher-density integration of servers and other ICT products. Various countries and regions are also expanding their energy-related regulations for ICT products, and energy efficiency is taking on increasing social importance as a factor in energy label conformance and green procurement requirements.

Here at the Fujitsu Group, we believe that we should work to improve the energy performance of our products during their use, in order to reduce GHG emissions. As such, we will actively implement energy-saving technologies and continue working to further improve the energy efficiency of products. Through these efforts, we will work to promote the development of products that contribute to reduced power consumption when in use.

FY 2020 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce CO ₂ emissions due to product power consumption by 14% or more in comparison to FY 2013.	Reduced by 37%

Change in CO₂ Emissions Due to Product Power Consumption



Fujitsu Group Environmental Action Plan (Stage IX) Initiatives

Based on the Fujitsu Group’s medium-term environmental goal of “reducing CO₂ emissions due to product power consumption in FY 2030 by 30% or more in comparison to FY 2013,” we set a target in the Fujitsu Group Environmental Action Plan (Stage IX) to reduce CO₂ emissions due to product power consumption by 14% or more in comparison to FY 2013 in FY 2020, as a transitional year. To achieve this target, each business unit goals to improve the energy efficiency of products that were expected to be developed in FY 2019 and FY 2020, then worked to meet them. Applications of energy-saving technologies include new, high-

efficiency microprocessors and power supplies, energy-saving displays, optimized energy-saving controls, and the strengthening of power management features. In addition to these, we are actively pushing for the aggregation of LSIs, reductions in the numbers of components, and the implementation of eco-friendly devices.

Attained a 37% Reduction in CO₂ Emissions in Comparison to FY 2013

In FY 2020, as a result of applying and expanding energy-saving technologies in our servers, PCs, network devices, and imaging devices, we were able to attain a 37% reduction in CO₂ emissions in comparison to FY 2013.

Working Toward Our Targets

In order to achieve the targets set in the Fujitsu Group Environmental Action Plan (Stage IX), each unit will work to further develop products with improved energy efficiency. We will also implement advanced energy-saving technologies and expand their application to our products, as part of our cross-Group policy to improve energy efficiency.

Looking toward the future, we aim to push the development of advanced eco-friendly devices, which will contribute to revolutionary improvements in energy efficiency, and aim for the products to be applied at an early stage.

Examples of Initiatives in FY 2020

Development of FRAM That Makes Maximum Memory Capacity and Industry-Leading Level of Energy Efficiency

FRAM (Ferroelectric Random Access Memory) is non-volatile memory which excels in terms of its guaranteed rewrite count, writing speed, and power consumption. In recent years, FRAM has also been used in wearable devices, industrial robots, and drones.

In addition to having the largest memory capacity of any FRAM product guaranteed to operate at 125°C, the 4 Mbit FRAM MB85RS4MTY we developed is also guaranteed to have 10 trillion data write cycles. It is suitable for in-vehicle applications, such as advanced driver assistance systems (ADAS), and for use in industrial robots.

From an environmental standpoint, by adopting commands that shift integrated circuits into a low power consumption mode called “deep power down mode,” as well as design techniques that take energy efficiency into account, we have achieved a maximum operating current of up to 4 mA (at 50 MHz operation), even in high-temperature environments of 125°C, and a power-down current of up to 30 μA, for an industry-leading level of energy efficiency. Installing MB85RS4MTY will lead to reduced systemwide power consumption.



MB85RS4MTY

- Case studies

<https://www.fujitsu.com/global/about/environment/energy-efficiency/case-studies/>

Environmental Action Plan

Activities to Reduce CO₂ Emissions and Conserve Water Resources in the Upstream Portion of the Supply Chain

Our Approach

In addition to reducing our own emissions, as a green procurement initiative, the Fujitsu Group has also been requesting its suppliers to act toward reducing their own CO₂ emissions in order to help contain global warming. As a result, all of our primary suppliers have undertaken efforts to reduce their CO₂ emissions.

