



## Global Responsible Business

### - Environment -

The "FUJITSU Climate and Energy Vision" is, a Medium- to Long-Term Environmental Vision for 2050 which clarifies the role we will play in tackling global climate change as well as the future outcomes we hope to realize. Fujitsu will work to achieve zero carbon emissions from its own operations by 2050, and contribute to climate change adaptation as well as a de-carbonized society through technologies supporting digital transformation.

## Environment

### Goals

#### WHAT FUJITSU ASPIRES TO BE

Fujitsu will fulfill its social responsibilities as a global corporate environmental leader. We aim to contribute to achieving the 1.5°C climate change goal of the Paris Agreement and also to resolving environmental challenges, through such measures as developing innovative solutions that make effective use of resources.

#### GOALS FOR FY2022

Fulfill our social responsibilities and help to resolve environmental challenges

- KPI:
- Reduce greenhouse gas emissions at Fujitsu sites by 37.8% or more from the base year level (Reduce by 4.2% each year compared with FY2013)
  - Avoid risks associated with our business activities and minimize our impact on the environment
  - Help to resolve environmental challenges for customers and society through our business operations

### Environmental Management

## Fujitsu Group's Environmental Management Systems (EMS)

Fujitsu Group has constructed Environmental Management Systems (EMS) based on the ISO 14001(\*1) international standard and is promoting environmental improvement activities across the Group. After acquiring ISO 14001 certification for consolidated subsidiaries in Japan at the end of FY 2004, we expanded this effort to include overseas subsidiaries and acquired global integrated certification at the end of FY 2005. Subsequently, the overseas subsidiaries switched to individual certification.

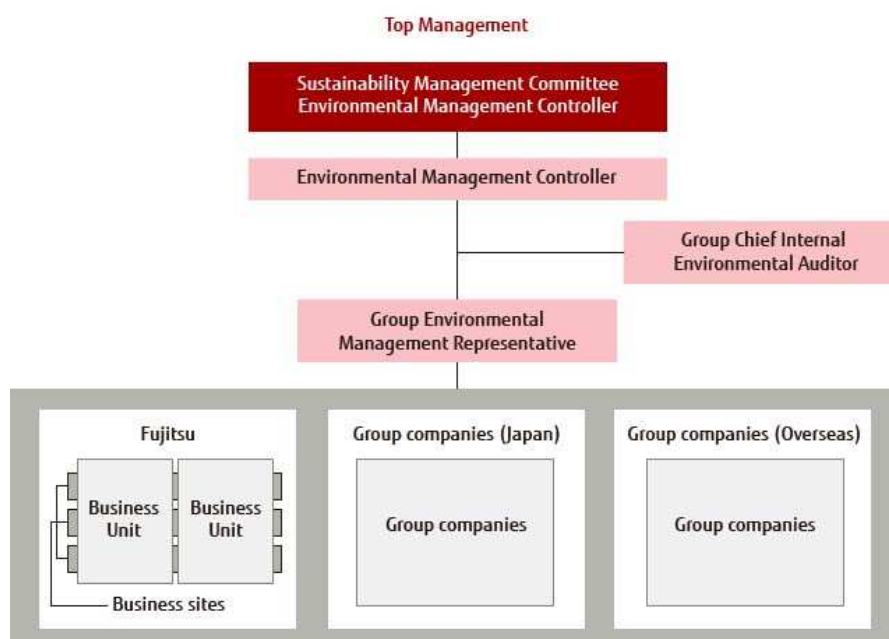
\*1 ISO14001 : Environmental Management Systems (EMS) standard determined by the International Organization for Standardization (ISO). Certification is granted to environmentally conscious organizations that develop systems for ongoing reductions in their environmental footprint.

## Environmental Management Framework

In April 2020, Fujitsu Group set up the Sustainability Management Committee, which leads the charge for management which takes sustainability initiatives into account. The Sustainability Management Committee has established major sustainability issues which are common globally (Global Responsible Business: GRB) and is working to address them, and the environment is one of those to be addressed. In "environmental initiatives" medium-to-long term visions considered and activity policy discussed and decided, and business operations being considered with risks and opportunities from climate change, with regular reports into Sustainability Management Committee, which aim of raising the level of the EMS and strengthening its governance. Based on that, final approvals on environmental management at the Fujitsu Group are made at meetings of the Management Council.

Within the Sustainability Management Committee, we have organized environmental issue-specific working groups, etc., composed of relevant parties that go beyond the framework of business groups and business units. Through this promotion structure, we are moving swiftly to popularize initiatives for addressing environmental issues throughout the Group.

## Environmental Management Framework



## Constructing and Operating Environmental Management Systems

The Fujitsu Group has constructed EMS based on the ISO 14001 international standard and is promoting environmental improvement activities across the group. By constructing EMS worldwide, the Fujitsu Group further strengthened its Group governance. This also allows the Group to promote even more efficient and highly effective environmental activities, including understanding the state of activities, legal compliance, and emergency response.

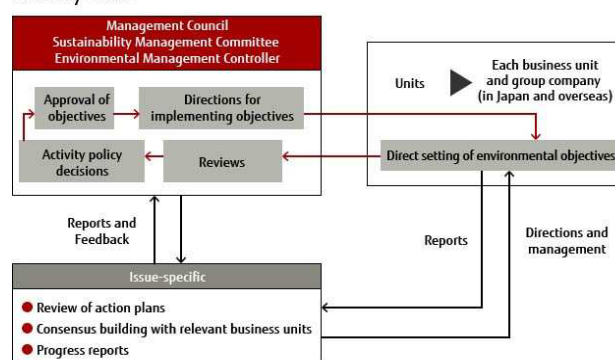
As of March 2021, the Fujitsu Group has acquired group integrated ISO 14001 certification for a total of 47 companies of Fujitsu and its Japanese Group companies.

## Activity Flow

The Sustainability Management Committee reviews and conducts deliberations about the new challenges and activities directions of “environmental initiatives”, which related to whole group companies regarding the operational status and achievement of targets with regular report. For example, the committee determines the directions to be taken for reduction of energy consumption and CO<sub>2</sub> emissions, countermeasure for environmental risk, and other environmental medium-to-long term visions. The Sustainability Management Committee also conducts environmental management reviews and is exercising approval authority for the Fujitsu Group Environmental Action Plan.

Issue-specific Working Groups are sub-organizations set up under the supervision of the Sustainability Management Committee, with the goal of providing dedicated responses to address specific tasks professionally. The tasks of the issue-specific Working Groups are discussing objectives and confirm the progress and promote to achieve for the Environmental Action Plan. The Environmental Management Controller gives approval and issues directions in response to the progress reports made by the issue-specific Working Groups.

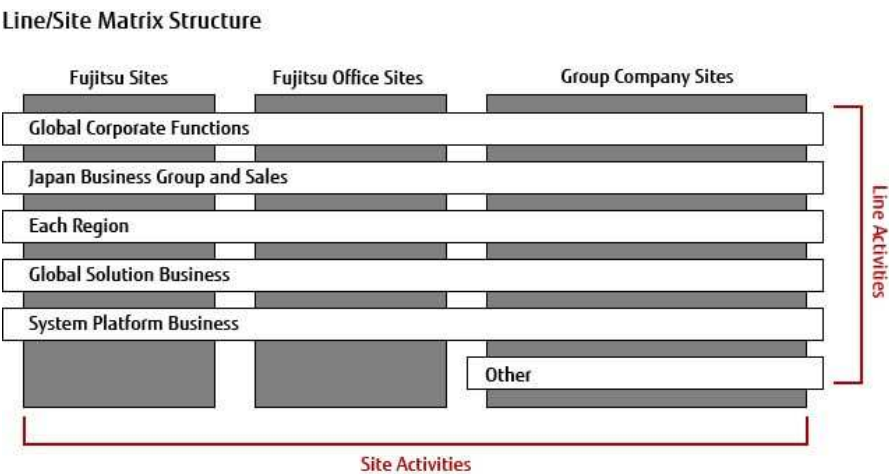
### Activity Flow



## Management Based on the Line/Site Matrix Structure

The Fujitsu Group carries out its environmental management within a matrix structure combining (1) “line activities” directly tied to the business operations of various divisions and companies (including development of eco-friendly products and the expansion of environmental contribution solutions) and (2) “site activities” to tackle common themes affecting each factory or business location (such as energy conservation and waste reduction).

In this way we carry our environmental management according to the same framework as our management, while also reducing the environmental footprint generated by our business activities and the sale of our products and services.



- Environmental Management Initiatives (Case Studies)  
<https://www.fujitsu.com/global/about/environment/ems/case-studies/>

## Environmental Management

## Environmental Management Initiatives (Case Studies)

## Operations Utilizing ICT

The Fujitsu Group actively utilizes its own ICT-driven environmental management tools to visualize and boost the efficiency of its environmental management.

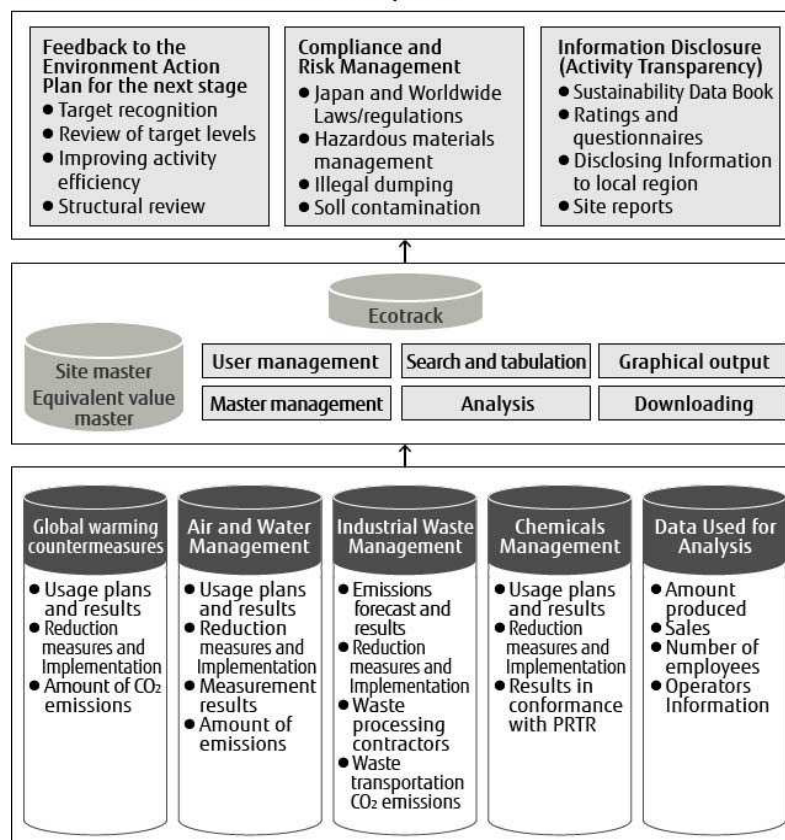
## EMS Operations Using ICT

The Fujitsu Group employs its own ICT-driven environmental management tools. Examples include the Global Environment Database System (Ecotrack) which can centrally manage aspects such as planning, performance, and policy information, at business sites scattered throughout the world, and the ISO 14001 Green Management System (GMS) which centrally manages compliance and risk management status to support EMS operations. These tools are employed to visualize environmental management and make it more efficient. Additionally, the communication infrastructure of all companies in the Fujitsu Group is used for EMS operations. For example, we try to conduct smart communication in our EMS operations, through activities such as using remote video conferencing systems to conduct EMS briefings.

## Using the Global Environment Database System

The Global Environment Database System (Ecotrack) is used to gather information about the environmental footprint (performance) of Fujitsu Group companies and business sites and centrally manage aspects such as planning, performance, and policy information.

## Global Environment Database System

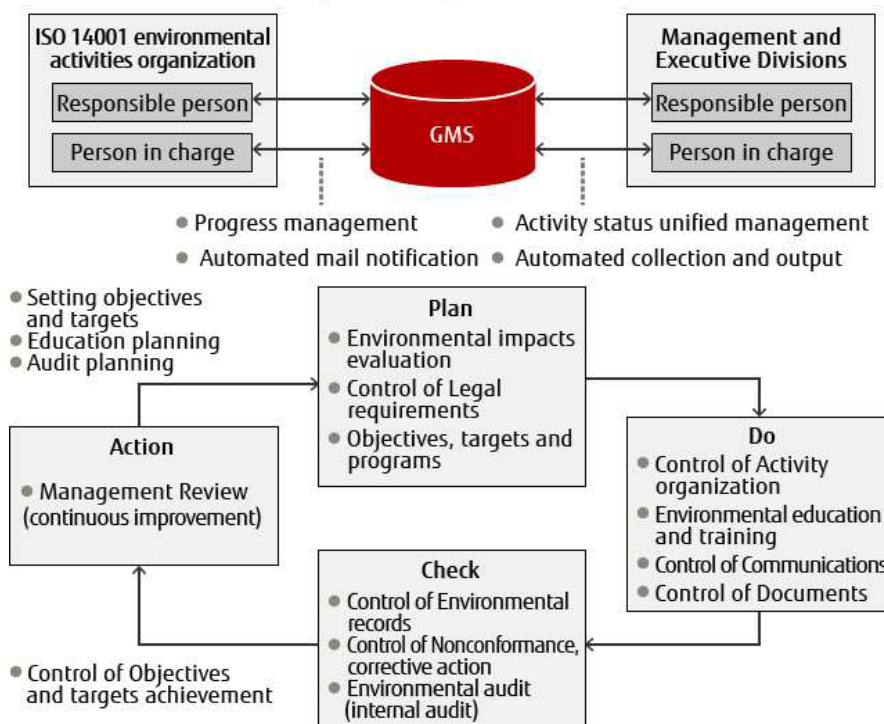


## Using the ISO 14001 Green Management System

The Fujitsu Group uses the ISO 14001 Green Management System (GMS) to exercise unified control over the operational status of the EMS concerning matters such as the status of improvements and the state of compliance with regard to items pointed out by internal audits, communications activities, direct and indirect effects identified in environmental impact assessments, and the setting of environmental management objectives and targets.

Through the GMS, we can manage corrective measures and objectives with certainty, and it has been effective for continuously improving our activities and reducing risks.

### ISO 14001 Green Management System



## Implementing Environmental Audits

### Internal Audit Implementation and Results

The Fujitsu Group conducts internal audits, a requirement of ISO 14001. To ensure the objectivity and independence of internal audits, the Internal Control and Audit Office takes the lead, allocating internal auditors who belong to Fujitsu or Fujitsu Group companies and carries them out.

In FY 2020, due to the impact of COVID-19, we conducted audits remotely using smartphones based on the Fujitsu Group's instructions for preventing infection, which included the promotion of Work-From-Home, as well as avoiding face-to-face contact in meeting rooms and travel between prefectures.

For FY 2020, we carried out internal audits of 164 business sites in Japan, including the factories and offices of Fujitsu and Group companies. When conducting audits, we closely examined the results of FY 2019 internal audits and external audits. The four points emphasized were (1) the execution status of environmental management system, (2) focus areas (actions to address risks and opportunities, operational planning and control, and monitoring/measurement/analysis and evaluation), (3) the status of our efforts in response to the Environmental Action Plan (Stage IX), and (4) changes that would effect organizations.

There were 13 findings, mainly concerning issues such as waste materials management. Even despite the COVID-19 pandemic, as a result of continuing to provide support to each organization, including briefing session for EMS person in charge and confirmation of compliance, the number of findings has been decreasing.

