

Fujitsu Group Environmental Action Plan

Operating Environment and Growth Strategy

Changing Environmental Activities in Line with Our Business Model Transformation

Originally a manufacturer of telecommunications equipment, Fujitsu developed into a global ICT enterprise with vertically integrated operations in three sectors: Technology Solutions offers a range of ICT-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. Then in 2021, the company launched Fujitsu Uvance. The objective going forward is to make the world more sustainable by developing businesses with integrated cutting-edge AI technologies that will help customers achieve Sustainability Transformation (SX) and solve societal problems.

The nature of the Fujitsu Group's environmental impact has changed as a result of this modified business model. For example, manufacturing semiconductors, electronic components and PCs accounted for the majority of energy consumption in the past, but business restructuring has greatly reduced the amount of energy these industries consume. Conversely, with the expansion in cloud computing and IoT, electricity consumption in Fujitsu data centers now accounts for a large portion of total power use. The Fujitsu Group is therefore promoting environmental activities linked to its growth strategy, responding to the demands of society by using renewable energy, reducing the power data centers consume, and improving their efficiency.

Operating as a Responsible Global Corporate Citizen

The adoption of the Sustainable Development Goals (SDGs) by the United Nations and the commencement of the COP 21 Paris Agreement increased the need for initiatives aimed at building globally sustainable societies. 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 six priority issues including the environment; human rights, diversity and inclusion; wellbeing; and supply chain. The result is a unified framework under the banner of Global Responsible Business (GRB), which will oversee activities that strengthen initiatives in non-financial areas while striving for 'sustainability management' worthy of a responsible global corporate citizen.

History of the Environmental Action Plan

Environmental Awareness Contributes to Sustainability for Our Customers and Society

The Fujitsu Group has formulated an Environmental Action Plan since 1993 and continues to broaden the scope of its environmental activities. Between stages I and V (FY 1993-2009) the objective was to significantly reduce the environmental impact of the Fujitsu Group itself. Far-reaching measures were implemented throughout our factories and offices to cut CO₂ emissions and chemical pollutants, to reduce waste, and so on. In stage VI (FY 2010-2012), we expanded the focus of our activities to three important initiatives. In addition to strengthening measures to lessen our own impact on the environment, we supported similar efforts by customers and society as a whole and also took on the challenge of conserving biodiversity. Between stages VII and IX (FY 2013-2020), we clearly demonstrated our commitment to contributing to the resolution of environmental issues faced by customers and society through the use of ICT. In order to reduce our own environmental impact, we expanded the scope of our activities to cover the entire supply chain, including suppliers. In stage X (FY 2021-2022), we worked to promote and expand the use of renewable energy for our customers and society by utilizing leading-edge ICT technologies unique to the Fujitsu Group, such as the introduction of renewable energy at our business sites through CPPA and other means, and blockchain technology.

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 XI)

Social responsibility as a leading company in Sustainability Transformation (SX)

As a leading company in SX, the Fujitsu Group is committed to reducing the environmental impact of its group companies, including those in the supply chain, and to expanding and enhancing the value it provides to customers and society through technology. We will work with our customers and partners to realize a sustainable future.

Outline of the Fujitsu Group Environmental Action Plan (Stage XI)

In order to resolve environmental and social issues, we have set eight targets in three global risks areas highlighted by the World Economic Forum: " Climate Change," " Resource Circulation," and " Living in Harmony with Nature ". These are mapped against the two values of " Customers and Society " and " Fujitsu and Supply Chain".

Fujitsu group is taking firm steps to realize its environmental vision, such as contributing to digital technology for customers and society and increasing the ratio of its own use of renewable energy.

Target period: 3 years from Fiscal year 2023 to Fiscal year 2025

Customers and Society

Fujitsu aims to transform its core business with a portfolio of offerings focused on ESG Contribution and SX by 2030. In particular, to solve environmental issues in the areas of climate change and carbon neutrality, resource recycling through circular economies, and biodiversity, we will connect stakeholders from across society and industries and contribute to the SX of customers and people around the world. In FY 2023, we developed environmental contribution metrics to measure our impact on the environment, allowing us to provide services with clear contributions and value. From FY 2024, we will measure and disclose the quantitative amount of our contribution. Furthermore, to realize a sustainable society in which no one is left behind, we will develop solutions, services and initiatives that contribute to SX, so that customers and societies alike will trust and objectively rate us on a worldwide scale as a leader in SX.

Fujitsu and Supply Chain

Climate Change

In order to achieve Net Zero (*1) emissions of greenhouse gases from our business activities and from the entire value chain, we set reduction targets for FY2025. We will achieve these through the strategic deployment of renewable energy and the use of advanced ICT to drive energy conservation, while at the same time encouraging our suppliers to monitor and reduce their environmental impact, make their own products more energy-efficient, and so on.

***1 Net Zero Greenhouse Gas Emissions**

Reduce greenhouse gas emissions by 90% or more from the base year in the target year and remove residual emissions of 10% or less by directly recovering CO₂ from the atmosphere (DAC) or by absorbing CO₂ through planting trees.

Resource Circulation

We aim to develop these products and services in FY 2025 in order to design products that conserve resources and improve the resource recycling rate, and to build a circular economy business model that can overcome resource constraints. We will also continue to reduce water use and raise awareness of water resource conservation throughout the supply chain.

Living in Harmony with Nature

In response to Target 15 of the Global Targets for 2030 set out by the Kunming-Montreal Global Biodiversity Framework, we will achieve nature-positive outcomes by reducing negative impacts on biodiversity and increasing positive impacts in the areas of our corporate operations, including supply chains.

Environmental Action Plan

	Customers and Society	Fujitsu and Supply Chain		
	Business Field	Upstream Business	Fujitsu's Business Areas	Downstream Business
				
Climate Change	Development and provision of solutions that contribute to SX	Suppliers' GHG reduction (Well Below 2 °C target)	- Reduction of GHG emissions at business sites (1.5 °C target) - Increase the use ratio of renewable energy	- By reducing power consumption during product use - Reduction of GHG emissions

	Customers and Society	Fujitsu and Supply Chain		
	Business Field	Upstream Business	Fujitsu's Business Areas	Downstream Business
				
Resource Circulation		Enhancing suppliers' awareness of water resource conservation	Reduction of water consumption	To product resource conservation and resource recycling Improving resource efficiency
Living in Harmony with Nature		Reducing negative impacts of corporate activities on biodiversity		