Starting in FY 2016, we have also been expanding these efforts further upstream in the supply chain by including efforts by the suppliers of those companies (secondary suppliers from the perspective of the Fujitsu Group) in our requests.

From FY 2019, in addition to the reduction of CO₂ emissions, we have also situated the conservation of water resources as a priority issue which we need to ask our suppliers to address. We reviewed the questions we posed on our environmental survey forms so that we would be able to understand the status of our suppliers' activities and their actual circumstances, and are promoting the implementation of water risk assessments as the initial step for our water resource conservation activities.

We have participated in the CDP Supply Chain program since FY 2018, in parallel with the above-mentioned activities. Based on our international environmental research activities, we are taking a more in-depth look at the activities of our primary suppliers to reduce CO₂ emissions and conserve water resources, and considering the issues and our policies.

We expect that having the supply chain as a whole work toward reducing emissions can produce even greater reduction effects (synergies), while also expanding the network of these activities through the supply chain to cover an even wider area spreading beyond national boundaries. Through efforts such as these, the Fujitsu Group hopes to help create a carbon-free future society and a sustainable water environment.

FY 2020 Performance

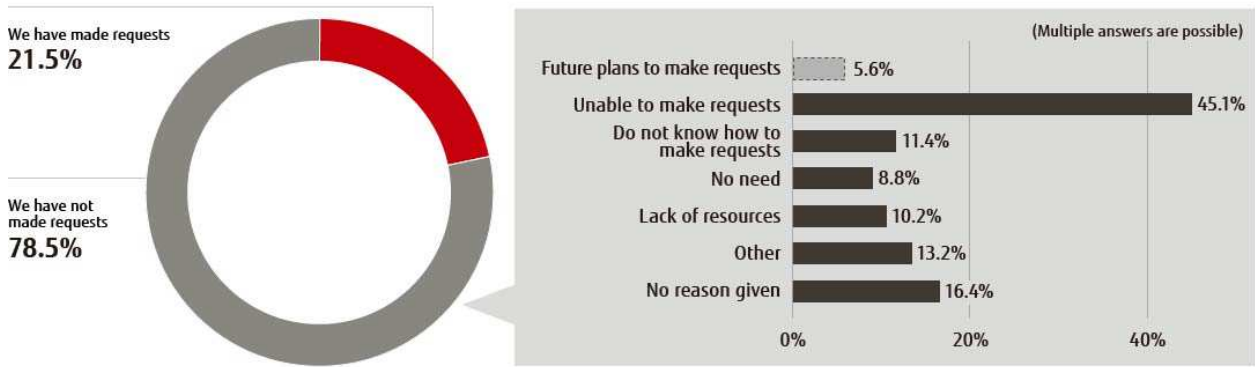
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduction of CO ₂ Emissions: Drive Activities to Reduce CO ₂ Emissions in the Supply Chain	Made requests for secondary suppliers (over 60,000 companies) to take action on reducing emissions through primary suppliers of the Fujitsu Group (approximately 700 companies)
Conservation of Water Resources: Issue Requests for Primary Suppliers to Take Action	Completed making requests to take action to approximately 700 of the Fujitsu Group's primary suppliers

Reduction of CO₂ Emissions: Requesting and Supporting the Expansion of Activities to Secondary Suppliers

The Fujitsu Group communicated requests to its primary suppliers who account for the top 80% of the Group's procurement volume to engage in activities to reduce their CO₂ emissions, and to expand these efforts to also include their own suppliers (the Fujitsu Group's secondary suppliers). We also conducted our own environmental survey to ascertain the activity status of these suppliers. As a reference for their future activities, we then provided suppliers who responded to the survey with feedback in the form of a report that analyzed survey responses to show trends in emissions reduction activities, while also requesting further activities and expansion to the activities of their own suppliers.

As of the end of FY 2020, approximately 140 suppliers (roughly 20%) responded that they had requested their own suppliers to engage in emissions reduction activities, but this still amounted to a total of at least 60,000 secondary suppliers receiving such requests, giving reason to believe these efforts can have a tremendous awareness effect.