## External Audits and Results

To maintain our ISO 14001 certification, we are carrying out external audits by a certifying body.

In FY 2020, we were audited in Japan by the Japan Audit and Certification Organization for Environment and Quality (JACO). As a result, there were 52 opportunities for improvement, and zero findings. We shared information about those opportunities within the Group, and are working to improve our response.

Table. Number of Findings by Audits

	FY 2018 (Japan and overseas)	FY 2019 (Japan and overseas)	FY 2020 (Japan)
Number of findings by internal audits	102	30	13
Number of findings by external audits	3	6	0
Number of opportunities for improvement	113	50	52

## Compliance with Environmental Laws

There were no major legal or regulatory violations or accidents with major impact on the environment in the Fujitsu Group during FY 2020.



## Environmental Management

# Response to Environmental Risks

## Environmental Risk Management Structure

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The Fujitsu Group built and operates a group-wide risk management system to identify, prevent, and mitigate a variety of potential risks, or prevent their recurrence, including issues related to climate change and environmental pollution. The Risk Management & Compliance Committee, which reports directly to the Board of Directors, has set up regional Risk Management & Compliance Committees, in addition to deploying Risk Management & Compliance Officers to each Fujitsu division and Group company in Japan and overseas, to build a structure where these organizations cooperate with each other to promote risk management and compliance throughout the Fujitsu Group, both in terms of preventing potential risks and responding to risks that have emerged. The Committee identifies, analyzes, and assesses key risks associated with the business activities of each Fujitsu division and Group company in Japan and overseas (focusing on 33 risks considered to be important to the Group), and formulates and reviews the countermeasures for these risks after confirming the status of countermeasures for avoiding, mitigating, transferring, or retaining them. The Committee makes regular reports to the Board of Directors about key risks that have been identified, analyzed and assessed, using methods such as the creation of visualized rankings and maps which take the degree of impact and likelihood of occurrence into account. In addition, we have put response processes into place in the event that risks become tangible, despite the implementation of various measures. Each division and Group company will immediately report to the Risk Management & Compliance Committee about any key risks that become tangible, such as natural disasters, accidents, product accidents or failures, system or service problems, compliance violations such as fraud, information security incidents, or environmental problems.

We also leverage the group's Environmental Management System (EMS), which is based on ISO14001, for minimizing risks to the environment through continuous improvements.

- Risk Management  
<https://www.fujitsu.com/global/about/csr/riskmanagement/>
- Environmental Management System  
<https://www.fujitsu.com/global/about/environment/ems/>

## Efforts to Minimize Risks to the Environment

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### Dealing with Risks Related to Climate Change

There is a possibility of significant impacts on our business continuity from increases in the frequency and effects of natural disasters as a result of recent climate changes. For that reason, we have formulated a business continuity plan and are devoting effort to continually revising and improving the plan.

Furthermore, the implementation of stricter regulations for greenhouse gas emissions and a carbon tax creates a risk of increasing the energy cost incurred by the Fujitsu Group, as well as the cost required for measures aimed at reducing greenhouse gases. Additionally, if climate change countermeasures are insufficient, there is a risk of harm to our corporate reputation or a disadvantage at bidding. In order to minimize these risks, we are conducting short-term, medium-term and long-term risk analysis/response within our company-wide risk management structure. Moreover, based on the FUJITSU Climate and Energy Vision, we are working to achieve net zero CO<sub>2</sub> emissions by 2050 and to contribute to mitigation/adaptation for climate change through business.

In accordance with the recommendations issued in 2017 by the Task Force on Climate-Related Financial Disclosures (TCFD), the Fujitsu Group analyzes and discloses information related to risks accompanying climate change that may have an impact on business and financial strategies. Refer to the table below for the currently recognized potential major risks and responses.



## Risks Associated with the Transition to a Low Carbon Economy, and Our Response to Them

Policy / Legal Risks	<ul style="list-style-type: none"> <li>● Risks: Increase in cost in order to respond to the strengthened laws and regulations on greenhouse gas emissions and energy use (such as a carbon tax), and diminished corporate value in the event of a violation.</li> <li>○ Response: Complete compliance with laws and regulations through EMS. Continual reduction of the amount of GHG emissions through steady implementation of Science Based Targets and the Environmental Action Plan.</li> </ul>
Technology Risks	<ul style="list-style-type: none"> <li>● Risk: Unrecovered investments and market share decline in the event that the company lags behind in a fierce competition in technological developments toward a carbon-free society (such as energy-saving performance and low-carbon services).</li> <li>○ Response: Enhance development of energy-efficient products and energy-efficient enabling technologies, solutions, and services through steady implementation of Science Based Targets and our Environmental Action Plan.</li> </ul>
Market Risks	<ul style="list-style-type: none"> <li>● Risk: Losing business opportunities if products, solutions, and services do not meet energy-saving performance needs.</li> <li>○ Response: Enhance development of energy-efficient products and energy-efficient enabling technologies, solutions, and services through steady implementation of Science Based Targets and our Environmental Action Plans.</li> </ul>
Risks to Reputation	<ul style="list-style-type: none"> <li>● Risk: Decline in corporate value and an increase in response costs associated with a negative assessment from stakeholders with regard to the response status of measures to counteract climate change (such as the percentage of renewable energy adoption).</li> <li>○ Response: Enhance measures to counteract climate change and promote reduction of environmental footprint through steady achievement of the group's Science Based Targets and Environmental Action Plan.</li> </ul>

## Climate Change Related Risks in the Supply Chain, and Our Response to Them

Upstream Supply Chain	<ul style="list-style-type: none"> <li>● Risk: A temporary suspension of the suppliers' business activities due to the occurrence of severe natural disasters such as large-scale floods, sudden heavy downpours, and lightning strikes, which affects the procurement of materials.</li> <li>○ Response: Conduct surveys of the business continuity capabilities of suppliers and implement measures to procure materials from multiple sources.</li> </ul>
Downstream Supply Chain	<ul style="list-style-type: none"> <li>● Risk: Losing business opportunities due to the inability to obtain environmental labelling, which is a green procurement requirement of customers.</li> <li>○ Response: Conduct trend surveys and risk assessments of the environmental labelling scheme. Develop and provide top-level energy-efficient products through steady implementation of Science Based Targets and our Environmental Action Plan.</li> </ul>

- RELATED INFORMATION: Fujitsu Group Responses to the CDP Climate Change Questionnaire 2020 (Risk-Related Questions) [https://www.fujitsu.com/global/documents/about/environment/risk/Fujitsu\\_Limited\\_CDP\\_Climate\\_Change\\_Questionnaire\\_20.pdf](https://www.fujitsu.com/global/documents/about/environment/risk/Fujitsu_Limited_CDP_Climate_Change_Questionnaire_20.pdf)

## Assessing and Monitoring of Potential Water Risks

In recent years, due to a tight demand-supply situation in many areas around the world because of water damage—such as flooding—and droughts that are caused by a variety of factors, including population growth and climate change, there is a growing concern that this issue may become a business risk. The Fujitsu Group conducts assessments of and monitors potential water risks for direct operations sites and supply chains.

In particular, the Group uses tools and databases provided by NGOs and governments at both country and municipal levels to check the status of water stress and the risk of natural disasters in the areas where businesses are located. We then comprehensively assess the water risk at each site by analyzing how important water use is in the business activities of each

operations base, and we confirm the level of compliance in a variety of activities such as the reduction of water intake, measures to reduce pollution in wastewater, business continuity management (BCM) systems, and others. For the supply chain, we also assess our suppliers' flood preparedness and other water risks based on the supply chain BCM surveys, field surveys conducted according to the Responsible Business Alliance's (RBA) code of conduct and the CDP Supply Chain Program. As a result, we have confirmed that there are no significant risks that could substantially affect our business activities.

- RELATED INFORMATION: Fujitsu Group Responses to the CDP Water Security Questionnaire 2020 (Risk-Related Questions)  
[https://www.fujitsu.com/global/documents/about/environment/risk/Fujitsu\\_Limited\\_CDP\\_Water\\_Security\\_Questionnaire\\_2020.pdf](https://www.fujitsu.com/global/documents/about/environment/risk/Fujitsu_Limited_CDP_Water_Security_Questionnaire_2020.pdf)

## Flooding Damage Impact Assessments Through Hazard Maps and Measures Against Flooding

Fujitsu and its domestic Group companies conduct impact assessments of flooding damage according to a rainfall scale with two types, depending on the magnitude of the impact on our business, as follows. We identify and assign rankings to business sites which will be highly impacted. If a business site falls under a level 4 impact ranking, we implement various measures.

[ Assessment 1: Planned scale (Rainfall on a scale that occurs about once every 10-100 years) ]

- Assessment subjects: 169 sites for Fujitsu, 280 sites for Group companies All owned properties and major leased properties (such as sales offices and data centers) in the Fujitsu Group
- Assessment method: We assess whether or not the site falls within the "estimated flood inundation area (planned scale)" for nearby rivers as established by the Ministry of Land, Infrastructure, Transport and Tourism or the prefectural government, as well as the extent of the impact within and outside the site and the impact of flooding on buildings. We rank sites that were assessed as being impacted by flooding on a scale of 1 (minor impact) to 4 (major impact).

[ Assessment 2: Assumed maximum scale (Rainfall on a scale that occurs about once every 1000 years) ]

- Assessment subjects: Domestic data centers and business sites that will be heavily impacted by flooding (such as Fujitsu Solution Square (SS) and the Kawasaki factory)
- Assessment method: We conduct reassessments by upgrading the criteria to "estimated flood inundation area (assumed maximum scale)," and rank the sites on a four-point scale.

[ Results for Assessment 1 and Assessment 2 \*Only sites with an impact rank of 4 are shown below. ]

	Sites	Assessment 1	Assessment 2	Final impact
Fujitsu	Fujitsu SS	Impact rank 4	Impact rank 4	Impact rank 4
Fujitsu	Kawasaki factory	No impact	Impact rank 4	Impact rank 4
Group companies	No sites which fall under impact rank 4			

### [Major Measures]



(a) Retaining walls and embankments

Fujitsu SS: The site perimeter is protected by retaining walls and watertight panels



(b) Sliding gates



(a) Removable watertight panels

Kawasaki factory: Perimeter entrances and exits are protected by watertight panels



(b) Gates that can be raised and lowered

## Preventing Water Pollution

In order to preserve the water quality of surrounding waterways, including rivers, groundwater and sewers, we have set voluntary controls that are even tougher than legal mandates, and conduct measurement and monitoring on a regular basis. We recover and recycle chemicals used in production processes, instead of discharging them into wastewater. We are also working to properly manage and reduce discharge of harmful substances and other regulated substances (COD, BOD, etc.) by ensuring appropriate chemical use, preventing chemical leaks and penetration, and properly managing the operations of water treatment and purification facilities, among other measures.

## Preventing Air Pollution

We have set voluntary control values that are more stringent than legally mandated emissions standards in order to prevent air pollution and limit acid rain. Regular measurement and monitoring are conducted based on these controls. Efforts are also made to appropriately process dust and soot, sulfur oxide, nitrogen oxide, and other harmful substances, and reduce emissions through measures including combustion management at facilities that produce soot and smoke, use of fuels with low sulfur content, and managing the operations of exhaust gas processing equipment. Furthermore, we have installed activated carbon adsorption treatment equipment and are reducing our atmospheric emissions of organic solvent vapors containing substances like VOCs. Moreover, with the enactment in April 2015 of the Act on Rational Use and Proper Management of Fluorocarbons, we have set in-house stipulations and striven for proper management of specified products (commercial refrigerators and air conditioners containing fluorocarbon refrigerants) while working to identify the volume of our fluorocarbon leakage. In addition, emission of dioxins has been prevented by suspending use of all in-house incineration facilities as of January 2000.

## Preventing Destruction of the Ozone Layer

By implementing a precision water-wash system and non-wash soldering technology, we have completely eliminated the use of ozone-depleting substances in manufacturing processes (parts washing and solvents). We have also implemented leakage countermeasures for refrigerant chlorofluorocarbons used in air conditioning facilities (freezers, etc.), and are switching to non-chlorofluorocarbon gas when updating facilities.

Results for complete elimination of ozone-depleting substances	
Ozone-depleting substances	Time of complete elimination
Washing chlorofluorocarbons (CFC-113, CFC-115)	End of 1992
Carbon tetrachloride	End of 1992
1,1,1-trichloroethane	End of October 1994
Alternative chlorofluorocarbons (HCFCs)	End of March 1999

## Preventing Pollution of Soil and Groundwater

We have established rules for soil and groundwater surveys, measures and disclosures. We review these in accordance with changes in the law and social circumstances and respond based on these rules. We systematically examine soil and groundwater, based on the rules, and if pollution is confirmed, we carry out cleanup and countermeasures at each plant according to the situation, while working together with government authorities to disclose information.

As of FY 2020, there are three business sites where soil and groundwater pollution from prior business activities have been confirmed. At those business sites, we have installed observation wells to observe effects outside the site due to groundwater pollution, while also working on purification measures through water-pumping aeration, etc.

## Monitoring the Impact of Groundwater Contamination Outside of Fujitsu Sites\*



\*We monitor groundwater contamination near our sites, which is the largest risk for soil and groundwater pollution.

Table. Business Sites Where Soil or Groundwater Contamination Has Been Found

Site Name	Location	Cleanup and Measure Execution Status	Maximum Value Found at Observation Well (mg/L)		Regulated Level (mg/L)
			Substance	Measured Value	
Kawasaki Plant	Kawasaki City, Kanagawa Prefecture	We are continuing to clean up VOCs by pumping and aeration	1, 2-dichloroethylene	2.4	0.04
			Chloroethylene	11	0.002
Oyama Plant	Oyama City, Tochigi Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Trichloroethylene	0.175	0.03
			1, 2-dichloroethylene	1.942	0.04
			Chloroethylene	4.289	0.002
FDK Washizu Plant	Kosai City, Shizuoka Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Cis-1, 2-dichloroethylene	0.6	0.04
			Trichloroethylene	0.11	0.03
			Tetrachloroethylene	0.037	0.01
			Chloroethylene	0.0072	0.002

## Chemical Substance Control

To prevent pollution of the natural environment or damage to health due to the use of harmful chemical substances, we are controlling the use of some 1,300 substances using our original Chemical Information System called "FACE" and working to appropriately control and reduce emissions at our business sites.

- Fujitsu Group Environmental Action Plan (Stage IX): Reducing Chemical Substances Emissions  
<https://www.fujitsu.com/global/about/environment/chemical/>

With regard to chemical substances included in products, we have determined banned substances according to regulations in Japan and worldwide and are working to thoroughly control them, not only inside the Group but also with business partners who deliver materials and products to us.

- Green Procurement  
<https://www.fujitsu.com/global/about/environment/procurement-policy/>

## Appropriately Processing Waste

We regularly carry out on-site audits in order to confirm that subcontractors are appropriately handling the waste processing tasks we entrust to them.

In addition, with regard to high concentration polychlorinated biphenyl (PCB) waste (transformers and condensers) processing, we have registered with the Japan Environmental Storage & Safety Corporation (JESCO), which handles temporary storage and disposal of PCB waste under government supervision, and are carefully carrying out processing based on JESCO plans.

## Environmental Liabilities

In properly assessing the Fujitsu Group's expected future environmental liabilities, and communicating our integrity and corporate stance of not deferring our liabilities, we have recorded liabilities of 2.72 billion yen in soil pollution cleanup costs, high-level polychlorinated biphenyl (PCB) waste disposal costs, and asbestos processing costs during facilities demolition, which is the amount we calculate, as of the end of FY 2020, to be necessary for the Fujitsu Group to conduct these tasks domestically in the next fiscal year and beyond.