Environmental Action Plan Targets

Goal			Base Line	Targets for FY 2025
Customers and Society			-	Deliver SX offerings to customers
Fujitsu and Supply Chain	Climate Change (*2)	Scope 1,2	- FY 2023: Environmental contribution metrics will be developed. FY 2024 to FY 2025: The amount of contribution will be measured and disclosed. - To earn the objective recognition of global customers and society as an SX leader.	-
		Scope 3 (Category 11)	- Business sites must halve their GHG emissions against the baseline (FY2020) by the end of FY2025 - Increase use ratio of renewable energy to 50% or more by 2025	FY 2020
		Scope 3 (Category 1)	- Reducing GHG emissions in the supply chain - Major suppliers must set emissions reduction targets (aligned with SBT Well Below 2°C) - Collection of GHG reduction data, construction and deployment of mechanisms	-

Goal			Base Line	Targets for FY 2025
Fujitsu and Supply Chain	Resource Circulation	Development of products and services that contribute to a circular economy business model	-	CE Business Products Service Development
		Reduce water consumption by 57,000 m³ or more by implementing water reduction measures	-	57,000 m ³ or more
		- Strengthening awareness of water resource conservation in the upstream supply chain - Request major suppliers to implement initiatives to raise awareness of the importance of water resources	-	Request Completed
	Living in Harmony with Nature	Reduce negative impacts on biodiversity in the areas of corporate activities, including supply chains, by at least 12.5% . In addition, promote activities that increase positive impacts on biodiversity	FY 2020	Reduction of 12.5% or more

*2 Climate Change: Scope 1, 2 and 3. adjusted for acquisitions and divestitures

RELATED LINKS

- [Fujitsu Group Environmental Action Plan \(Stage X\)](#) >
- [Fujitsu Group Environmental Action Plan \(Stage IX\)](#) >
- [Fujitsu Group Environmental Action Plan \(Stage VIII\)](#) >
- [Fujitsu Group Environmental Action Plan \(Stage VII\)](#) >
- [Fujitsu Group Environmental Protection Program \(Stage VI\)](#) >
- [Fujitsu Group Environmental Protection Program \(Stage V\)](#) >
- [Fujitsu Group Environmental Protection Program \(Stage IV\)](#) >
- [Fujitsu Group Environmental Protection Program \(Stage III\)](#) >

Help to resolve environmental challenges for customers and society through our business operations

Fujitsu's business aims to transform its portfolio and offerings by 2030, focusing on ESG contributions and Sustainability Transformation (SX). In line with its materiality focus on solving global environmental issues, Fujitsu provides a range of cross-industry offerings, from supply chain optimization through to energy efficiency. Notably, we are promoting the development of solutions and initiatives that contribute to SX, targeting both customers and society as part of our Stage XI Environmental Action Plan for 2023 to 2025. Below are examples of Fujitsu's initiatives for helping to resolve environmental challenges for customers and society through its business.

Comprehensive Optimization Through Next-generation Dynamic Supply Chain Management

Supply Chain Management (SCM) encompasses the optimization of processes from the procurement of raw materials for products through to manufacturing, distribution and sales. Today, all aspects of SCM are undergoing significant changes, demanding adaptation from businesses. Companies are facing a rapidly changing environment with new challenges, including heightened concerns for human rights, environmental protection, preparedness for future pandemics, and increasingly severe natural disasters that traditional SCM approaches are struggling to address. One key reason for this is the lack of integrated visualization and decision-making across the entire supply chain, hindering companies' ability to make informed decisions. This highlights the urgent need for a transition to next-generation SCM that can respond to modern challenges quickly and flexibly.

Fujitsu provides Fujitsu Data Intelligence PaaS (DI PaaS) to realize business-specific AI. DI PaaS is a cloud-based all-in-one operation platform that integrates vast amounts of data from both inside and outside organizations into a meaningful format to support decision-making. It consists of four platforms: the world's most advanced AI solution "Fujitsu Kozuchi"; the blockchain technology "Fujitsu Track and Trust" that enables traceability; Palantir Foundry for complex data integration, application development, and advanced AI; and data integration technologies such as Microsoft Azure. DI PaaS helps customers solve their challenges by enabling the integrated connection and analysis of data that has been fragmented across industries, leading to unprecedented cross-value chain solutions and insights. Furthermore, by seamlessly linking these decision-making outcomes with Fujitsu's long-standing planning and execution systems, DI PaaS empowers autonomous operation of business processes from decision-making to action, enhancing agility and responsiveness to change.



Fujitsu Data Intelligence PaaS

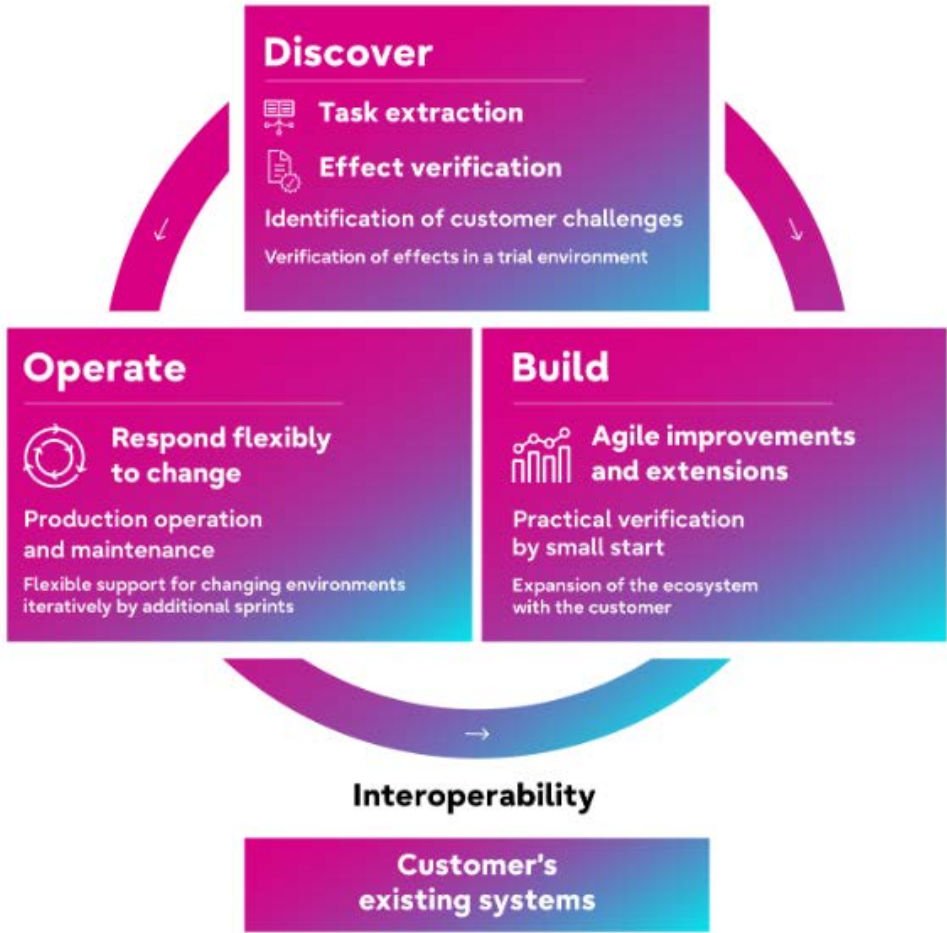
Connecting data and stakeholders with trust to solve customer business challenges

As people become more conscious of environmental and societal issues, companies are being asked to provide products and services that are not only functional and high-quality, but that also have low environmental impact and are produced and distributed fairly.