Status of Implementation Requests from Primary Suppliers for Secondary Suppliers to Take Action to Reduce Their CO₂ Emissions



*Excluding non-responses and responses that the supplier does not have secondary suppliers


Offering Guidelines for Activities for Reducing CO₂ Emissions

The Fujitsu Group created original explanatory materials to facilitate the spread of activities for reducing CO₂ emissions throughout the entire supply chain, and since the end of November 2017, we have made the materials available on the company website and started providing them to suppliers. The purpose of these materials was not only to give suppliers a greater understanding of the importance of these activities taking place in the supply chain, but also to serve as something they could use to request and assist such activities amongst their own suppliers. To fulfill our responsibilities as a global enterprise, the Fujitsu Group will continue to think about what must be done to contain global warming and will continue to take action.

"Guideline for activities for reducing CO₂ emissions" can be downloaded from the following sites.

- Japan:
<https://www.fujitsu.com/jp/about/procurement/material/green/index.html>
- Global:
<https://www.fujitsu.com/global/about/procurement/green/>

Informational materials for business partners


2. Practical activities: Procedure for target setting 

1. Setting of Activity contents

- 1) Extract feasible activities in-house.
- 2) Decide more suitable activities from the extractions.

2. Selection of Progress Indexes (Numerical data)

Select CO₂ emissions data, or data leading to CO₂ emissions directly.
(e.g. P
* If it is (e.g. C

2. Practical activities: Examples for activity contents and progress indexes 

Select activities to be conducted and progress indexes to be controlled.

Activity items	Activity contents	Progress indexes
Saving energy (reducing lighting power consumption)	Switch off unnecessary lighting/ install LED	Implementation rate/Installation rate /Energy-saving rate
	Light off during break times	Time for lights off/Implementation rate
	Stop of servers on holidays	Stopping time/Stopping rate
Saving energy (reducing common-use facility power consumption)	Reduce overtime hours/ specify days on which all employees leave work at the same time	Implementation rate per department
	Utility time limits on reception/ conference room	Utility time/Energy-saving rate
Saving energy (reducing air-conditioning power consumption)	Appropriate temperature setting of air-conditioning systems	Implementation rate/Implementation period
	Installation of rooftop greening/ wall greening	Implementation rate/Greening area per building
Saving energy (promoting of renewable energy)	Installation of green electricity systems	Installation rate
Saving energy (innovative changes of lifestyles)	Encouragement of bicycle commuting of employees	Number of employees taking part in the initiative/Implementation rate
	Promotion of eco-driving	Implementation rate/ELV installation rate
Preserving biodiversity (preservation of CO ₂ -absorbing resources)	Implementation of forest-preservation activities	Number of activities/Number of participants/Forestation land area/Number of trees planted
Conservation of paper resources	Promotion of paperless	Reduction volume/Implementation rate
Promotion of environmental awareness	Raise awareness by in-house education	Number of attendance/Attendance rate/ Test pass rate

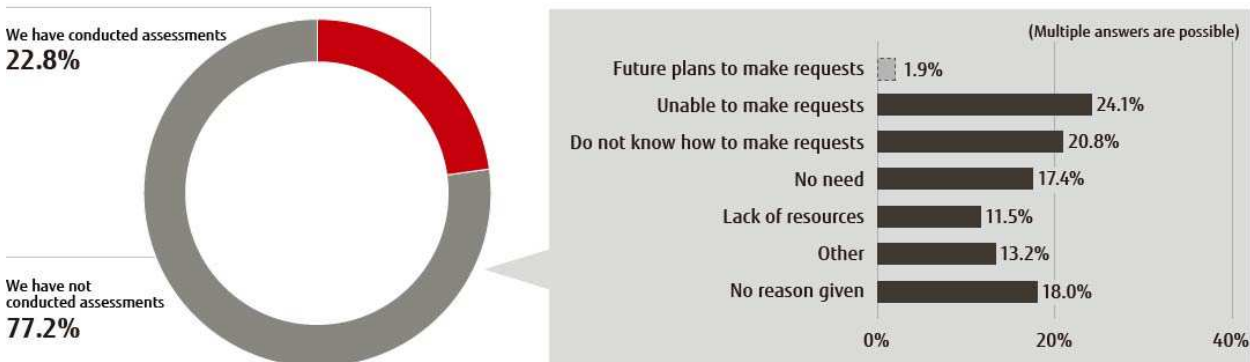
3. Setting of Progress Indexes
* If it is