## Conserving Biodiversity

Recognizing that our business activities benefit from the riches of the Earth's biodiversity, while at the same time impacting it, the Fujitsu Group considers the conservation of biodiversity to be an important issue, and formulated the Fujitsu Group Biodiversity Action Principles in October 2009. We promote them based on the two pillars of reducing the impact of our business activities on biodiversity and contributing to the creation of a society that conserves biodiversity, and implement various policies to conserve biodiversity through leveraging ICT and other means. In addition, we established "visualizing and reducing the impact of corporate activities on ecosystems and on biodiversity" as a target in our Environmental Action Plan (Stage X).

- **Policy Example 1: Project for Recognizing Blakiston's Fish Owl Vocalizations**  
We offer vocal recognition software used for habitat surveys of Blakiston's fish owls, which are an endangered species. The software helps the surveys to be more efficient by automatically extracting their cries, greatly reducing the time for analysis.
  - Project for Recognizing Blakiston's Fish Owl Vocalizations  
<https://www.fujitsu.com/global/about/environment/activities/owl/>
- **Policy Example 2: Support for the Harapan Rainforest (Forest of Hope)**  
We provided support for reforestation activities in the Harapan Rainforest (Forest of Hope) on the Indonesian island of Sumatra. Through the introduction of ICT, we greatly improved the efficiency of patrols in the forest, contributing to forest conservation.
  - Providing Support for the Harapan Tropical Rainforest (Forest of Hope) (Indonesia)  
[https://www.fujitsu.com/global/documents/about/environment/activities/global/fujitsu\\_supports\\_rainforest\\_conservation\\_in\\_indonesia.pdf](https://www.fujitsu.com/global/documents/about/environment/activities/global/fujitsu_supports_rainforest_conservation_in_indonesia.pdf)
- **Policy Example 3: Activities to Make Tsushima, An Island Facing a Severe Plastic Waste Pollution Problem, Greener**  
We conducted eco-tours sponsored by Fujitsu Limited and conducted by Fujitsu Group employees. We also held a coastal cleanup and an ideathon to come up with solutions to local issues.
  - Tsushima, An Island Facing a Severe Plastic Waste Pollution Problem  
<https://www.fujitsu.com/global/about/environment/activities/japan/ecotours/>

## Environmental Management

## Green Procurement

We are implementing green procurement alongside our business partners, to provide customers with products and services that have light environmental footprints.

## Procurement Activities Based on Green Procurement Direction

The Fujitsu Group summarized its requirements for business partners regarding the purchase of green parts, materials, and products, in the "Fujitsu Group Green Procurement Direction." This standard is posted on a multilingual basis (in three languages) in order to promote penetration to our business partners. We make an effort to communicate by various means, such as briefing sessions or individual meetings if necessary. Through such activities, the Group implements green procurement activities and promotes procurement from business partners that fulfill the green procurement requirements (see below) together with partners in Japan and overseas.

Using the Fujitsu Group Environmental Survey Sheet, we conduct annual monitoring of our business partners' statuses with regard to environmental management systems, CO<sub>2</sub> emission reduction, biodiversity preservation, and water resource preservation activities, and ask them to take appropriate measures. When making requests, we provide them with various kinds of information—such as guidance on activities to reduce CO<sub>2</sub> emissions, explanatory documents related to water risk, and the water risk information tool AQUEDUCT—which have been useful for our business partners.

- Fujitsu Group Green Procurement Direction  
<https://www.fujitsu.com/global/about/procurement/green/>

Table. Green procurement requirements for business partners

Requirements	Business partners (materials/parts)*1	Business partners (non- materials/parts)
1. Establishment of environmental management systems (EMS)	✓	✓
2. Compliance with regulations for Fujitsu Group specified chemical substances	✓	—
3. Establishment of chemical substance management systems (CMS)	✓	—
4. CO <sub>2</sub> emission control/reduction initiatives	✓	✓
5. Biodiversity preservation initiatives	✓	✓
6. Water resource preservation initiatives	✓	✓

\*1 Business partners (materials/parts): Business partners that supply components for Fujitsu Group products or OEM/ODM products

## Establishment of Environmental Management Systems

We request our business partners to establish environmental management systems (EMS)(\*2) as a base for ensuring that they independently and continuously improve their environmental-preservation activities. In general, we prefer them to have third party-certified EMS. If this is not possible, we ask them to build EMS incorporating the PDCA cycle suited to their circumstances.

\*2 EMS: Environmental management systems

## CO<sub>2</sub> Emission Reduction Initiatives

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The Fujitsu Group also asks our business partners to work toward CO<sub>2</sub> emission reduction in hopes of addressing climate change. Specifically, we ask them to clearly express the intentions of their initiatives and request that they make efforts to achieve the objectives they set. We also ask them to collaborate with external organizations, where possible, and encourage their own suppliers to make similar efforts, in order to expand the initiatives outside their respective businesses. Our annual Supply Chain Business Continuity Survey gives us a clear picture of how business partners are responding to a variety of climate-change risks, including tsunamis, floods, and torrential rains.

## Water Resource Conservation Initiatives

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As populations grow rapidly and water sources become progressively more contaminated, the increased need for water around the world, as well as water resource scarcity, has become an international challenge. Water resource conservation initiatives are necessary, even in business activities. The Fujitsu Group asks its business partners to investigate and understand the water risks associated with their own companies, and engage in water resource conservation initiatives, such as preventing water pollution and reducing water use.

## Acquiring and Managing Information on Chemical Substances Contained in Products

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Countries around the world are establishing legal regulations as to the chemical substances contained in products, for instance the RoHS directive(\*3) and the REACH regulation(\*4). The scope of such regulations is expanding on an almost day-to-day basis, covering more and more substances, products, and applications.

The Fujitsu Group, using chemSHERPA(\*5) as its standard format, investigates and acquires information on the chemical substances contained in our products. We share our findings with Group companies via our internal system, and allow relevant parties to access the information whenever necessary. We have established a system that allows for quick adaptation to revisions of laws/regulations and the enactment of new legal systems.

\*3 RoHS directive: Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

\*4 REACH regulation: Regulation for Registration, Evaluation, Authorization, and Restriction of Chemicals

\*5 chemSHERPA: Chemical information SHaring and Exchange under Reporting PArtnership in supply chain

## Establishing a Chemical substance Management System (CMS) for Product Substances

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The Fujitsu Group not only asks business partners for information on chemical substances contained in their products; we also ask them to establish a Chemical substances Management System (CMS), based on the industry-standard JAMP(\*6) guidelines on the management of chemical substances contained in products. Doing so enables the Group to comply even more thoroughly with laws and regulations related to the chemical substances contained in our products.

The Group also carries out CMS audits in order to confirm appropriate establishment and operation of such CMS. More specifically, Fujitsu's auditors implement on-site evaluation of the management status of the chemical substances contained in our business partners' products. If there are any inadequacies, auditors make requests for corrections and provide support for their enactment. Even after the establishment of CMS, we maintain awareness of its operation status through periodic audits.

\*6 JAMP: Joint Article Management Promotion-Consortium.



## Environmental Management

# Environmental Training and Awareness Activities for Employees

The Fujitsu Group conducts various environmental education and awareness activities based on the belief that “Greater environmental awareness and proactive efforts among all employees are essential for pursuing environmental management.”

## Comprehensive Environmental Training

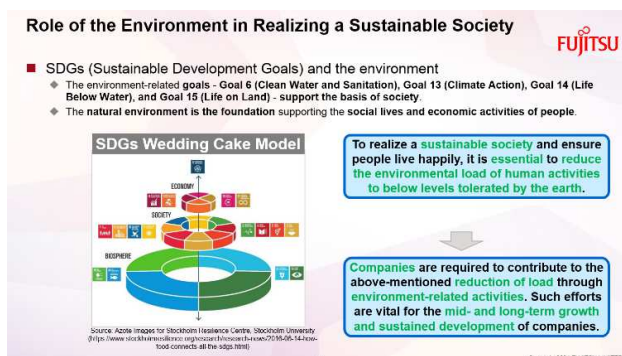
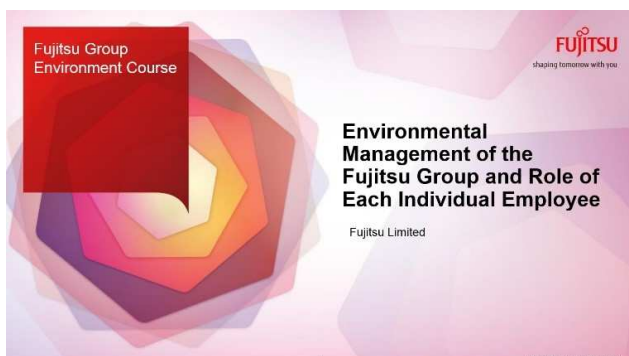
We offer environmental e-Learning opportunities for all employees through programs in our company-wide training system to promote a basic understanding of environmental management. Training is also conducted on a per-division basis. Specialized trainings such as internal auditor training and training for those in charge of waste practices are also conducted for employees who are in charge of environment-related tasks.

### Fujitsu's Environmental Training Scheme

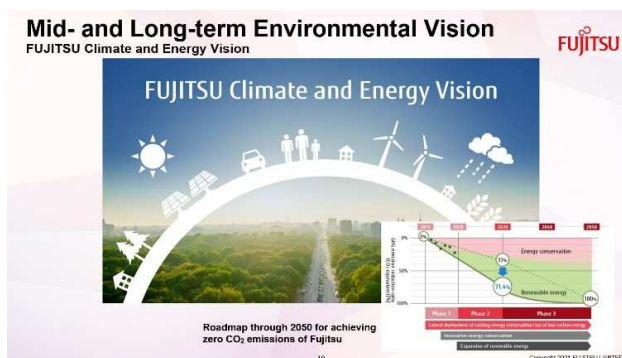
	New hires	Employees	Managers	Top Management
<b>General training</b>	Environmental e-Learning			
<b>Specialized training</b> Note: Only relevant persons attend sessions	Function-specific training (ad-hoc)			
	Internal auditor training			
	Waste management officer training			
<b>Awareness</b>	Seminars, workshops, etc.			
	Environmental Contribution Awards			
	Communication through the Internet and social media			

## Environmental e-Learning

We offer educational opportunities for employees to comprehensively learn about global trends relating to the environment, the environmental management of the Fujitsu Group, and the role played by each employee, based on the theme of “Fujitsu Group environmental management and each employee’s role.” This education is positioned as providing fundamental knowledge that all Fujitsu employees should have under the company-wide employee training system.



Environmental e-Learning Images 1



Environmental e-Learning Images 2

## Communication Through the Internet and Social Media

By disseminating information through the Internet and having lively exchanges of ideas via social media, we encourage employees to think of environmental and societal issues as personal ones.

### Spreading Internal Awareness About the Issue of Plastic Waste

In addition to reducing plastic waste through conventional business activities, starting in June 2019, we have worked to reduce the amount of disposable plastic used in offices, and conducted activities to raise employee awareness. We developed campaigns that used the intranet and social media, and worked to spread awareness within the company while listening to what many employees had to say.

- We conducted a campaign on the intranet that declared we would use reusable shopping bags with the aim of reducing disposable plastic waste, such as shopping bags. More than 3,000 employees posted messages.
- We established a group for "Sustainable Consumption Activities" on Yammer, our internal SNS, and conducted a campaign for employees to bring their own bottles. By conducting a campaign in conjunction with our efforts to move away from drinks in plastic bottles sold by vending machines at our business sites in Japan, as well as the elimination of plastic straws at company cafeterias, we had lively exchanges of ideas about everyday eco-friendly activities, and how the Group can contribute to environmental and social issues.
- In addition to a report posted on our public website about the eco-tour to Tsushima, which was themed around the issue of marine plastic waste, we posted a video primer on a video site to explain the problem. Our efforts to raise awareness are not just within the company.



Poster for the reusable shopping bag declaration



Yammer community site, "Sustainable Consumption Activities"

### [ External Links ]

- Tsushima, An Island Facing a Severe Plastic Waste Pollution Problem  
<https://www.fujitsu.com/global/about/environment/activities/japan/ecotours/>
- [Primer] What is the Marine Plastic Waste Problem?  
<https://www.youtube.com/watch?v=I0EbmdfhgU4>

## Medium- to Long-Term Visions and Targets Focused on Climate Change Issues

# The Fujitsu Group Medium/Long-term Environmental Vision

## FUJITSU Climate and Energy Vision

The Fujitsu Group has established the “FUJITSU Climate and Energy Vision, “a medium- to long-term environmental vision with the goal of bringing the Fujitsu Group’s CO<sub>2</sub> emissions to zero by 2050, as well as contributing to the achievement of a decarbonized society and the adaptation to climate change, through provision of technologies and services supporting digital transformation.

## The Importance of Responding to Climate Change

Climate change, which will have a significant long-term impact on countries and regions around the world, is an important issue for us as a global company. Disasters caused by climate change will disrupt procurement, logistics and energy supply networks, making it difficult to procure parts and energy for our business sites. Tighter regulations on greenhouse gas (GHG) emissions will affect our operations, and the ICT products and services we provide to our customers will also need to be made more energy-efficient. If we fail to provide products and services with excellent energy efficiency in response to regulatory and market demands, we could suffer business losses and a decline in our corporate reputation. At the same time, through innovations in AI, IoT, and other advanced technologies, it is a great business opportunity for us to form ecosystems with customers and various stakeholders, contribute to the decarbonization of society—by taking actions such as reducing the power consumption of customers and society and expanding the use of green power—and provide services and solutions which facilitate adaptation to climate change.

The Fujitsu Group considers climate change to be a serious issue (materiality) that must be addressed, and we have been actively working to meet the goals we previously set in our Environmental Action Plan. Furthermore, in order to contribute to addressing the issue as a leading company, we recognized the need for the Fujitsu Group to have a long-term vision and tackle the issue as a united group. We gathered knowledge and engaged in dialogue with various stakeholders through interviews with outside experts and the activities of external organizations. Taking these into account, the Environmental Management Committee\*, led by the President, formulated the Fujitsu Climate and Energy Vision, our medium- to long-term environmental vision with regard to climate change, and we made it public in May 2017.

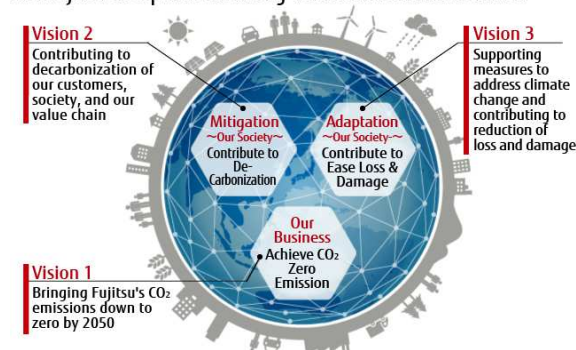
In addition, in April 2021, we revised the emissions reduction targets in FY 2030 shown in Vision 1 from 33% to 71.4% in order to accelerate our own moves toward decarbonization.

\* Its name in 2017. Now the Sustainability Management Committee.