This is particularly true in EU countries where, based on the European Green Deal policy, almost all products distributed are subject to Ecodesign regulations as part of a circular economy action plan (excluding some EU countries). The implementation of the Ecodesign regulations is accompanied by a Digital Product Passport (DPP) that will become mandatory in a few years. As an inescapable feature of continuing to conduct business in Europe, these regulations require a range of responses, including customs clearance.

We deliver large numbers of products to consumers via supply chains that span the globe, but to address the various demands outlined above, it is crucial that we provide highly trustworthy levels of traceability to ensure transparency in the transactions between our various stakeholders.

Fujitsu Track and Trust provides a traceability platform that leverages consulting and blockchain technology to solve challenges in customer businesses by quickly testing hypotheses to enable further growth. By providing traceability, Track and Trust enables cost reductions and greater efficiency in implementing the processes involved in raw materials procurement, product manufacturing and the downstream logistics. It can also be used to boost corporate and brand value by disclosing the enterprise's contributions to achieving the SDGs to customers (ESG reports).



Fujitsu Track and Trust platform

Connecting land, sea and air logistics data to enhance efficiency, flexibility and business sustainability

While logistics demand is forecast to increase, the logistics industry faces various challenges, including labor shortages, declining transportation capacity, diversification of transportation methods, and measures to reduce GHG emissions.

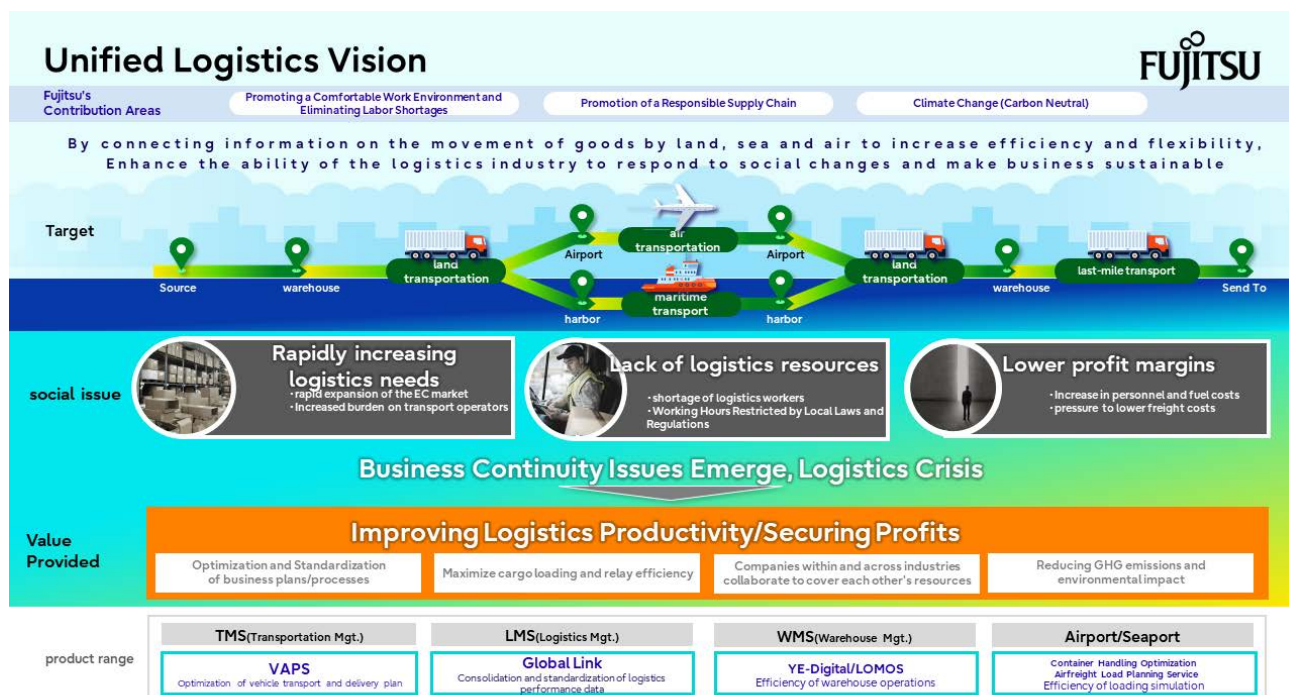
Fujitsu connects logistics information held by shippers and logistics companies through logistics data standardization services, enhancing efficiency, flexibility, and making business sustainable. It achieves both maximization of transportation capacity and reduction of GHG emissions through industry-wide operational efficiency, enabling resilient logistics that maximizes profits and can respond to not only natural disasters and conflicts, but also everyday changes.

Our approach to solutions

Resolving labor shortages: Optimize and standardize business planning and processes, and use forecasting as the basis for optimizing on-site operations in real time.

Improving transportation capacity: Optimize transportation equipment utilization plans based on cargo loading efficiency, relay efficiency, and future cargo volume forecasts.

Reducing environmental impact: Reduce GHG emissions by optimizing operational plans based on refueling/recharging plans, driving route selection and energy demand forecasts.



Unified Logistics

Contributing to sustainability through optimized energy use

The IoT Operations Cockpit supports rapid business decision-making by visualizing information acquired from various IoT sensors in real time, realizing reduced costs and environmental impact.

Service features

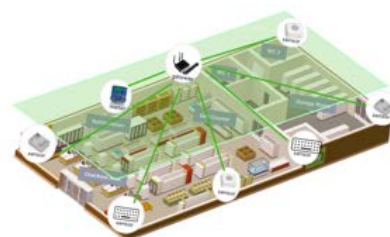
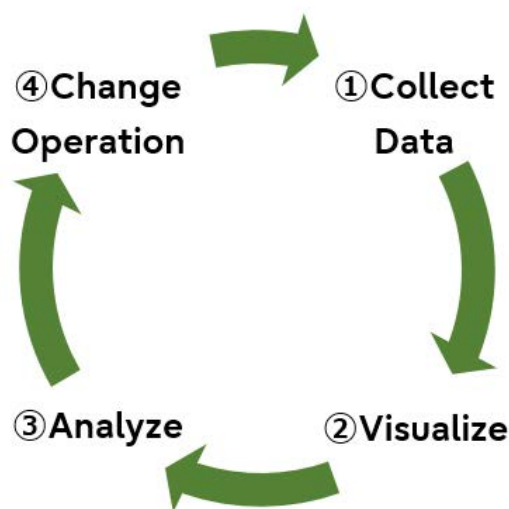
- **Real-time visualization and analysis of energy usage**
Visualizes data such as energy usage collected from various IoT sensors in real time. Allows information from multiple stores to be centrally managed on a dashboard.
- **Fault prediction and error detection using AI-based anomaly analysis**
Learns from collected and stored sensor data, and then uses AI to conduct anomaly analysis and predict faults. Anomalies can also be detected by setting a threshold value, which allows for the identification of equipment requiring maintenance in advance and the ability to take preventive measures.
- **Contribution to sustainability through energy efficiency improvements**
By visualizing the operating status of lighting, refrigerators and air conditioning, users can clearly identify areas requiring energy reductions, which in turn assists with the upgrading of infrastructure and operations. This supports reductions in wasted energy consumption and promotes environmentally friendly corporate activities.