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Conservation of Water Resources: Conducting Initiatives to Conserve Water Resources as a Key Theme for Taking Action

Against the backdrop of worsening water resource problems and growing international concern, in addition to continuing our work to reduce CO₂ emissions as pursued under the Fujitsu Group Environmental Action Plan (Stage VIII) from FY 2016 to FY2018, we situated the conservation of water resources as a priority issue which we need to ask our suppliers to address, starting in FY 2019. We reviewed the questions we posed on our environmental survey forms so that we would be able to understand the status of our suppliers' activities and their actual circumstances, and identified the challenges we will face in expanding our activities in the future.

Status of Water Risk Assessments Conducted by Suppliers



*Excluding non-responses

As many businesses are connected in the global supply chain, conservation of water resources is a relevant issue for any company. The first step in working to conserve water resources is to comprehend exactly what water risks are associated with one's own company. However, in our environmental survey, just slightly more than 20% of suppliers said that they were conducting water risk assessments. We received many responses from suppliers who are not conducting water risk assessments who said that conservation of water resources was not relevant to their companies—answering that they had “no water risks” or had “no need to conduct assessments”—as well as responses from companies that did not know how to assess water risks. In order to have suppliers think about conservation of water resources as a more familiar issue, we are offering the “Water Risk Assessment for Companies” document, which compiles materials on topics such as the importance of risk assessments, and introduces publicly available assessment tools. In the future, we will engage in activities to encourage even more suppliers to conduct water risk assessments and endeavor to conserve water resources.

“Water Risk Assessment for Companies” can be downloaded from the following sites.

- Japan:
<https://www.fujitsu.com/jp/about/procurement/material/green/index.html>
- Global:
<https://www.fujitsu.com/global/about/procurement/green/>

Valuable water, even on "Water Planet"
 Compiled based on the website of the Ministry of Land, Infrastructure and Transport
 Total global water volume: approx. 1.4 billion km³

- Seawater (brine) 97.5%
- Iceberg / Ice sheet 70%
- fresh water 2.5%
- Groundwater, etc. 30%
- 1% (or less) for less than 0.01% of the Earth's surface (Shallow Groundwater)

Why Companies can't be Independent of Water Risk

- In the "Sustainable Development Goals (SDGs)" adopted by UN in September 2015 including targets for water and sanitation, water-related disasters, and conservation of the water environment
- The private sector, such as enterprises, are required to take action
- *Water risk may overshadow business continuity.
 - > Impact on investor behavior (ex. Growing environmental investments)
 - > Increase and strengthen questions on water resources in various environmental activity evaluations.
- * Even if the internal process is safe, water risk in entire supply chain could affect whole business.
 - > Cooperation with business partners and customers is required.
- *Increased frequency of weather "extreme phenomenon" (floods, droughts, etc.)
 - > Growing global water risk requires constant monitoring now and in the future.

Water risk analysis tools (Example)

- WRI Aqueduct Water Risk Atlas** <https://www.wri.org/aqueduct>
 - Indicate risks by specifying areas by address or latitude-longitude.
 - A detailed breakdown of risk is possible with using 12 metrics.
 - Future risks 10 or 20 years from now can be calculated taking into account climate change, global economic development, population growth, etc.
- WWF-DEG Water Risk Filter** <https://waterfilter.wwf.org/>
 - Display risk by entering industry and address (+ business information as optional).
 - Evaluation results can be output in the CDP Water response format.
 - Risk mitigation measures are presented for indicators evaluated as high risk.
 - Additional water-related opportunity analysis capability is planned.
- WBCSD Global Water Tool**
 - Launched in 2007 as the first public tool for water risk analysis.
 - No longer available since handing over the position to Aqueduct Water Risk Atlas and WWF-DEG Water Risk Filter.