## Concept

As an international framework of measures against global warming starting in 2020, the Paris Agreement, which sets a goal of limiting the rise in global average temperature to less than 2°C above the average temperature prior to the industrial revolution, came into effect in November 2016. In order to achieve this, the goal to “achieve a balance between emissions and removals of greenhouse gases (GHG) in the second half of this century” has been set, and a shift to a decarbonized society will be necessary beginning in 2050. Various change are taking place in the global market as well, and it is expected that regulations on CO<sub>2</sub> emissions will be tightened, carbon taxes and other carbon pricing will be applied to more countries, and

### The Fujitsu Group Medium/Long-term Environmental Vision



carbon tax will rise sharply. In addition, investment taking into account Environmental, Social and Governance (ESG) factors is expanding, which is also exerting a significant influence on market rules.

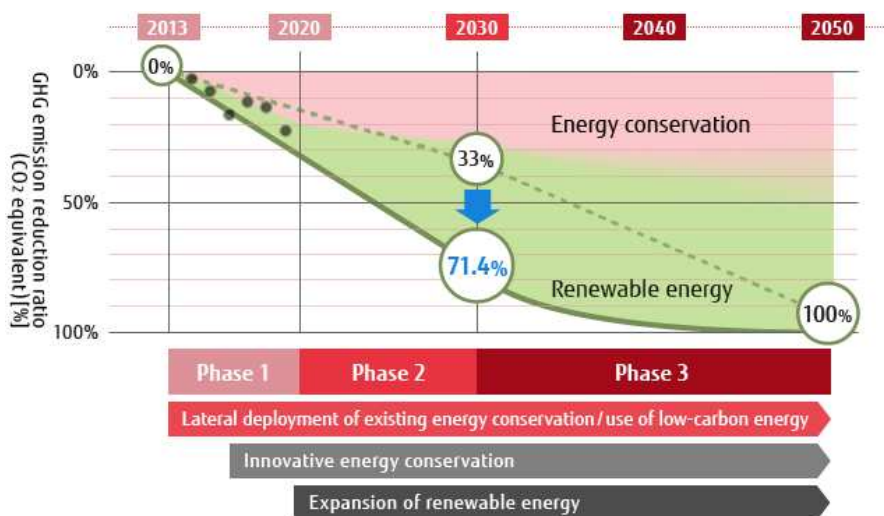
This vision has three pillars, namely, "Our Business: Achieve Zero CO<sub>2</sub> Emissions", "Mitigation: Contribute to a Decarbonized Society" and "Adaptation: Contribute to Measures in Society to Adapt to Climate Change". The Fujitsu Group aims to use ICT effectively to accelerate its own efforts to shift away from carbon, and by providing the knowledge gained from such efforts to customers and society as solutions, leverage its own business activities as a way to mitigate and adapt to climate change.

Note) Paris Agreement: New framework adopted by the 21st Session of the Conference of the Parties to the UN Framework Convention on Climate Change for measures to combat climate change starting in 2020.

## Vision1 Achieving Zero CO<sub>2</sub> Emissions in the Fujitsu Group

The Fujitsu Group established a roadmap for reducing CO<sub>2</sub> emissions where it would gradually reduce them to zero in three phases by 2050, with its intention to take the initiative as a global ICT company to strive to create a decarbonized society. The roadmap has been certified at 1.5 °C by the Science Based Targets initiative (SBTi) \*1 that recommend setting scientifically consistent targets.

\*1 An initiative jointly established by the United Nations Global Compact, the World Resources Institute (WRI: World Resources Institute), and other organizations in 2015. It encourages companies to set GHG emission reduction targets consistent with science-based evidence to the level required by the Paris Agreement, validating targets that comply with criteria including indirect emissions not only within the company but also in the supply chain.



The Roadmap to reduce the Fujitsu Group's CO<sub>2</sub> Emissions to Zero by 2050

### Phase I

In Phase I (until 2020), from the perspective of usability and economic efficiency of the technology, in Japan, we will horizontally deploy energy conservation technologies that already exist, verify new energy conservation technologies that use AI, etc. and move forward with the use of low-carbon energy. Overseas, we will proactively implement renewable energy, focusing on the EU.

### Phase II

In Phase II (until 2030), the Fujitsu Group will work to establish and spread a transition to AI and ZEB\*2, etc. to accelerate the reduction of emissions. Further, we will expand strategic implementation of renewable energy, which is expected to be easier to use in Japan as well, with consideration given to local characteristic and economic efficiency.

\*2 ZEB: Zero Energy Building. A building with significantly reduced yearly energy consumption achieved through conservation of energy in its structure and facilities, and thorough creation of energy by using solar power generation, etc.

## Phase III

In Phase III (2030 and after), we will accelerate implementation of increasingly easy-to-use renewable energy, while supplementing with offsets from carbon credits, with an eye towards deploying and deepening innovative energy conservation technologies and shifting away from carbon.

The Fujitsu Group intends to increase the use of renewable energy in the electricity consumed at Fujitsu Group locations to at least 40% by 2030 and to 100% by 2050 with the membership gained in July 2018 to RE100.

## Vision 2 and 3 “Contributing to a Decarbonized Society” and “Contributing to Measures in Society to Adapt to Climate Change”

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The Fujitsu Group believes that ICT has the potential to contribute to the mitigation of and adaptation to climate change. To that end, we have established “Mitigation: Contribute to a Decarbonized Society” and “Adaptation: Contribute to Measures in Society to Adapt to Climate Change” as pillars of Fujitsu's medium/long-term environmental vision, and are utilizing advanced ICT to create social innovation that contributes to resolving global environmental issues.

### Vision 2 Contributing to a Decarbonized Society

The Fujitsu Group contributes to the decarbonization of society by creating ecosystems with customers in a variety of industries and business types. The key point of mitigation measures is the utilization of AI and other advanced digital technologies to maximize energy efficiency. We will achieve optimal usage of energy for the overall societal system by incorporating those technologies into a mechanism that crosses the boundaries between businesses, industries, and regions.

### Vision 3 Contributing to Measures in Society to Adapt to Climate Change

The key point of measures to adapt to the impact of climate change is advanced measuring technology using AI, big data, and simulations through sensing technology and high-performance computing (HPC), etc. Fujitsu will utilize these to create solutions to enable creation of a resilient societal infrastructure and stable supply of agricultural products, as well as solutions to minimize food product loss, thereby contributing to the minimization of damage to our customers and society caused by climate change.



## Medium- to Long-Term Visions and Targets Focused on Climate Change Issues

# Medium- to Long-Term Targets

The Fujitsu Group participates in the following initiatives with the aim of making the Fujitsu Climate and Energy Vision—its medium- to long-term environmental vision—a reality.

## Approval by Science Based Targets (SBT) Initiative

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In August 2017, the reduction targets of greenhouse gas (GHG) emissions from its business facilities and a part of value chain, set by Fujitsu Group, was approved by Science Based Targets (SBT) initiative as being at science based level. The SBT initiative was established in 2015 jointly by a number of organizations, including the World Resources Institute (WRI) and UN Global Compact. It encourages companies to set GHG emission reduction targets consistent with science-based evidence to the level required by the Paris Agreement, validating targets that comply with criteria including indirect emissions not only within the company but also in the supply chain.



### Targets

- To reduce GHG emissions from our business facilities by 71.4% by FY 2030 and 80% by FY 2050 in comparison to FY 2013.
- To reduce GHG emissions from our business value chain (purchased goods and services, and the use of sold products) by 30% by FY 2030 in comparison to FY 2013.

## Joining RE100 as Japan's First Gold Member

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In July 2018, Fujitsu joined RE100, which strives to significantly expand the adoption of renewable energy at a global scale, as Japan's first Gold Member. RE100 is an international initiative led by The Climate Group in partnership with CDP and consists of companies committed to source 100% of the electricity they use from renewable sources.

The Fujitsu Group will consider the appropriate steps for each region and expand its procurement of electricity from renewable sources at locations in Japan and around the world, starting with data centers outside Japan. The Group will concurrently continue its work on R&D and technology trials for energy management and storage, and contribute to the spread of renewable energy in society as a whole.

### Renewable Energy Electricity Usage Goals at Fujitsu Group Locations

- Goal : 100% by 2050
- Intermediate Goal : 40% by 2030



## Medium- to Long-Term Visions and Targets Focused on Climate Change Issues

## TCFD-Based Information Disclosure

The Task Force on Climate-Related Financial Disclosures (TCFD) was established by the Financial Stability Board at the request of G20 with the objective to reduce the risk of instability in the financial market due to climate change. The task force announced its recommendations in June 2017 asking companies and organizations to gain understanding of and disclose the risks and opportunities arising from climate change. The Fujitsu Group announced its support for the TCFD recommendations in April 2019 and strives to disclose information in line with the recommendations, including responding to CDP (\*1).

\*1 CDP:

An international nonprofit organization which offers the only global system for measuring, disclosing, managing and sharing important environmental information of companies and cities. CDP is working together with the world's leading institutional investors to encourage companies to disclose their impact on the environment and natural resources, and to take steps to mitigate that impact.

Item	Response Status	Reference
Governance	<p>Under our system for promoting environmental management, we have established the Sustainability Management Committee chaired by the Representative Director. This committee deliberates on medium- and long-term issues, makes policies, shares the risks and opportunities arising from climate change, determines measures to tackle them and manages the progress of these activities. It also reports the results of these activities to the Board of Directors at the meetings of the Management Council.</p> <p>Furthermore, under the supervision of the Board of Directors, the Risk Management and Compliance Committee, chaired by the Representative Director, analyzes and responds to risks throughout the Group, including those related to climate change, in the company-wide risk management system. The Committee is the highest decision-making body for risk management, and regularly reports to the Board of Directors on important risks that have been identified, analyzed, and evaluated. The Representative Director, who serves as committee chairperson, and other officers in charge, serve as members on these committees.</p> <p>In addition, the Fujitsu Group has established an environmental management system (EMS) based on ISO 14001, and the results of EMS activities are reported to the Board of Directors through the Management Committee.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Sustainability Management in the Fujitsu Group</a></li> <li>• <a href="#">Environmental Management System</a></li> <li>• <a href="#">Risk Management</a></li> <li>• <a href="#">Corporate Governance</a></li> </ul>
Strategy	<p>The Fujitsu Group has conducted scenario analyses using the 2°C scenario, considering the period up to the year 2050. The results show risks and opportunities, as shown in the table below. ICT products and services which can contribute to the mitigation of and adaptation to climate change will provide sales growth opportunities, while physical and regulatory risks will affect our operating expenses and supply chain costs. For more details on how to deal with risks and other issues, please refer to "Handling Environmental Risks" on the right.</p> <p>Based on these analyses of risks and opportunities arising from climate change in the medium to long term (2030-2050), we have formulated the FUJITSU Climate and Energy Vision, a medium- to long-term environmental vision through 2050. As the world strives for decarbonization, we recognize that any delay in action can lead to risks. Therefore, this vision aims to promote zero CO<sub>2</sub> emissions from our company using ICT and contribute technology services that support digital innovation to build a decarbonized society and cope with climate change, including turning know-how gained into services. By responding to our medium- and long-term environmental vision, we assessed that we are resilient in our strategy.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Response to Environmental Risks</a></li> <li>• <a href="#">Medium- to long-term environmental vision</a></li> </ul>



	<table><tr><th>Risks/opportunities</th><th>Content</th></tr><tr><td>Policy and regulatory risks</td><td>The risk of increased costs which are associated with stricter laws and regulations (such as a carbon tax) related to greenhouse gas emissions and energy use, as well as decreased corporate value in the event of non-compliance</td></tr><tr><td>Technology risks</td><td>The risk of unrecovered investments and loss of market share if we are outperformed in the fierce competition to develop technologies for a decarbonized society (such as energy-saving performance and low-carbon services)</td></tr><tr><td>Market risks</td><td>The risk of losing business opportunities if we do not meet the energy-saving performance needs for products and services</td></tr><tr><td>Reputation risks</td><td>The risk of a decline in corporate value or an increase in response costs due to a negative assessment by stakeholders regarding the status of climate change measures (such as the percentage of renewable energy adoption)</td></tr><tr><td>Opportunities for products and services</td><td>Increased sales through the provision of low-power consumption products (e.g., high-performance computers) and services that contribute to climate change mitigation and adaptation (such as Efficiency improvement using mathematical optimization technology and AI-based river level predictions)</td></tr><tr><td>Marketplace opportunities</td><td>The acquisition of new market opportunities for climate change countermeasures created through the use of ICT (such as improved energy efficiency using AI and various simulations using supercomputers, as well as energy supply and demand adjustment using blockchain technology)</td></tr></table>	Risks/opportunities	Content	Policy and regulatory risks	The risk of increased costs which are associated with stricter laws and regulations (such as a carbon tax) related to greenhouse gas emissions and energy use, as well as decreased corporate value in the event of non-compliance	Technology risks	The risk of unrecovered investments and loss of market share if we are outperformed in the fierce competition to develop technologies for a decarbonized society (such as energy-saving performance and low-carbon services)	Market risks	The risk of losing business opportunities if we do not meet the energy-saving performance needs for products and services	Reputation risks	The risk of a decline in corporate value or an increase in response costs due to a negative assessment by stakeholders regarding the status of climate change measures (such as the percentage of renewable energy adoption)	Opportunities for products and services	Increased sales through the provision of low-power consumption products (e.g., high-performance computers) and services that contribute to climate change mitigation and adaptation (such as Efficiency improvement using mathematical optimization technology and AI-based river level predictions)	Marketplace opportunities	The acquisition of new market opportunities for climate change countermeasures created through the use of ICT (such as improved energy efficiency using AI and various simulations using supercomputers, as well as energy supply and demand adjustment using blockchain technology)	
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Risk Management	<p>As part of our company-wide risk management system, we have established the Risk Management and Compliance Committee to identify, assess and manage risks across the Group, including those related to climate change. In order to conduct company-wide risk assessments on a regular basis, the committee prepares tools, distributes them to each employee responsible for risk management and compliance, and gathers responses. The departments in charge of each risk across the entire company utilize these tools to conduct assessments on items such as the impact and likelihood of occurrence related to risk threats and the status of countermeasures, and provide answers to risk threats. Climate change-related risk assessments are conducted by all relevant departments, using information collected from across the company, based on the expertise of each department in areas such as policy, reputation, natural disasters, the supply chain, and products and services. The Risk Management and Compliance Committee conducts a centralized matrix analysis of the results of the assessments answered by each department in terms of impact and likelihood of occurrence, then identifies high-priority risks at the company-wide level. The results of this analysis are reported to the Board of Directors.</p> <p>The Sustainable Management Committee shares business risks, opportunities and countermeasures which are due to climate change, and manages progress. In addition, the Fujitsu Group has established an environmental management system based on ISO 14001. Under this system, we monitor compliance and other risks.</p>	<ul style="list-style-type: none"><li>• <a href="#">Response to Environmental Risks</a></li><li>• <a href="#">Environmental Management System</a></li><li>• <a href="#">Risk Management</a></li></ul>														
Indicators & Targets	<p>The Fujitsu Group recognizes the importance of reducing GHG emissions and adopting renewable energy sources in addressing climate-related risks. We also believe that the deployment of innovative energy-saving technologies implemented by our company will lead to the acquisition of climate-related opportunities. We therefore use GHG emissions and the percentage of renewable energy adoption as indicators. We have set SBTi certification targets and RE100</p>	<ul style="list-style-type: none"><li>• <a href="#">Medium- to long-term environmental vision</a></li><li>• <a href="#">Fujitsu Group Environmental Action Plan</a></li></ul>														

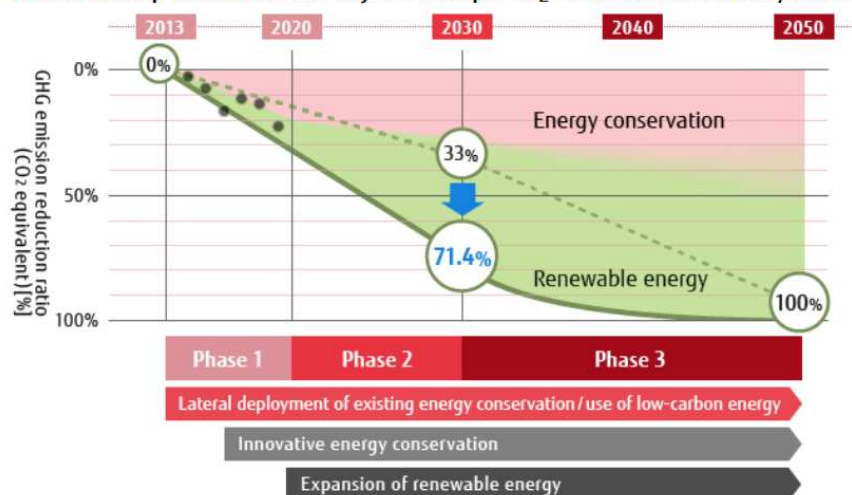
targets as medium- and long-term goals, and established the "Environmental Action Plan" for short-term goals, and we are monitoring those indicators, managing the progress of our strategies, and conducting risk management. The table below shows the Fujitsu Group's targets for reducing GHG emissions and our actual results, while the figure below shows our roadmap and measures for achieving our own zero CO<sub>2</sub> emissions, which is one of the items in our medium- to long-term environmental vision.