Improve store operations and reduce operating costs based on the results of visualization and analysis.



Anomaly analysis / threshold setting detects anomalies and notifies staff.



Collect data such as temperature, humidity, power, and CO2 levels from IoT sensors and equipment installed in stores.

[Note] Target IoT sensors do not depend on specific manufacturers



Visualize and centrally manage information from multiple stores on a dashboard.

IoT Operations Cockpit

Energy Consumption Optimization Service

Fujitsu Energy Consumption Optimization powered by METRON is an end-to-end service that assists factories and offices in any industry sector to optimize their energy consumption, from energy data collection and visualization through to analysis and optimization.

In collaboration with METRON, we offer the four key services shown below aimed at accelerating the decarbonization of the manufacturing industry worldwide.

- Digitization Consulting: Energy Data Collection
- Energy Visualization SaaS: Energy Management/Analysis SaaS
- Energy Optimization Consulting: Energy Optimization
- Production Schedule Optimization: Energy x Production Schedule Optimization

Feature

Comprehensive solution for energy optimization, covering everything from visualizing energy use, identifying bottlenecks and providing specific measures to achieve your goals

1 Digitization Consulting



- Digitalization assessment using proprietary metrics
- Strategy for quantification of factory energy sources

1-a: Digitalization Consulting

2 Energy Visualization & Analysis



- Energy visualization tailored to your environment
- Identify a reduction driver at the process and equipment level

2-a: Energy Management Module (EMM)

2-b: Energy Optimization Module (EOM)

3 Energy Optimization



- Proven equipment optimization solutions for various industries
- Multi-objective optimization planning to ensure QCD+E

3-a: Energy Optimization Consulting

3-b: Energy x Production Schedule opt

Fujitsu Energy Consumption Optimization powered by METRON

Launch of trials for realizing a blue carbon measurement and verification business using maritime digital twinning as a key technology

Fujitsu is conducting proof-of-concept trials on blue carbon ^{(*)1} measurement and verification technology, with the goal of commercialization. The waters of Japan, including its exclusive economic zone (EEZ), ranks sixth in the world and have the potential to realize up to 5,000 tons of CO₂ reductions using blue carbon. This could be the trump card when it comes to CO₂ reductions, since it surpasses the figure for the amount of CO₂ absorbed by the world's forests, which are declining due to the lack of people committed to their preservation. Furthermore, blue carbon has the advantage of being able to be traded in the market as J Blue Credits if it is applied for and verified. However, the creation of blue carbon has been a challenge due to the high cost involved in underwater operations. Fujitsu's blue carbon measurement and verification technology dramatically reduces this high cost of underwater operations through ICT. Rather than the current method where large numbers of divers visually check the growth of multiple hectares of seaweed and then use mathematical formulas to make estimates, Fujitsu's technology uses tools such as underwater drones to enable an AI to learn the underwater CO₂ concentrations. Combining this with remote sensing for widespread measurement, enables highly precise calculations at a low cost without using divers. [Fig. 1]

The Fujitsu Laboratories Ocean Digital Twin is a key technology that reproduces the marine environment with high precision in a digital space. It can make predictions by using simulations of the changes in the environments that make up the ocean and the effects of ocean-based global warming countermeasures. This is achieved through the use of technologies such as AI and autonomous underwater vehicles (AUVs) that collect high-resolution 3D data of underwater organisms and structures [Fig. 2]. Through its blue carbon measurement and verification technology, Fujitsu is aiming to establish underwater digital twinning for seaweed beds by FY2026. As well as supporting blue carbon development, this is also working towards Sustainability Transformation (SX)^{(*)2} by supporting proposals for initiatives such as measures by companies and local governments to protect biodiversity on coral reefs and to preserve and develop seaweed beds. Together with an external research organization^{(*)3}, we conducted verification testing for these technologies in the coastal waters around Ishigaki Island in Okinawa. We successfully collected highly detailed 3D data for coral reefs and confirmed the viability of the technologies. The results of this testing were very highly rated by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and we were the first company to take part in seminars^{(*)4} run by the Ministry.

Our goal is to begin proof-of-concept trials during FY2024, and we are already laying the groundwork for collaborations with other companies. Our goals also include building partnerships with companies, local governments and other organizations to implement countermeasures aimed at achieving carbon neutrality, and supporting proposals for customers' climate measures that use our blue carbon measurement and verification technology (and underwater digital twinning).