Reference: Other assessment tools or databases that could be available
 - Water Footprint Network Assessment Tool <https://www.waterfootprint.com/en/assessment/>
 - IPCC Climate Change Projection <https://www.ipcc.ch/report/ar6/wg1/global-climate-projections/>
 - Heidelberg Global Water Security Risk Index <https://www.risgwater.com/>
 - Hazard maps produced and provided by local governments or the national government

Contents of "Water Risk Assessment for Companies"

Environmental Action Plan

Contributing to the Fulfillment of the SDGs through ICT Services

Our Approach

The Fujitsu Group lists “contributing to the fulfillment of the SDGs through ICT services” as one of the targets under the Fujitsu Group Environmental Action Plan (Stage IX). In 2015, the Sustainable Development Goals (SDGs) were adopted by the United Nations. Taking the clear articulation of the SDGs as international goals as an opportunity, our objective is to contribute more than ever to the sustainability of our customers and society.

In order to make a sustainable society a reality, not only do we need to combat global warming by reducing greenhouse gas (GHG) emissions, we also need to address various social and environmental issues, such as conservation of resources, preservation of biodiversity, stabilization of food supplies, urbanization measures, and disaster prevention. Information and communication technology (ICT), which brings about improvements such as optimization, efficiency, and automation in a wide range of fields, has the potential to significantly contribute to solving societal and environmental problems. We aim to make contributions to the SDGs on a global scale, together with our customers, by offering our ICT services.

FY2020 Performance

Targets Under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Contributing to the fulfillment of SDGs through ICT services	39 items

Activities

In FY2020, we carried out the following activities as measures to achieve our goals.

- Incorporated elements of the SDGs into various promotions and publicized them
- Held SDG seminars, training programs, and workshops

The key point is to link our corporate purpose with our contribution to the SDGs, while also highlighting internally and externally the importance of striving for sustainable management and of overcoming societal challenges through our business operations.

1. Internal-focused activities
 - Online learning material to enhance understanding of SDGs among employees
 - Activities to boost awareness among executives and in group companies (such as by holding workshops)
2. External-focused activities
 - Senior management conveying important messages (such as at the Nikkei SDGs Festival)
 - Approaches to executives in customer organizations (such as via presentations)
 - Dissemination of information through materials and events

Examples of Initiatives in FY 2020

Online Learning Material to Enhance Understanding of SDGs among Employees

Fujitsu conducts a range of activities designed to enhance ownership of the SDGs among all employees, thereby encouraging the promotion of businesses designed to overcome challenges in society.

We released a video, on the internal Fujitsu Learning EXperience on-demand learning platform, that describes the relationship between our corporate purpose and the SDGs. The aim is for each employee to fully appreciate societal challenges and how they are linked to their own day-to-day work, so that the SDGs can be leveraged as a co-creation tool to generate greater value for customers.

Senior Management Conveying Important Messages

At Fujitsu, representatives of senior management are actively involved in messaging related to contributing to the attainment of the SDGs. For example, Fujitsu's CEO gave a presentation titled "Toward the Creation of a Resilient and Sustainable Society". This was part of the program titled "Promoting the SDGs with the Power of Digital Technology: Creating the Future with DX Innovation" at the Nikkei SDGs Festival, sponsored by Nikkei, Inc. and Nikkei Business Publications. The presentation covered the role Fujitsu should play in society and the potential for technology to help attain the SDGs, while also highlighting case studies of some recent initiatives.



- › RELATED LINK : SDG-related Activities in Fujitsu
<https://www.fujitsu.com/global/about/csr/sdgs/>