Item	GHG Emissions Performance (FY 2020)
Scope 1	75 ktons-CO <sub>2</sub>
Scope 2 (Location-based)	583 ktons-CO <sub>2</sub>
Scope 2 (Market-based)	540 ktons-CO <sub>2</sub>
Scope 3 (Category 1)	1,104 ktons-CO <sub>2</sub>
Scope 3 (Category 11)	3,094 ktons-CO <sub>2</sub>

Items		Targets		Achievements (FY 2020)
Reducing the volume of our own GHG emissions*1	Short-term	Reduction of 14% by 2020*2	Environmental Action Plan	32.7% reduction
	Medium-term	Reduction of 71.4% by 2030*2	SBT1.5°C certification	
	Long-term	Reduction of 80% by 2050*2*3	SBT2.0°C certification	
Reducing the volume of the value chains' GHG emissions*1	Medium-term	Reduction of 30% by 2030*4	SBT 2.0°C certification	48.7% reduction
Percentage of renewable energy adoption	Medium-term	40% adoption by 2030	RE100 membership	10.1% adoption
	Long-term	100% adoption by 2050	RE100 membership	

\*1 vs. 2013, \*2 Scope 1 + Scope 2, \*3 Excluding carbon credits, \*4 Scope3 Category 1 + Category 11

### The Roadmap to Reduce the Fujitsu Group's CO<sub>2</sub> Emissions to Zero by 2050



Environmental Action Plan

# Fujitsu Group Environmental Action Plan

## Operating Environment and Growth Strategy

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### 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

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### 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 CO<sub>2</sub> 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.

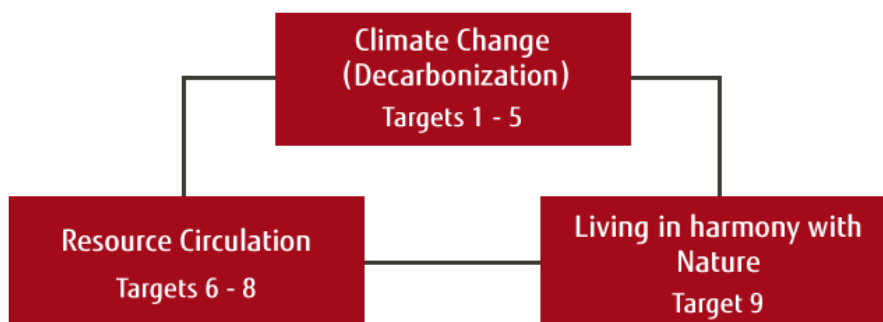
\*1 An annual report issued by the World Economic Forum that lists, by likelihood and by impact, the major risks facing the world.

\*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**

	Upstream Business (partners)	Fujitsu's Business Areas	Downstream Business (customers and society)	
Fujitsu's Transition to a Digital Transformation (DX) Enterprise				Sustainable Development
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>Reducing CO<sub>2</sub> emissions in the upstream supply chain</li> </ul>	<ul style="list-style-type: none"> <li>Reducing GHG emissions at business sites</li> <li>Improving power usage efficiency in data centers</li> <li>Expanding the use of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Reducing CO<sub>2</sub> emissions by using products with low power consumption</li> </ul>	
<b>Resource Circulation</b>	<ul style="list-style-type: none"> <li>Reinforcing awareness of the need to conserve water resources in the upstream supply chain</li> </ul>	<ul style="list-style-type: none"> <li>Reducing water usage</li> </ul>	<ul style="list-style-type: none"> <li>Promoting eco design for resource saving and circulation and increasing resource efficiency of newly developed products</li> </ul>	
<b>Living in harmony with nature (Conservation of Biodiversity)</b>		<ul style="list-style-type: none"> <li>Visualizing and reducing the impact of corporate activities on ecosystems and on biodiversity</li> </ul>		

**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 CO<sub>2</sub> emissions due to power consumption during product usage by 17% or more, compared with FY2013
5. Drive activities to reduce CO<sub>2</sub> 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 <sub>2</sub> emission due to power consumption during product usage by more than 14% (compared to FY2013).		37% reduction
10. Drive activities to reduce CO <sub>2</sub> emissions and conserve water resources in the upstream supply chain.		<ul style="list-style-type: none"> <li>Reducing CO<sub>2</sub> 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).</li> <li>Conserving water resources: Completed requests to the Fujitsu Group's key partners (approximately 700 companies) to undertake activities.</li> </ul>
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

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#### **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

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#### **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)

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### 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 CO<sub>2</sub> emissions from our business activities by 2050.

Among GHGs, our business sites (plants and offices, as well as datacenters) primarily emit CO<sub>2</sub> when energy (electricity, fuel oil, gas) is used, and perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>) 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 CO<sub>2</sub> Emitted During Energy Consumption

About 99% of the Fujitsu Group's total GHG emissions arise from CO<sub>2</sub> emissions due to energy consumption. Therefore, we continuously promote the following energy-saving measures to reduce CO<sub>2</sub> 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 CO<sub>2</sub>

As for GHGs other than CO<sub>2</sub>, the Fujitsu Group mainly uses perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>) 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%

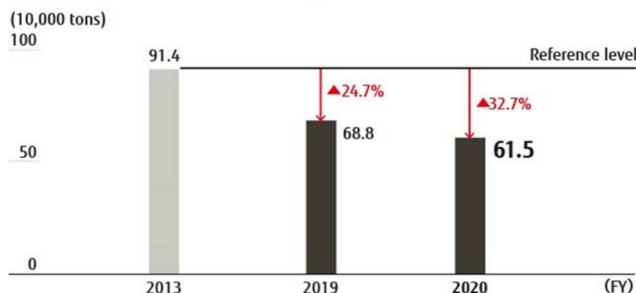
\*1 Target organizations: Business sites owned by Fujitsu and the Fujitsu Group. Includes major data centers.

\*2 Reduction rate based on market standards

## Promoting Reduction in CO<sub>2</sub> 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-CO<sub>2</sub> in comparison to conventional air conditioners. We also improved facility operations at the Tatebayashi System Center (1,261 tons-CO<sub>2</sub>) 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

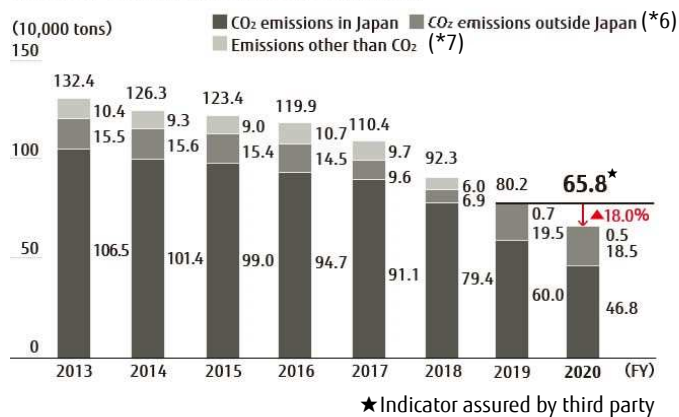
19,000 tons-CO<sub>2</sub> (2.4% in comparison to last fiscal year).

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 CO<sub>2</sub> 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



Our total GHG emissions in FY 2020 were 658 thousand tons-CO<sub>2</sub>★ (output level per sales amount: 18.2 tons-CO<sub>2</sub>/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 CO<sub>2</sub> emissions in Japan and overseas: The CO<sub>2</sub> conversion factor for purchased electric power in performance reports has been calculated with a fixed value of:  
In Japan - 0.570 tons-CO<sub>2</sub>/MWh from FY 2013 to FY 2015, 0.534 tons-CO<sub>2</sub>/MWh for FY 2016, 0.518 tons-CO<sub>2</sub>/MWh for FY 2017, 0.497 tons-CO<sub>2</sub>/MWh for FY 2018, 0.461 tons-CO<sub>2</sub>/MWh for 2019, and 0.444 tons-CO<sub>2</sub>/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 CO<sub>2</sub>: These are converted to equivalent amounts of CO<sub>2</sub> 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 CO<sub>2</sub> emissions (FY 2020) for each business in the Fujitsu Group. Since data center CO<sub>2</sub> 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.

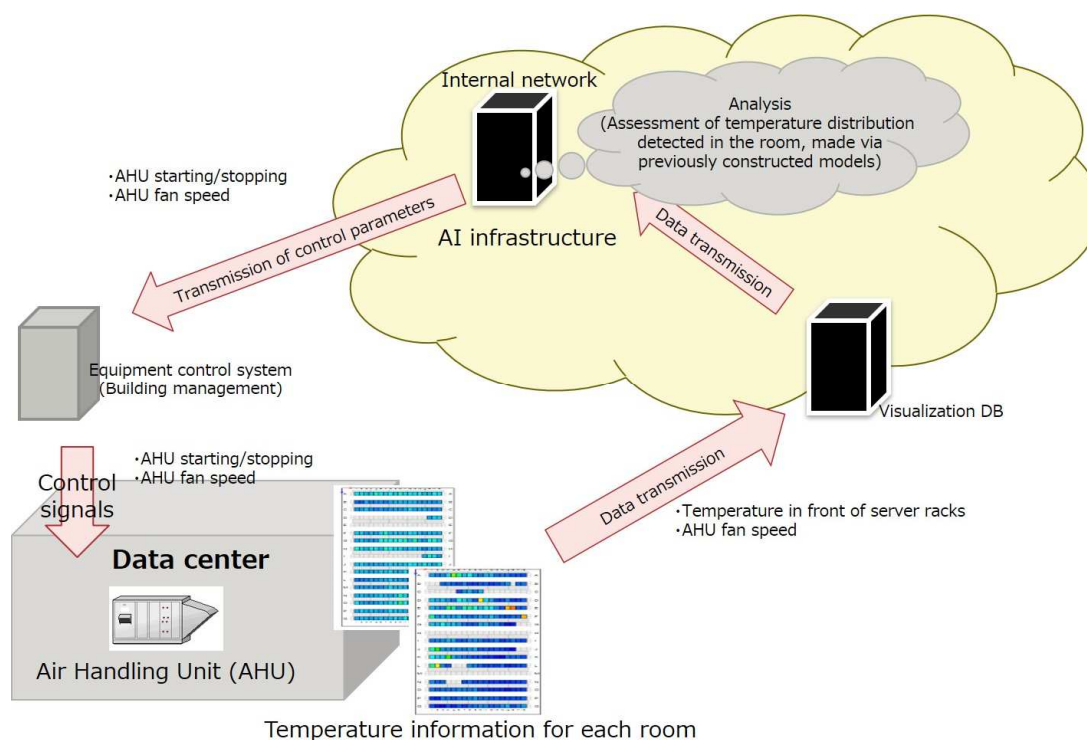
## PUE values and calculation methods

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

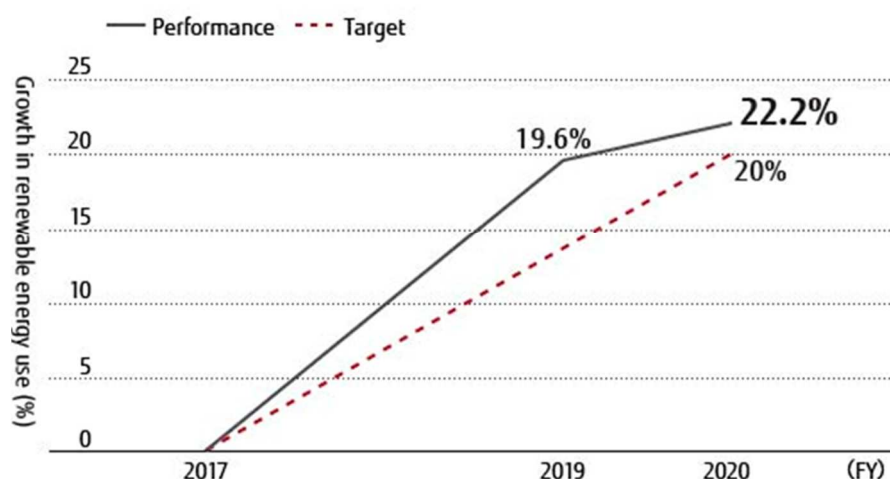
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Expand the amount of renewable energy used by 20% or more in comparison to FY 2017	Renewable energy use grew by 22.2%

## 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

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### 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

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### 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/>



Environmental Action Plan

## Resource Circulation

### External Trends

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#### 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

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#### 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)

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#### 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.

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

## 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.

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.