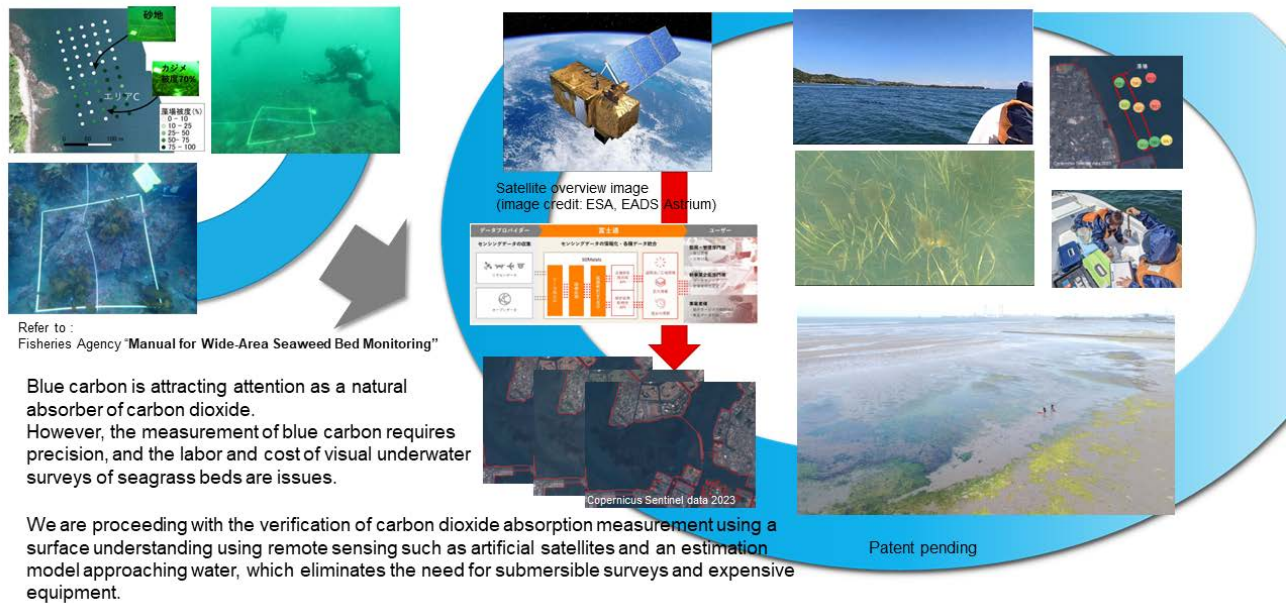


Fig. 1 Overview of diverless high-precision measurement

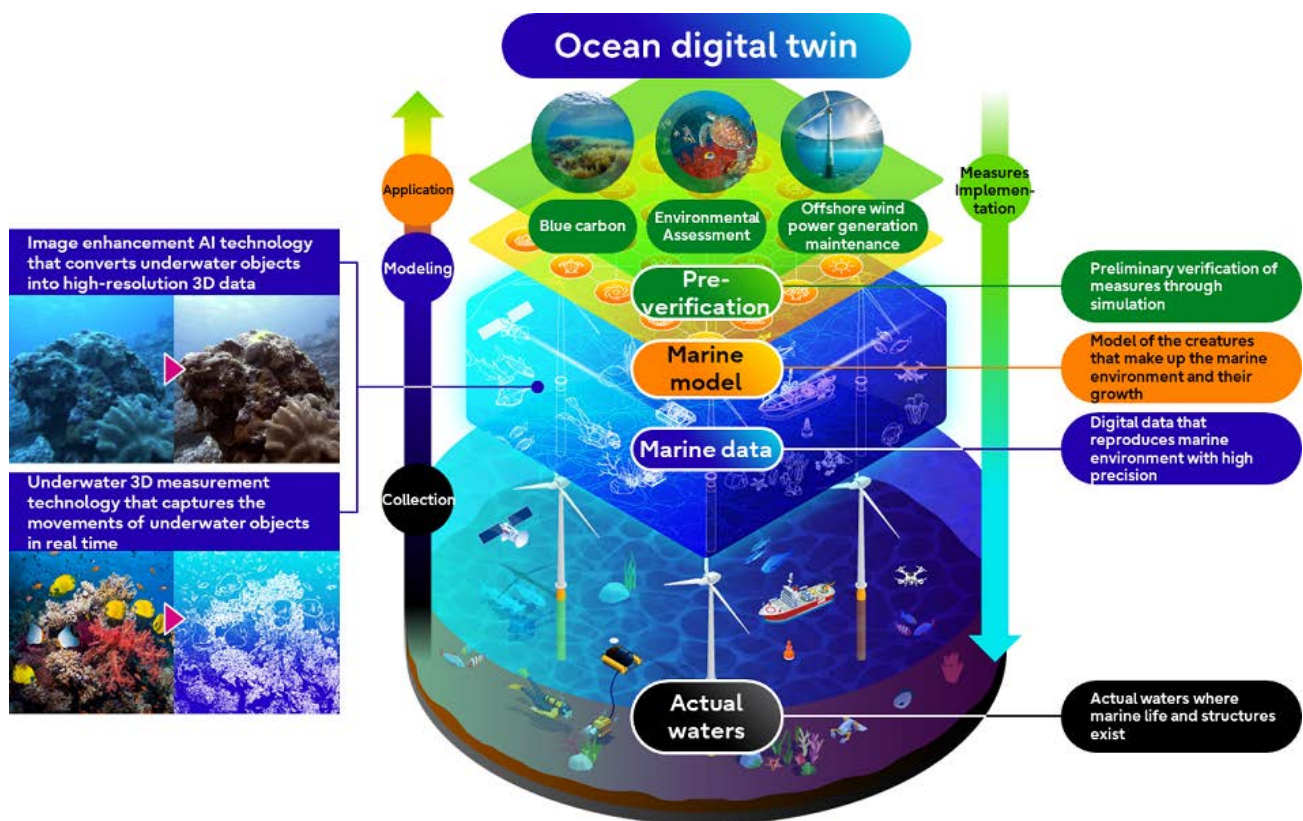


Fig. 2 Technology for collecting 3D data of underwater organisms and structures

- *1 Blue carbon refers to carbon that has been sequestered or stored through photosynthesis by marine organisms such as seaweed and seagrass.
- *2 Sustainability transformation
- *3 National Maritime Research Institute, National Institute of Maritime, Port and Aviation Technology (NMRI)
- *4 Blue carbon data measurement manual seminar into the use and application of high-precision data acquisition and management systems for blue carbon

Business collaboration on platforms addressing international initiatives and societal challenges in Japan

Since early 2024, Fujitsu has worked with the Climate Group through its RE100 initiative by collaborating on proposals for policies and regulations that will enable companies in Japan to procure renewable energy. Fujitsu is one of 12 members on the Policy Working Group tasked with reviewing policies in Japan. The top-priority policies recommended by the RE100 members are listed below.

1. Implement policies promoting transparent and fair electricity prices, aiming to improve the cost-effectiveness of renewable electricity generation and pricing.
2. Improve access to Physical and Virtual Corporate Power Purchase Agreements (PPAs)^{(*)5} by establishing streamlined processes and removing barriers for buyers and suppliers.
3. Prioritize grid upgrades and operational improvements to speed up the connection time for new renewables projects and maximize usage of existing renewables to avoid curtailment.

In a public statement issued on 25 June 2024, RE100 participants consisting of over 420 of the world's biggest and most influential companies, including 87 companies headquartered in Japan, strongly urged the Japanese government to set more ambitious targets for renewable energy installation. They demanded that Japan leverage the opportunities created by the transition to net zero to urgently increase its renewable energy generation capacity threefold (to 363 GW) by 2035 in the forthcoming 7th Strategic Energy Plan being formulated by the Japanese government.

Through this involvement, Fujitsu is both promoting renewable energy within the company and actively participating in campaigns to promote renewable energy throughout Japan. In doing so, we are contributing to the broader adoption of renewable energy across society and to business through the accompanying energy solutions.