LIFEBOOK U7511/G

\*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

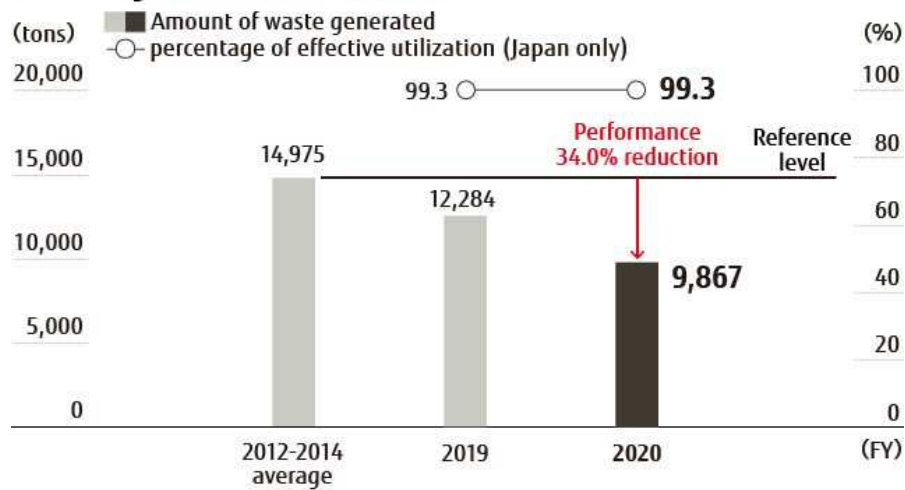
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce the amount of waste generated by 5% or more of the average amount generated from FY 2012 to FY 2014 (Target 14,226 t/year or less) (*1)	34% reduction

\*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



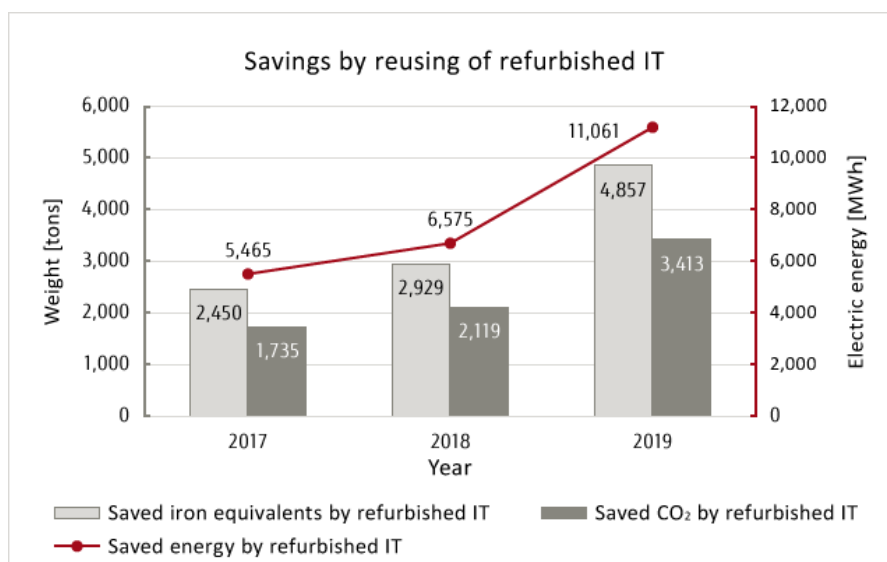
the start of a piece of work and thinking 'right, how can I maximize the benefit of this project.'

**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 CO<sub>2</sub> 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

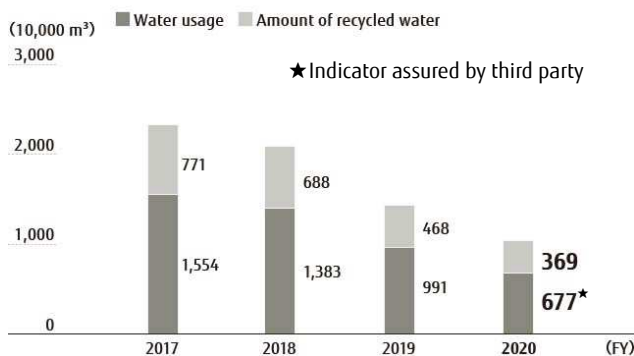
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce water consumption by 1% in total, compared to FY 2017 (83,000 m <sup>3</sup> ).(*1)	2.2% reduction compared to FY 2017 (180,000 m <sup>3</sup> reduction)

\*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 m<sup>3</sup> for the last year, and achieved 217% of the target value of 83,000 m<sup>3</sup> which was set in the Fujitsu Group Environmental Action Plan (Stage IX).

## 6.77 million m<sup>3</sup> 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 m<sup>3</sup>\* (output level per sales amount: 188.6 m<sup>3</sup>/100 million yen), a 31.7% reduction compared to FY 2019. 3.69 million m<sup>3</sup> 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

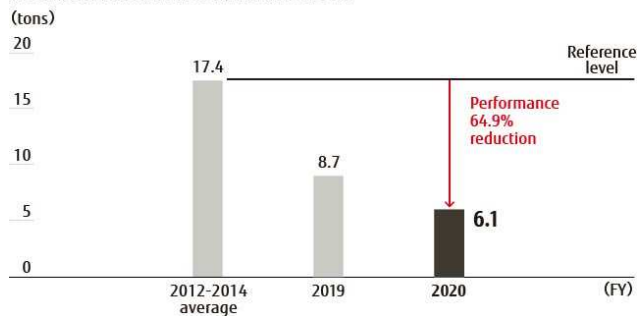
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduce chemical pollutant (PRTR) release to less than the average level of FY 2012-2014 (17.4 t/year or less). (*1)	PRTR: 6.1 tons

\*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

Trends in PRTR Substance Emissions



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).

Environmental Action Plan

## Supply Chain

### External Trends

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#### **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

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#### **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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions and conserve water resources in the upstream supply chain. Regarding reductions in CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> Emissions by Reducing Power Consumption When Using Products

## Our Approach

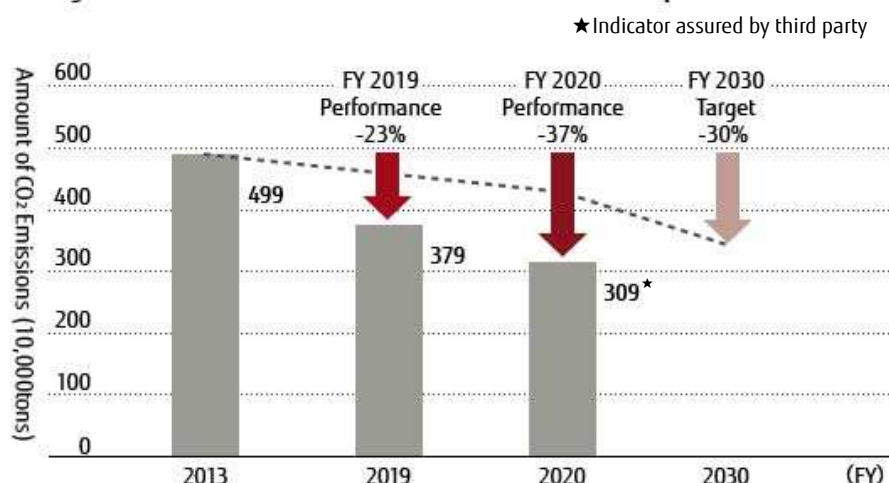
As ICT grows more and more common, we expect there to be an increase in energy demand in proportion to the higher performance and higher-density integration of servers and other ICT products. Various countries and regions are also expanding their energy-related regulations for ICT products, and energy 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 <sub>2</sub> emissions due to product power consumption by 14% or more in comparison to FY 2013.	Reduced by 37%

Change in CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions in order to help contain global warming. As a result, all of our primary suppliers have undertaken efforts to reduce their CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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

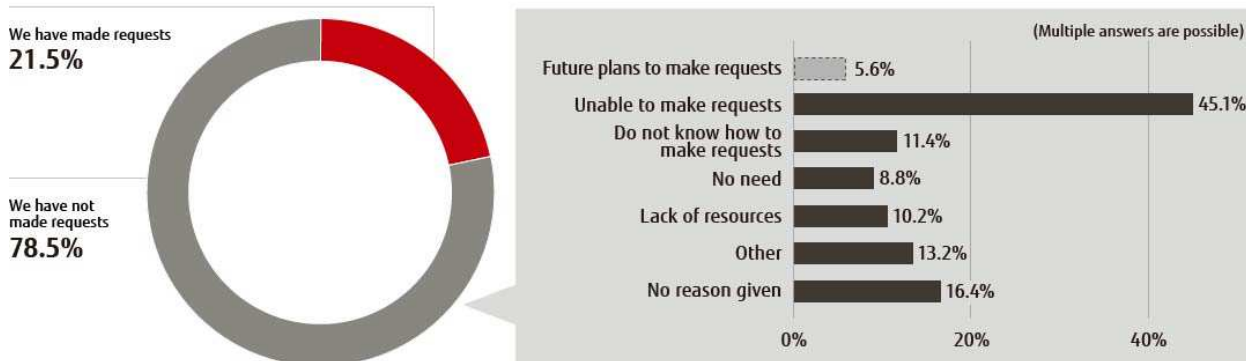
Targets under the Fujitsu Group Environmental Action Plan (Stage IX)	Last fiscal year (FY2020 result)
Reduction of CO <sub>2</sub> Emissions: Drive Activities to Reduce CO <sub>2</sub> Emissions in the Supply Chain	Made requests for secondary suppliers (over 60,000 companies) to take action on reducing 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> Emissions



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

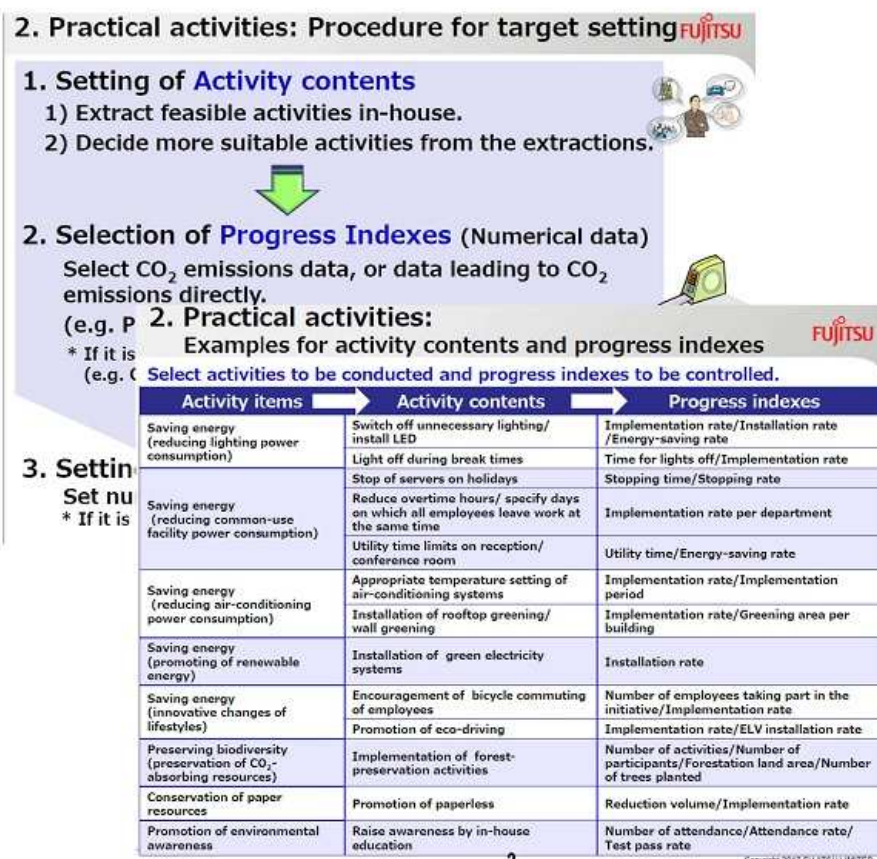
## Offering Guidelines for Activities for Reducing CO<sub>2</sub> Emissions

The Fujitsu Group created original explanatory materials to facilitate the spread of activities for reducing CO<sub>2</sub> 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 CO<sub>2</sub> 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/>

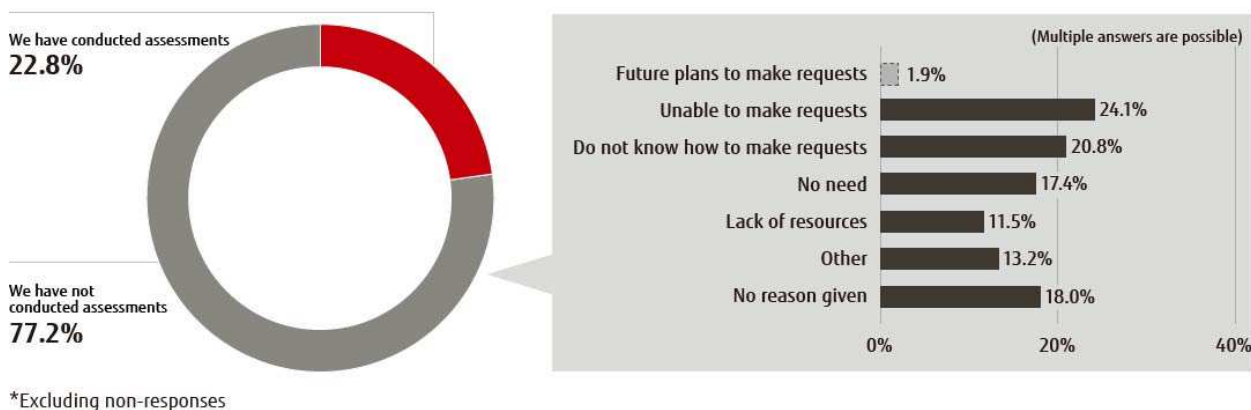
## Informational materials for business partners



## 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 CO<sub>2</sub> 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/>



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/>

## Environmental Data

## Global Warming Prevention

## GHG Emissions Report Based on GHG Protocol Standards

★Indicators assured by third party

Indicator		FY2017 (*1)	FY2018	FY2019	FY2020
Upstream (Scope 3) [ktons-CO <sub>2</sub> ]					
	Purchased goods and services	2,169	1,840	1,436	1,104★
	Capital goods	13	6	9	15
	Fuel and energy-related activities not included in Scopes 1 and 2	72	71	133	99
	Transportation and distribution (Upstream)	80	69	64	53
	Waste generated in operations	7	5	N/A	N/A
	Business travel	86	93	155	27
	Employee commuting	69	68	52	89
	Leased assets (Upstream)	288	281	115	88
Reporting company (Scope 1, 2) [ktons-CO <sub>2</sub> ]					
	Direct emissions (Scope1)	198	147	87	75★
	Indirect emissions from energy sources (Scope2)	939 (*2) 912 (*3)	808 (*2) 771 (*3)	715 (*2) 663 (*3)	583★ (*2) 540★ (*3)
Downstream (Scope 3) [ktons-CO <sub>2</sub> ]					
	Transportation and distribution (Downstream)	N/A (*4)	N/A	N/A	N/A
	Processing of sold products	27	23	14	12
	Use of sold products	3,460	3,649	3,791	3,094★
	End-of-life treatment of sold products	N/A	N/A	N/A	N/A
	Leased assets (Downstream)	N/A	N/A	N/A	N/A
	Franchises	N/A	N/A	N/A	N/A
	Investment	N/A	N/A	N/A	N/A

- \*1 Estimate on not applicable and other items
- Transportation and distribution (downstream): 6 ktons-CO<sub>2</sub>.
  - Disposal of products sold: 1 ktons-CO<sub>2</sub>.
- \*2 Location-based
- \*3 Market-based
- \*4 N/A : Not Applicable



## Environmental Data

## Material Balance

## INPUT

Stage		Unit	FY2017	FY2018	FY2019	FY2020
Development / Design Planning / Design	Raw Materials					
	Metal	ktons	16	15	19	12
	Plastic	ktons	9	7	7	5
	Others	ktons	13	12	13	9
	Chemical Substances *1					
	VOC	ktons	1.3	1.1	0.6	0.3
	PRTR	ktons	9.5	10.4	9.6	9.8
	Water					
	Water usage	Mm <sup>3</sup>	15.54	13.83	9.91	6.67★
	Energy					
	Total	PJ	19.25	17.35	16.30	13.78★
	Purchased electricity	GWh	1,800	1,614	1,477	1,240
	Heavy oil, kerosene, etc.	kL	10,100	6,822	3,570	2,898
	LPG, LNG	tons	2,954	2,222	2,115	2,078
	Natural gas, city gas	Mm <sup>3</sup>	29.76	28.01	28.93	25.24
	District heating and cooling	TJ	43	41	37	52
Distribution / Sales	Energy					
	Fuel (light oil, gasoline, etc.)	PJ	1.18	1.02	0.95	0.77
Use of sold Products	Energy					
	Electricity	GWh (PJ)	6,680 (66.60)	7,356 (73.34)	8,224 (81.99)	6,970 (69.49)
Collection / Reuse / Recycling	Resources recycling rate	%	91.5	91.7	91.1	91.6
	Amount processed	tons	3,844	3,436	3,210	2,991

## OUTPUT

Stage		Unit	FY2017	FY2018	FY2019	FY2020
Development / Design Planning / Design	Raw Materials					
	CO <sub>2</sub> emissions	ktons-CO <sub>2</sub>	520	410	450	310
	Chemical Substances (*1)					
	VOC	tons	228	178	161	135★
	PRTR	tons	10	9	8	6★
	Atmospheric Release					
	Total GHG emissions	ktons-CO <sub>2</sub>	1,137	955	802	658★
	CO <sub>2</sub>	ktons-CO <sub>2</sub>	1,040	895	795	653★
	GHG other than CO <sub>2</sub> (PFCs, HFCs, SF <sub>6</sub> , others)	ktons-CO <sub>2</sub>	97	60	7	5★
	NOx	tons	63	32	47	26
	SOx	tons	11	4	1	1
	Water Discharge					
	Total	Million m <sup>3</sup>	14.61	12.65	9.06	6.48
	BOD	tons	290	270	274	303
	COD	tons	94	55	35	9
	Waste					
	Amount of Waste Generated	ktons	21.9	19.0	15.7	11.0★
	Thermal recycling volume	Ktons	4.8	4.0	3.0	1.7★
	Material recycling volume	ktons	16.0	14.3	12.0	8.8★
	Disposal volume	ktons	1.1	0.7	0.6	0.5★
Distribution / Sales	Atmospheric Release					
	CO <sub>2</sub>	ktons-CO <sub>2</sub>	76	69	64	53
Use of sold Products	Atmospheric Release					
	CO <sub>2</sub>	Million tons-CO <sub>2</sub>	3.46	3.65	3.79	3.09★

★ Indicators assured by third party

\*1 Substances that qualify as both a PRTR targeted chemical and a VOC are included under "VOCs" only.

## Environmental Data

## Environmental Performance Data Calculation Standards

- Applicable Period: April 1, 2020 – March 31, 2021

## Fujitsu Group Environmental Action Plan (Stage IX)

Boundary : Refer to 5 -3 -3 in this Book

Target Item	Indicator	Unit	Calculation Method
Reduce greenhouse gas (GHG) emissions from business sites by 14% or more (compared to FY 2013), and reduce GHG emissions by 2.1% or more, year-on-year, through voluntary efforts.	GHG emissions	tons-CO <sub>2</sub>	<ul style="list-style-type: none"> <li>• Amount of CO<sub>2</sub> emissions:  <math>\Sigma [(fuel\ oil, gas\ annual\ usage) \times CO_2\ conversion\ factor\ for\ each\ type\ of\ energy^*]</math>            * CO<sub>2</sub> conversion factor: Conversion factor based on the Act on Promotion of Global Warming Countermeasures</li> <li>• Location-based:               <ul style="list-style-type: none"> <li>• Japan: Usage of 0.444 tons-CO<sub>2</sub>/MWh in FY 2020 (Source: Adjusted emission factors from the Electric Power Council for a Low Carbon Society)</li> <li>• Overseas: Latest IEA value (by country)</li> </ul> </li> <li>• Market-based:               <ul style="list-style-type: none"> <li>• Japan: FY 2019 emission factors for each power producer are used (adjusted emission factors) (Source: GHG Emissions Accounting, Reporting, and Disclosure System List of Emission Factors by Power Producer)</li> <li>• Overseas: Value of the power company or the latest IEA value (by country)</li> </ul> </li> </ul>
	Rate of reduction of GHG due to voluntary efforts	%	(Total amount of GHG reductions due to voluntary efforts / total amount of GHG emissions in the previous fiscal year) × 100
Improve PUE (Power Usage Effectiveness) of our data centers (DC) by 2% or more compared to FY 2017.	Rate of PUE improvements	%	<ul style="list-style-type: none"> <li>• <math>PUE = \Sigma (Total\ DC\ energy\ consumption) \div \Sigma (Total\ IT\ device\ energy\ consumption)</math>  <math>\Sigma</math>: Combined total energy of the 25 main DCs</li> <li>• Rate of improvement (%) = (Base fiscal year PUE - PUE for the current fiscal year) ÷ Base fiscal year PUE × 100            Base fiscal year: FY 2017</li> </ul>
Increase renewable energy usage by 20% or more compared to FY 2017.	Rate of increase in the use of renewable energy	%	The percentage of increase in the amount of power generated in-house or purchased from external sources using renewable energy (solar power, wind power, hydro power, biomass, geothermal, etc.) from FY 2017 (base fiscal year) to the relevant fiscal year

Promote eco design for resource saving and circulation and increase resource efficiency of newly developed products by 25% or more (compared to FY 2014).	Rate of improvement of resource efficiency of new products	%	<ul style="list-style-type: none"> <li>The average rate of improvement of resource efficiency (versus FY 2014) of products*.</li> <li>* Hardware products under the Fujitsu Brand, newly developed between FY 2016 and FY 2020. Excludes products not designed by Fujitsu (OEM products) and products designed under customer specifications.</li> <li>* Refer to "Improving resource efficiency of products" for the resource efficiency calculation method.</li> </ul>
Reduce amounts of waste generated by 5% or more of the average waste generated from FY 2012-2014 (14,226 t/1 year).	Amount of waste generated	Tons	Total amount of industrial waste and general waste generated at plants and business sites (Thermal recycling volume + Material recycling volume + Disposal volume)
	Effective utilization rate (Japan only)	%	(Amount of effective use (thermal recycling & material recycling) / Amount of waste generated) x 100
Maintain 90% or more resource reuse rate of business ICT products.	Resource reuse rate of business ICT products	%	Based on the calculation method provided by JEITA, recycled components and resources as a percentage of the weight of used products processed in Japan. Excludes collected waste other than used electronic products
Reduce total water usage by 1% compared to FY2017 (83,000 m <sup>3</sup> ).	Amount of water usage reduction	m <sup>3</sup>	Take the accumulated impact (actual or estimated) of water use reduction measures implemented at each business site, and calculate the amount of reduction for the relevant fiscal year
Limit the release of chemical pollutants (PRTR) to an amount below the average amount released from FY 2012-2014 (17.4t/1 year).	Volume of PRTR-targeted substances released	Tons	Total emissions of substances subject to the PRTR Law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof) that are handled in quantities of 100 kg or more per year per substance at each business site, including overseas sites
Reduce CO <sub>2</sub> emissions due to power consumption during product usage by 14% or more (compared to FY 2013).	Rate of reduction in CO <sub>2</sub> emissions when products are used	%	Rate of reduction in GHG emissions based on FY 2013 emissions, as calculated under Scope 3: Use of sold products through downstream

## GHG Emissions Amount Report based on GHG Protocol Standards

Indicator		Unit	Calculation Method
Upstream (Scope 3)	Purchased goods and services	tons-CO <sub>2</sub>	Components purchased during the fiscal year x Emissions per unit of purchase (Source: Embodied Energy and Emissions Intensity Data (3EID) published by the National Institute for Environmental Studies Center for Global Environmental Research)
	Capital goods	tons-CO <sub>2</sub>	Total amount of acceptance inspection of construction objects in the fiscal year × emission intensity (Source: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.1 published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry)
	Fuel and energy-related items not included in Scope 1 or 2)	tons-CO <sub>2</sub>	Annual amounts of fuel oil and gas, electricity and heat purchased (consumed) mainly at business sites owned by Fujitsu x Emissions per unit (Source: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.1 published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry, Based on the Japanese emissions intensity database, IDEA v2.3 (For calculating greenhouse gas emissions in the supply chain))

	Transportation and distribution (upstream)	tons-CO <sub>2</sub>	Transportation of goods within Japan: CO <sub>2</sub> emissions related to the transportation of goods within Japan by the Fujitsu Group * CO <sub>2</sub> emissions related to domestic transportation by the Fujitsu Group, based on the Act on the Rational Use of Energy as a source. The fuel economy method (for some vehicles) or the improved ton-kilometer method (vehicle, rail, air)
		tons-CO <sub>2</sub>	International transport/overseas local transport: transportation ton-kilometer x Emission per unit (Source: GHG protocol emissions coefficient database)
	Waste generated in operations	tons-CO <sub>2</sub>	Annual amounts of waste (discharged mainly by business sites owned by Fujitsu) processed or recycled, by type and processing method x Emissions per unit of annual amount of waste processed or recycled (Source: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.1 published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry, Based on the Japanese emissions intensity database, IDEA v2.3 (For calculating greenhouse gas emissions in the supply chain))
	Business travel	tons-CO <sub>2</sub>	(By means of transport) $\Sigma$ (Transportation expense payment x Emissions per unit) (Source: Basic Guidelines for Calculating Greenhouse Gas Emissions Via Supply Chains Ver. 2.3 and Emissions per Unit Database Ver. 3.1 published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry)
	Employee commuting	tons-CO <sub>2</sub>	For portions of commute by public transportation: (By means of transport) $\Sigma$ (Transportation expense payment x Emissions per unit) (Source: Same as above) For portions of commute by private automobile: $\Sigma$ (Transported persons-kilometer x Emissions per unit) (Source: Same as above) Transported persons-kilometer : calculated from transportation expense payment, price of gasoline, and fuel efficiency
	Leased assets (Upstream)	tons-CO <sub>2</sub>	Annual amounts of fuel oil, gas, electricity, and heat consumed mainly at leased business sites x Emissions per unit of fuel oil, gas, electricity, and heat consumed (Sources – Japan: Act on Promotion of Global Warming Countermeasures – GHG Emissions Accounting, Reporting, and Disclosure System; Overseas: IEA CO <sub>2</sub> Emissions from Fuel Combustion Highlights 2020)
Reporting company (Scope 1, 2)	Direct emissions	tons-CO <sub>2</sub>	Amount of CO <sub>2</sub> emissions from the consumption of fuel oil and gas (burning of fuel) and GHG emissions other than CO <sub>2</sub> , mainly at business sites owned by Fujitsu * For the calculation method, see “Greenhouse gas emission (CO <sub>2</sub> emissions, greenhouse gas emissions other than CO <sub>2</sub> ) from business sites” in the Environmental Action Plan (Stage IX)
	Indirect emissions from energy sources	tons-CO <sub>2</sub>	CO <sub>2</sub> emissions from the consumption (purchase) of electricity and heat mainly at business sites owned by Fujitsu * For the calculation method, see “Greenhouse gas emission (CO <sub>2</sub> emissions) at business sites” in the Environmental Action Plan (Stage IX).
Downstream (Scope 3)	Processing of sold products	tons-CO <sub>2</sub>	Intermediate product sales volume* <sup>1</sup> x Emissions per unit of processing volume* <sup>2</sup> * <sup>1</sup> Intermediate product sales volume refers to Fujitsu's device solution sales * <sup>2</sup> Emissions per unit of processing volume is calculated from Fujitsu's FY 2015 assembly plant data
	Use of sold products	tons-CO <sub>2</sub>	Electricity consumption during product use* x Emissions per unit electricity (Source: CO <sub>2</sub> emission coefficient of The Electric Power Council for a Low Carbon Society (FY2019 results)) * Electricity consumption during product use: Calculated as electricity usage for the anticipated usage time per product unit x Units shipped for the subject fiscal year.

			Electricity usage for the anticipated usage time per product unit is calculated as electricity consumed (kW) x Time used (h / Days) x Number of days used / Year x Number of years used. Time used (h), number of days used per year, and number of years used are set according to Fujitsu's internal scenarios
	End-of-life treatment of sold products	tons-CO <sub>2</sub>	(Weight of all sold products / Weight of products processed at Fujitsu's recycling centers during the year) x Electricity used at Fujitsu's recycling centers during the year x Emissions per unit of electricity (Source: Emission coefficient per electricity provider (FY2019 results) for general power transmission and distribution business operators)

## Response to Environmental Risks: Environmental Liabilities

Indicator	Unit	Calculation Method
Cost of environmental liabilities	Yen	<ol style="list-style-type: none"> <li>1. Asset retirement obligation (Only asbestos removal cost related to facility disposal)</li> <li>2. Cost for soil contamination countermeasures</li> <li>3. Disposal processing cost for waste with high concentration of PCB (polychlorinated biphenyl)</li> </ol>

## Response to Environmental Risks: Preventing Soil and Groundwater Pollution

Indicator	Unit	Calculation Method
Measured value of groundwater pollution	mg/L	The highest value in the fiscal year for substances detected at levels exceeding regulated levels set in the Soil Contamination Countermeasures Act, etc., at monitoring wells at the boundaries of sites where past business activities have resulted in soil contamination

## Material Balance

Boundary : Refer to the ["List of Organizations Covered by the Report on Environmental Activities"](#) or 5-3-4-10 in this book.

Indicator		Unit	Calculation Method	
INPUT				
Design/ Procurement/ Manufacturing/ Development	Raw Materials		tons	Material inputs to our major products* <sup>1</sup> shipped in the fiscal year (raw materials per unit for each product x The number of units shipped in the fiscal year)
	Chemical Substances	Volume of substances subject to VOC emissions restrictions	tons	Of the 20 VOCs (Volatile Organic Compounds) specified in the environmental voluntary action plans of the four electrical and electronic industry associations* <sup>2</sup> , total amounts handled are provided for those substances handled in quantities exceeding 100 kg annually per substance at individual business sites, including overseas sites Substances subject to VOC emissions controls that are also covered by the PRTR law are included in the section on substances subject to VOC emissions controls

		Volume of PRTR-targeted substances	tons	Of the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environmental and Promotion of Improvements to the Management Thereof), totals are provided for those substances handled in quantities exceeding 100 kg annually per substance per business site, including overseas sites
	Amount of water used		m³	Annual use of clean water, industrial water and groundwater (not including groundwater used for melting snow or extracted for purification.)
	Amount of Recycled water		m³	Annual amount of water used for manufacturing and other purposes once, then recovered, processed, and used again for manufacturing and other processes.
	Energy consumption (calorie basis)		GJ	Σ[(Electricity, fuel oil and gas, and district heating and cooling annual usage) x Thermal conversion factor for each type of energy*] * Thermal conversion factor (Heating value unit): According to the “Act on the Rational Use, etc., of Energy,” conversion factors from each supplier or 44.8 GJ/1000m³ were used for town gas.
		Purchased electricity	MWh	Annual electricity usage
		Bunker A, fuel oil, light oil, benzine, gasoline	kL	Annual fuel oil usage (or purchases)
		Natural gas	m³	Annual natural gas usage (or purchases)
		Town gas	m³	Annual town gas usage (or purchases)
		LPG	tons	Annual LPG usage (or purchases)
		LNG	tons	Annual LNG usage (or purchases)
		District heating and cooling	GJ	Annual district heating and cooling (cold and hot water for cooling and heating) usage (or purchases)
Distribution / Sales	Energy consumed for transport		GJ	Total value of transport energy consumption for Fujitsu*¹ and Fujitsu Group companies*² *¹ Fujitsu (domestic transport): Energy consumption related to domestic transport by the Fujitsu Group, based on the Act on the Rational Use of Energy “Logistics.” *² Fujitsu Group Companies: Calculated from the transport CO₂ emissions from OUTPUT (distribution and sales) using the ratio of Fujitsu (domestic transport) transport energy consumption to transport CO₂ emissions.
Use of sold Products	Energy	Electricity	GWh GJ	Electricity consumed in connection with major products ** shipped during the fiscal year (Amount of electricity used for time estimated per product unit x Units shipped in the fiscal year)
Recycling of resources	Resource recycling rate		%	Based on the calculation method provided by JEITA, recycled components and resources are calculated as a percentage of the weight of used products processed in Japan. Excludes collected waste other than used electronic products.
	Processed volume		tons	