Shortly after Fujitsu endorsed the "GX League Basic Concept", released by the Ministry of Economy, Trade and Industry (METI) on February 1, 2022, we began cooperating in this initiative and have continued as active participants since the GX League^{(*)6} became fully operational in FY2023. As of March 27, 2024, the league has attracted participants from a wide range of industries with 747 companies now involved, forming a framework that encompasses over 50% of Japan's greenhouse gas emissions. We are also involved in the planning for the GX-ETS^{(*)7}, and as a GX League member, we publish status updates on the progress of various initiatives by each company on the GX dashboard.

This includes our progress towards achieving our own emissions reduction targets, our efforts to reduce emissions across our entire supply chain, and the products and services we supply towards the creation of green markets. Our commitment is also reflected in our business activities, where we contribute to GHG emissions reductions throughout Japan by actively offering proposals for GHG emissions reductions to customers who are GX League participants.

- *5 Power purchasing agreements undertaken between power suppliers and consumers where the transactions involve environmental value only
- *6 A forum for cooperation between corporate enterprises, the government, universities and academic institutions engaged in similar initiatives aimed at achieving sustainable growth in the society of today and the future, rising to the challenges of GX while remaining focused on social reform and achieving carbon neutrality by 2050
- *7 An emissions trading scheme in the GX League that is one of the market-based mechanisms aimed at reducing greenhouse gas emissions. The scheme works by setting a limit (cap) on emissions for companies and other organizations and discourages participants from exceeding that limit. Recent years have seen a greater focus on programs to introduce emissions trading as part of the GX League activities.

- [RE100 Our work in Japan](#) 
- [RE100 calls on the Japanese government to urgently grow renewables capacity](#) 
- [GX League](#) 

RE100

CLIMATE
GROUP



Climate Change

External Trends

Accelerated Controls on GHG Emissions are Required for Carbon Neutrality

The COP 21 Paris Agreement, adopted in December 2015, set out a long-term, shared worldwide goal to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels,” as well as the goal of carbon neutrality (net zero emissions) by the second half of this century (2050). Since then, efforts to achieve a carbon-neutral society have been accelerating on a global scale. The COP26 Glasgow Accords further solidified the 1.5°C target adopted under the Paris Agreement, elevating it to the standard for global climate change measures.

The Task Force on Climate-related Financial Disclosures (TCFD) was established in December 2015 by the Financial Stability Board, which members comprise central banks, financial regulatory authorities and finance ministries from major countries. The TCFD requests companies to use multiple climate scenarios 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 the Science Based Targets initiative (SBTi), which calls for corporate emissions reduction targets set to meet the 1.5°C trajectory, and RE100, which calls for companies to source 100% of the electricity they use from renewable energy. Furthermore, CDP ^(*), 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.

(*) 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 Group Position

GHG Emissions 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. Furthermore, delays in responding to societal and legislative requirements to reduce GHG emissions may impact product manufacturing, service development, etc., potentially leading to the loss of business opportunities.

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

The majority of the GHG emissions generated by the Fujitsu Group derive from purchased electricity, rather than the combustion of oil or gas. In particular, the energy consumption for cloud computing, IoT, and network communications continues to rise. To curb energy consumption and reduce GHG emissions, the Fujitsu Group conducts regular checks at its factories, data centers, and offices.

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

Strengthen Efforts to Achieve Carbon Neutrality

In May 2017, the Fujitsu Group formulated the FUJITSU Climate and Energy Vision, its medium- to long-term environmental vision. In August of the same year, the company obtained SBT validation for 2°C-aligned GHG emissions reduction targets. The SBTi aims to significantly reduce greenhouse gases over the medium to long term by encouraging companies to set voluntary GHG emissions reduction targets based on scientific knowledge compiled by organizations such as the IPCC (*2). Given the accelerating global trend toward carbon neutrality, the Fujitsu Group reviewed its position and revised its target to reduce GHG emissions from business sites in FY2030 from 33% to 71.4% below FY2013 levels. On April 15, 2021, this revised figure was successfully validated as a 1.5°C-aligned target by SBTi. To accelerate the global community's journey to carbon neutrality, including within our supply chain, Fujitsu has pledged to expand our use of renewables to achieve net-zero GHG emissions (*3) for our own operations by FY2030, and across our entire value chain (Scope 1, 2, 3) by FY2040.

In June 2023, our net-zero by FY2040 target obtained "Net-Zero Target validation" under the SBTi standard.

Working backwards from these GHG emissions reduction targets, we developed the Fujitsu Group Environmental Action Plan (Stage XI) to implement our environmental targets for FY2023-2025. To achieve carbon neutrality, we are aiming for at least 50% of the energy used by our businesses to be from renewable sources by FY2025, with a target of 100% by FY2030. At the same time, we are working towards achieving net-zero GHG emissions across the entire value chain through measures such as identifying the environmental impacts of our suppliers and promoting emissions reductions, and by further reducing energy consumption of Fujitsu products.

In April 2021, in anticipation of Japan's future transition to renewable energy, the Fujitsu Group switched to 100% renewable energy at our largest facility, the Fujitsu Technology Park (formerly, the Kawasaki Plant), which is now our flagship model. This commitment continued in April 2022 when Fujitsu Australia signed the Group's largest ever Renewable Energy Power Purchase Agreement (PPA), securing approximately 47% of its power consumption for FY2023 from renewable sources. Beyond green power and renewable energy certificates, Fujitsu is investing in power sources with additional potential (such as PPAs), and leveraging advanced ICT technologies to accelerate the adoption of renewable energy across society.

(*2) Intergovernmental Panel on Climate Change (IPCC):

An organization established in 1988 by the [United Nations Environment Programme \(PDF\)](#)  (UNEP) and the [World Meteorological Organization \(PDF\)](#)  (WMO) with the aim of providing comprehensive assessments of human-induced climate change and its impacts, together with adaptation and amelioration measures from scientific, technological and socio-economic perspectives.

(*3) Net zero:

The elimination of greenhouse-gas emissions through emissions reductions of at least 90% by the target year and removing the remaining 10% or less through measures such as reforestation or Direct Air Capture (DAC) of CO₂ in the atmosphere.

RELATED LINKS

Actions and targets related to climate change initiatives under the Fujitsu Group Environmental Action Plan (Stage XI)

- [Reducing Greenhouse Gas \(GHG\) Emissions at Our Business Sites](#) >
- [Expand the Use of Renewable Energy](#) >
- [Reduction of CO₂ Emissions by Reducing Power Consumption When Using Products](#) >
- [Activities to Reduce CO₂ Emissions in the Upstream Portion of the Supply Chain](#) >

Reducing Greenhouse Gas (GHG) Emissions at Our Business Sites

Our Approach

Considering the prevention of global warming an important issue, the Fujitsu Group formulated its medium- to long-term environmental vision, the Fujitsu Climate and Energy Vision, which aims to eliminate all CO₂ emissions from our business activities by 2050. However, we have decided to move the target year forward to 2030.