OUTPUT				
Design/ Procurement/ Manufacturing/ Development	Raw Materials	CO <sub>2</sub> emissions	tons -CO <sub>2</sub>	CO <sub>2</sub> emissions related to all stages from resource extraction through processing into raw materials (CO <sub>2</sub> emissions equivalent for raw materials used per product unit x Units shipped in the fiscal year) for the raw materials used in major products* <sup>1</sup> shipped in the fiscal year
	Chemical Substances	Volume of substances subject to VOC emissions restrictions	tons	Of the 20 VOCs (Volatile Organic Compounds) specified in the environmental voluntary action plans of the four electrical and electronic industry associations* <sup>2</sup> , total amounts released are provided for those substances handled in quantities exceeding 100 kg annually per substance at individual business sites, including overseas sites. Substances subject to VOC emissions controls that are also covered by the PRTR law are included in the section on substances subject to VOC emissions controls.
		Volume of PRTR-targeted substances released	tons	Of the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof), released totals are provided for those substances handled in quantities exceeding 100 kg annually per substance per business site, including overseas sites.
	Atmospheric pollution	CO <sub>2</sub> emissions	tons-CO <sub>2</sub>	* For the calculation method, see "Greenhouse gas emissions (CO <sub>2</sub> emissions) from business sites" in the Environmental Action Plan (Stage IX).
		GHG emissions other than CO <sub>2</sub>	tons-CO <sub>2</sub>	* For the calculation method, see "Greenhouse gas emissions (GHG emissions other than CO <sub>2</sub> ) from business sites" in the Environmental Action Plan (Stage IX).
		NO <sub>x</sub> emissions	tons	NO <sub>x</sub> concentration (ppm) x 10 <sup>-6</sup> x Dry gas emissions (m <sup>3</sup> N/hr) x Operating time (hr/yr) x 46/22.4 x 10 <sup>-3</sup>
		Sox emissions	tons	SO <sub>x</sub> concentration (ppm) x 10 <sup>-6</sup> x Dry gas emissions (m <sup>3</sup> N/hr) x Operating time (hr/yr) x 64/22.4 x 10 <sup>-3</sup>
	Water Discharge	Wastewater discharges	m <sup>3</sup>	Annual water discharge into public waterways and sewers (not including groundwater used for melting snow, but including groundwater extracted for purification when the amount of water is known)
		BOD emissions	tons	BOD concentration (mg/l) x Water discharges (m <sup>3</sup> /yr) x 10 <sup>-6</sup>
		COD emissions	tons	COD concentration (mg/l) x Water discharges (m <sup>3</sup> /yr) x 10 <sup>-6</sup>
	Waste	Amount of waste generated	tons	* For the calculation method, see "Waste generated" in the Environmental Action Plan (Stage IX).
		Thermal recycling volume	tons	Among all types of waste put to effective use, the total volume used in thermal recycling * Thermal recycling: Recovery and use of the heat energy generated by incinerating waste
		Material recycling volume	tons	Among all types of waste put to effective use, the total volume used in material recycling * Material recycling: Processing of waste to facilitate its reuse, and re-use of processed waste as material or raw materials for new products

		Disposal volume	tons	Volume of industrial and general waste processed by, for example, landfilling or simple incineration
Distribution / Sales	Atmospheric Release		tons-CO <sub>2</sub>	* For the calculation method, see "Transportation and distribution (upstream)" in the GHG Emissions Report based on GHG Protocol Standards.
Use of sold Products	Atmospheric Release		tons-CO <sub>2</sub>	For the calculation method, see "Use of sold products" in the GHG Emissions Report based on GHG Protocol Standards.

\*1 Major products:

Personal computers, mobile phones, servers, workstations, storage systems, printers, scanners, financial terminals, retail terminals, routers, LAN access equipment, access network products, mobile phone base stations and electronic devices

\*2 Four electrical and electronic industry associations:

The Japan Electrical Manufacturers' Association (JEMA), Japan Electronics and Information Technology Industries Association (JEITA), Communications and Information Network Association of Japan (CIAJ), and Japan Business Machine and Information System Industries Association (JBMA).

## Environmental Data

# List of Organizations Covered by the Report on Environmental Activities in FY2020

## Organizations covered by the report

The coverage is of Fujitsu itself plus a total of 132 companies centering on consolidated subsidiaries that have built environmental management systems. The table below shows the organizations\*1 for which individual performance data is gathered.

\*1 The following company names are as of March 31, 2021.

## Organizations covered by each Indicators

- Scope1,2,3 : Organizations that are the subject of calculations used in the GHG Emissions Report based on GHG Protocol Standards
- Water : Japan; Fujitsu and Fujitsu Group offices excluded datacenters.  
Overseas; Fujitsu and Fujitsu Group manufacturing sites
- Waste : Japan; Fujitsu offices excluded datacenters and Fujitsu Group manufacturing sites  
Overseas; Fujitsu and Fujitsu Group manufacturing sites
- Chemical : Fujitsu and Fujitsu Group manufacturing sites.  
\*The sites that handle less than 100 kg of chemical substances per year are excluded.
- EMS : Organizations with Environmental Management Systems (EMS). Including organizations with voluntary EMS.

## Headquarters

No.	Company name	Scope1,2,3	Water	Waste	Chemical	EMS
1	Fujitsu Limited	✓	✓	✓	✓	✓

## Fujitsu Group companies in Japan (91companies)

No.	Company name	Scope1,2,3	Water	Waste	Chemical	EMS
1	FUJITSU HOME & OFFICE SERVICES LIMITED	✓				✓
2	Kawasaki Frontale Limited	✓				✓
3	Fujitsu Techno Research Limited	✓				✓
4	Toyama Fujitsu Limited	✓	✓			✓
5	Fujitsu Facilities Limited	✓				✓
6	OKINAWA FUJITSU SYSTEMS ENGINEERING LIMITED	✓				✓
7	DIGITAL PROCESS LTD.	✓				✓
8	PFU LIMITED	✓	✓	✓	✓	✓
9	FUJITSU BANKING SOLUTIONS LIMITED	✓				✓

10	SHIGA FUJITSU SOFTWARE LIMITED	✓				✓
11	FUJITSU BROAD SOLUTION & CONSULTING Inc.	✓				✓
12	FUJITSU SOCIAL SCIENCE LABORATORY LIMITED	✓				✓
13	FUJITSU YFC LIMITED	✓				✓
14	FUJITSU NIIGATA SYSTEMS LIMITED	✓				✓
15	FUJITSU HOKURIKU SYSTEMS LIMITED	✓				✓
16	FUJITSU KYUSHU SYSTEMS LIMITED	✓				✓
17	FUJITSU KAGOSHIMA INFORNET LIMITED	✓				✓
18	FUJITSU FIP CORPORATION	✓				✓
19	FUJITSU CLOUD TECHNOLOGIES LIMITED	✓				✓
20	G-Search Limited	✓				✓
21	FUJITSU FSAS INC.	✓				✓
22	FUJITSU COMMUNICATION SERVICES LIMITED	✓				✓
23	FUJITSU NETWORK SOLUTIONS LIMITED	✓				✓
24	Fujitsu Frontech Limited	✓	✓	✓	✓	✓
25	Fujitsu Japan Limited	✓				✓
26	FUJITSU SYSTEM INTEGRATION LABORATORIES LIMITED	✓				✓
27	FUJITSU TOKKI SYSTEMS LIMITED	✓				✓
28	FUJITSU DEFENSE SYSTEMS ENGINEERING LIMITED	✓				✓
29	Fujitsu Applications, Ltd.	✓				✓
30	FUJITSU LEARNING MEDIA LIMITED	✓				✓
31	FUJITSU RESEARCH INSTITUTE	✓				✓
32	Fujitsu Marketing Limited	✓				✓
33	FUJITSU FOM LIMITED	✓				✓
34	FUJITSU CoWorCo LIMITED	✓				✓
35	TWO-ONE LIMITED	✓				✓
36	FUJITSU I-NETWORK SYSTEMS LIMITED	✓	✓	✓	✓	✓
37	ECOLITY SERVICE LIMITED	✓				✓
38	FUJITSU ADVANCED ENGINEERING LIMITED	✓				✓
39	Fujitsu Software Technologies Limited	✓				✓
40	FUJITSU MIDDLEWARE LIMITED	✓				✓
41	Fujitsu Kyushu Network Technologies Limited	✓				✓
42	Fujitsu Telecom Networks Limited	✓	✓	✓	✓	✓
43	FUJITSU COMPUTER TECHNOLOGIES LIMITED	✓				✓
44	FUJITSU IT PRODUCTS LIMITED	✓	✓	✓	✓	✓

45	Fujitsu Isotec Limited	✓	✓	✓	✓	✓
46	FUJITSU PERIPHERALS LIMITED	✓	✓	✓	✓	✓
47	FUJITSU PERSONAL SYSTEM LIMITED	✓				✓
48	FUJITSU KASEI RECYCLE LIMITED	✓				✓
49	FUJITSU QUALITY LABORATORY LIMITED	✓	✓			✓
50	Fujitsu Optical Components Limited	✓	✓	✓	✓	✓
51	FUJITSU KANSAI-CHUBU NET-TECH LIMITED	✓				✓
52	Fujitsu Mission Critical Software LTD.	✓				✓
53	FDK CORPORATION	✓	✓	✓	✓	✓
54	Transtron Inc.	✓	✓	✓		✓
55	SHINKO ELECTRIC INDUSTRIES CO. LTD.	✓	✓	✓	✓	✓
56	FUJITSU LABORATORIES LTD	✓	✓	✓	✓	✓
57	FUJITSU SEMICONDUCTOR LIMITED	✓				✓
58	Fujitsu Design Limited	✓				✓
59	Fujitsu Advanced Technologies Limited	✓				✓
60	FUJITSU CAPITAL LIMITED	✓				✓
61	AIZU FUJITSU SEMICONDUCTOR LIMITED	✓	✓	✓	✓	✓
62	AIZU FUJITSU SEMICONDUCTOR WAFER SOLUTION LIMITED	✓	✓	✓	✓	✓
63	FUJITSU SEMICONDUCTOR MEMORY SOLUTION LIMITED	✓				✓
64	Fujitsu IT Management Partner Co. Ltd.	✓				✓
65	Fujitsu IS Service Limited	✓				✓
66	FUJITSU PUBLIC SOLUTIONS LIMITED	✓				✓
67	FUJITSU ADVANCED SYSTEMS LIMITED	✓				✓
68	Fujitsu Systems Applications & Support Limited	✓				✓
69	FUJITSU YAMAGUCHI INFORMATION CO.,LTD	✓	✓			✓
70	FUJITSU SHIKOKU INFOTEC LIMITED	✓				✓
71	FUJITSU SYSTEMS WEB TECHNOLOGY LIMITED	✓				✓
72	Ridgelinez Limited	✓				
73	FUJITSU NETWORK SERVICE ENGINEERING LIMITED	✓				✓
74	FUJITSU SOCIAL LIFE SYSTEMS LIMITED	✓				✓
75	Mobile Techno Corp.	✓				✓
76	Care Net Ltd.	✓				✓
77	Fujitsu Advance Accounting service Limited	✓				✓
78	Fujitsu Harmony Limited	✓				✓
79	UCOT Infotechno co., Ltd	✓				✓

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80	AB System Solutions Limited	✓				✓
81	ZIS INFORMATION TECHNOLOGY CORPORATION	✓				✓
82	Fujitsu Yamagata Information Technology Limited.	✓				✓
83	BANKING CHANNEL SOLUTIONS Limited	✓				✓
84	IT MANAGEMENT PARTNERS LIMITED	✓				✓
85	YJK Solutions Co., Ltd.	✓				✓
86	Best Life Promotion Ltd.	✓				✓
87	Fujitsu Traffic & Road Data Service Limited	✓				✓
88	Fujitsu Engineering Technologies Limited	✓				✓
89	Smart Agriculture IWATA Co., Ltd.	✓				✓
90	Grand Bouquet Otaki, K.K.	✓				✓
91	FITEC	✓				✓

## Fujitsu Group companies worldwide (40 companies)

No.	Company name	Scope1,2,3	Water	Waste	Chemical	EMS
1	Jiangsu Fujitsu Telecommunications Technology Co., Ltd.	✓	✓	✓		✓
2	Fujitsu Electronics Pacific Asia Limited	✓				✓
3	Fujitsu Electronics (Shanghai) Co., Ltd.	✓				✓
4	FUJITSU HONG KONG LIMITED	✓				✓
5	FUJITSU DO BRASIL LIMITADA	✓				✓
6	FUJITSU ASIA PTE LTD	✓				✓
7	FUJITSU NETWORK COMMUNICATIONS INC.	✓	✓	✓	✓	✓
8	Fujitsu America, Inc.	✓				✓
9	Fujitsu (Thailand) Co., Ltd.	✓				✓
10	FUJITSU BUSINESS TECHNOLOGIES ASIA PACIFIC LIMITED	✓				✓
11	FUJITSU AUSTRALIA LTD.	✓				✓
12	Fujitsu Technology Solutions GmbH	✓				✓
13	Fujitsu Electronics Europe GmbH	✓				
14	Fujitsu Nanda Software Technology Co., Ltd	✓				✓
15	FUJITSU SERVICES HOLDINGS PLC	✓				✓
16	FUJITSU KOREA LTD.	✓				✓
17	FUJITSU TAIWAN LIMITED	✓				✓
18	Fujitsu Telecommunication Asia Sdn. Bhd.	✓				✓
19	Fujitsu (China) Holdings Co., Ltd.	✓				✓
20	Fujitsu Technology and Business of America, Inc.	✓				✓

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21	FUJITSU (XI'AN) SYSTEM ENGINEERING Co., Ltd.	✓				✓
22	Beijing Fujitsu System Engineering Co., LTD.	✓				✓
23	Fujitsu Glovia, Inc.	✓				✓
24	FUJITSU AUSTRALIA SOFTWARE TECHNOLOGY PTY. LTD.	✓				✓
25	FUJITSU Enabling Software Technology GmbH	✓				✓
26	Fujitsu Electronics America, Inc	✓				
27	Fujitsu Electronics Korea Ltd.	✓				
28	Fujitsu Research and Development Center Co., LTD.	✓				✓
29	Fujitsu Computer Products of America	✓				✓
30	Fujitsu Consulting India	✓				
31	FUJITSU (CHINA) Co., Ltd.	✓				✓
32	Fujitsu Finance America, Inc.	✓				✓
33	FUJITSU EMEA PLC	✓				✓
34	Fujitsu RunMyProcess SAS	✓				✓
35	UShareSoft, SAS	✓				✓
36	Fujitsu Finland Oy	✓				✓
37	Fujitsu Greenhouse Technology Finland Oy	✓				✓
38	Fujitsu Systems Global Solutions Management Sdn. Bhd.	✓				✓
39	Fujitsu Sweden AB	✓				
40	Fujitsu New Zealand Limited	✓				