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

Reducing CO₂ Emitted During Energy Consumption

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

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

Reducing Emission of GHGs Other Than CO₂

As for GHGs other than CO₂, the Fujitsu Group mainly uses perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulfur hexafluoride (SF₆) at the manufacturing 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. We also carry out inspections and maintenance to comply with relevant laws regarding PFCs and HFCs emissions resulting from fluorocarbon leaks from air conditioning equipment.

FY2023 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Reduce GHG emissions of our business sites to 50% or less of the base year (FY2020) level. (FY2023 target: 30% reduction) (*1).	58.4% reduction (*2).

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

(*2) Reduction rate based on market standards

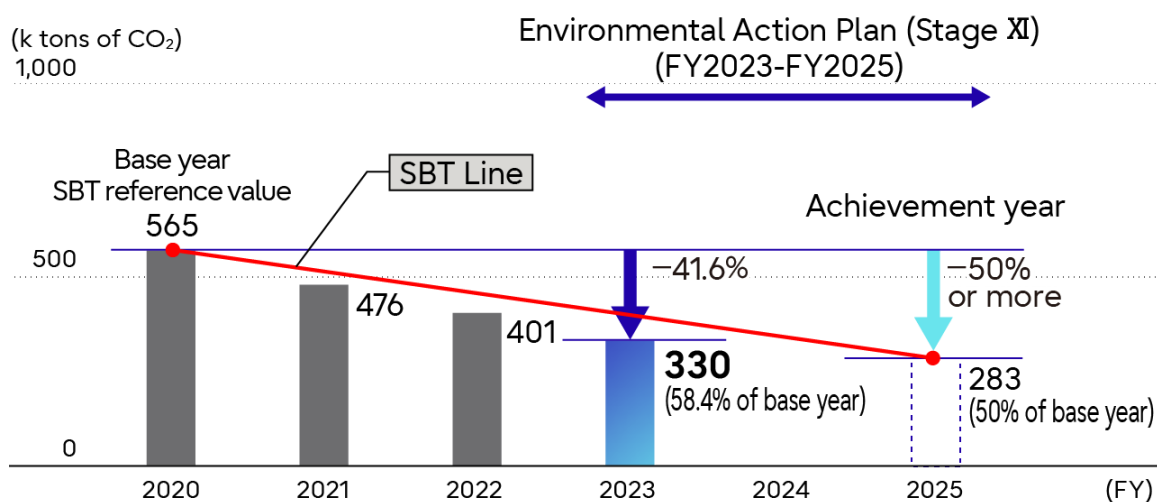
Promoting Reduction in CO₂ Emitted During Energy Consumption

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

For instance, as for lighting equipment investments, we have contributed to the reduction of CO₂ emissions by 388 t-CO₂ through continuous and efficient deployment of high-efficiency LED lighting.

We also improved facility operations (4,775 t - CO₂) by reviewing air conditioner operating conditions, such as switching to more efficient equipment, controlling the number of units, and suspending operation of pumps and air conditioning devices. We also use waste heat recovery to generate hot water for air conditioning (380 t-CO₂). Through our own efforts, we carried out measures to reduce emissions by roughly 11,000 tons-CO₂ (2.7% 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 XI), by 41.6%pt compared to the baseline year (17.7% reduction in comparison to our emissions in FY2022).



Environmental Action Plan (Stage XI) GHG Emissions Reductions (*4) (*5)

(*3) BAT (Best Available Technologies): Usable state-of-the-art technologies to reduce GHGs.

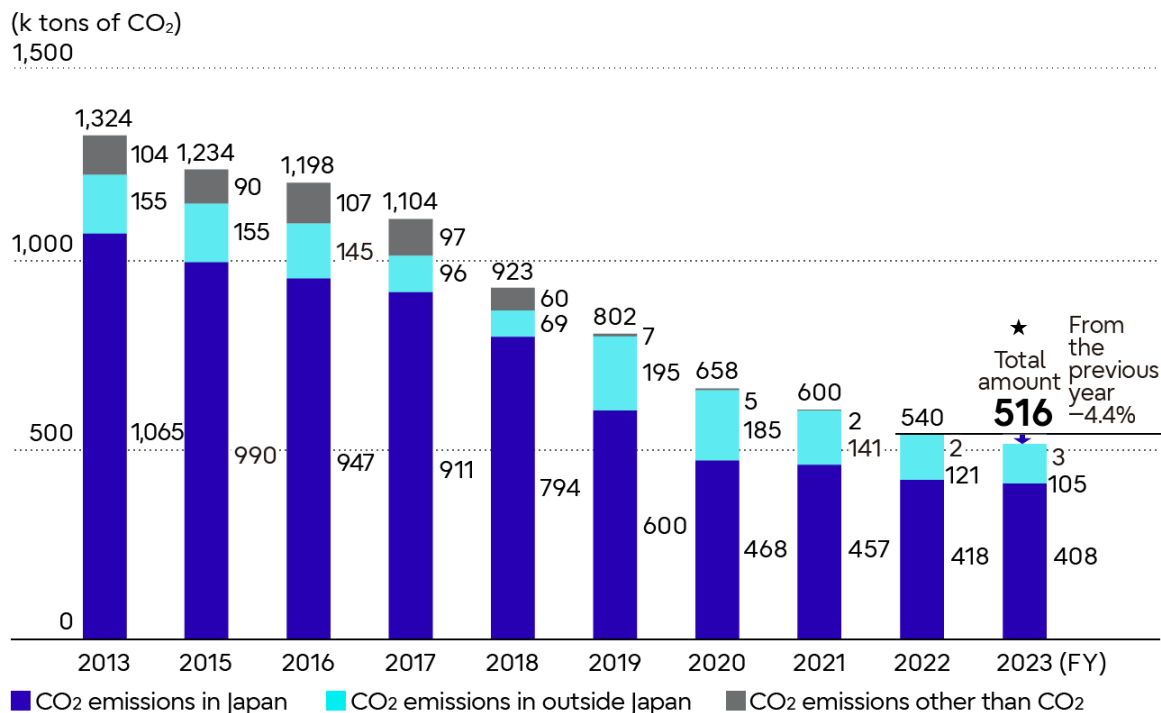
(*4) Environmental Action Plan (Stage XI) performance values for the reference year (FY2020) and FY2023 are the total values for business sites targeted by the Environmental Action Plan (Stage X).

(*5) CO₂ conversion factors of purchased electricity are market standards for both the reference year (FY2020) and FY2023 performance values.

Total Emissions of 516 ktons-CO₂ ★ in FY2023

Our total GHG emissions in FY2023 were 516 kt ons-CO₂ (output level per sales amount: 13.7 tons-CO₂/100 million yen). They decreased by 5.8% in comparison to FY2022.

★ Indicators assured by third party



Trends in Total Greenhouse Gas Emissions (*6) (*7).

(*6) CO₂ emissions in Japan and overseas: The CO₂ conversion factor for purchased electric power in performance reports has been calculated with a fixed value of: In Japan - 0.570 tons-CO₂/MWh from FY 2013 to FY 2015, 0.534 tons-CO₂/MWh for FY 2016, 0.518 tons-CO₂/MWh for FY 2017, 0.497 tons-CO₂/MWh for FY 2018, 0.461 tons-CO₂/MWh for 2019, 0.444 tons-CO₂/MWh for FY 2020, 0.436 tons-CO₂/MWh for FY 2022, and 0.437 tons-CO₂ for FY 2023

Overseas – Same coefficients as those used in Japan from FY 2013 to FY 2018, and the latest IEA values (by country) for the relevant FY from FY 2019 onwards

(*7) Emissions other than CO₂: These are converted to equivalent amounts of CO₂ using the global warming potential (GWP) for each gas.

- [Case Studies](#) >
- [Improve Power Usage Effectiveness \(PUE\) at Our Data Centers](#) >

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).

FY2023 Performance

★ Indicators assured by third party

Targets under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Expand the rate of renewable energy usage to more than 50 % in 2025 (*1).	42.7% (*2) ★

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

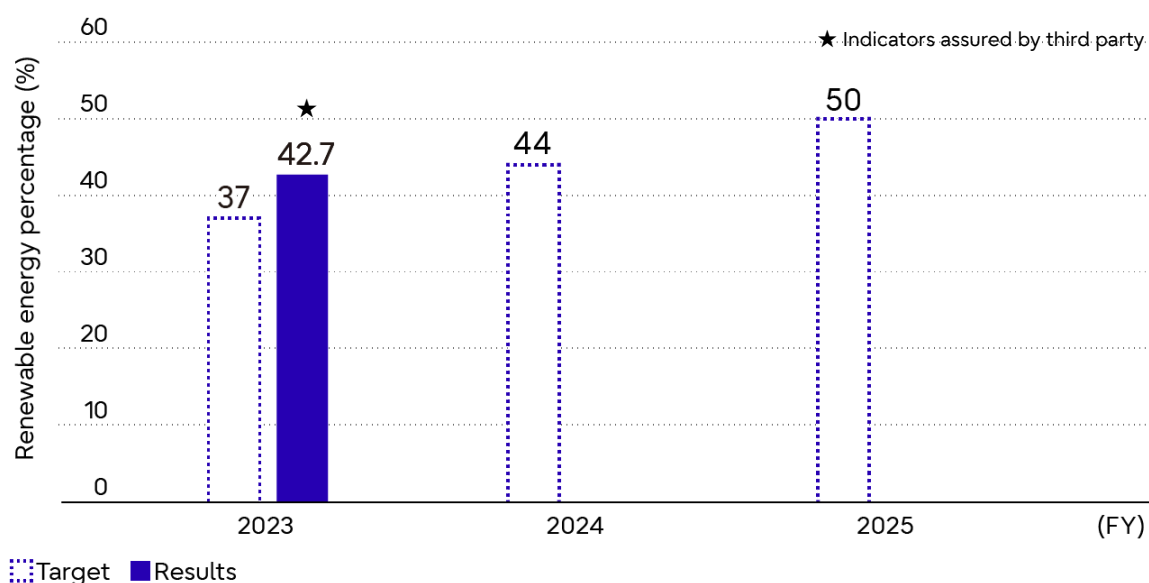
(*2) Calculation Standard: 5 -3 -4 -5

Refer to [Environmental Performance Data Calculation Standards](#) for details

Environmental Action Plan (Stage XI) Initiatives

With the aim of achieving the Fujitsu Group's medium-term environmental goal of "using 100% renewable energy in FY 2030," we set a target under the Fujitsu Group Environmental Action Plan (Stage XI) to expand our use of renewable energy to more than 50% by 2025. In FY2023, through the purchase of green power and power generation through solar panels, our rate of renewable energy use grew to 42.7%.

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.



Environmental Action Plan (Stage XI) Renewable Energy Percentage

Renewable Energy Procurement Principle

Mandatory Requirement

- Renewable energy that can be reported through RE 100 activities
 - Power sources are Solar, Wind-power, Geothermal, Biogas, Small-hydro etc.
 - Environmental value (renewable attribute) can be pursued and verified

- No double counting of environmental value
Ex.) Amortization of environmental value of renewable energy, to be executed through the system of public agency

Recommended Requirement

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

Reduction of CO₂ Emissions by Reducing Power Consumption When Using Products

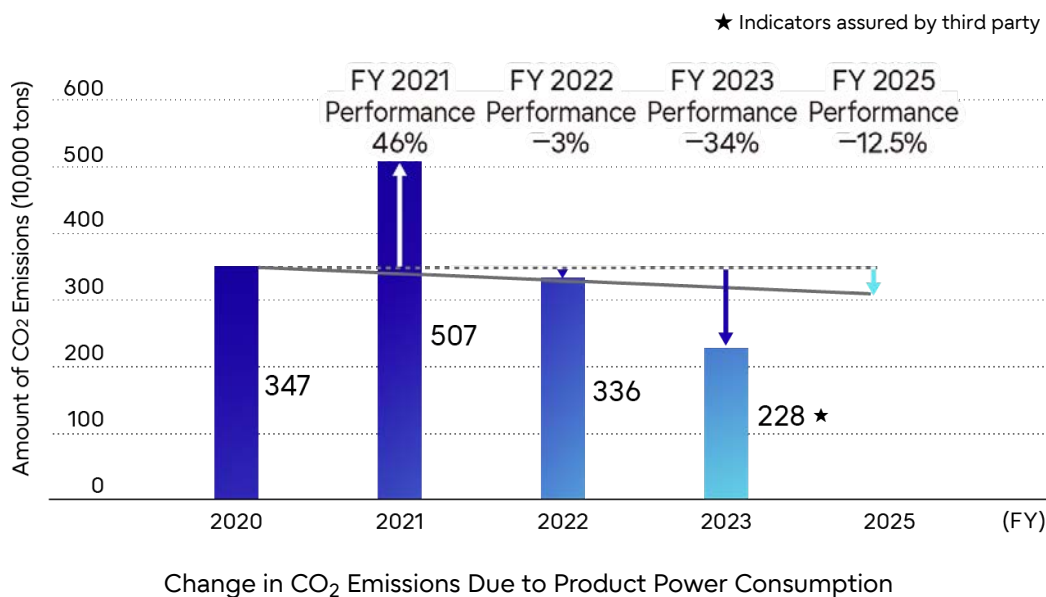
Our Approach

As ICT grows more and more common, we expect there to be an increase in energy demand in proportion to the higher performance and higher-density integration of ICT products. Various countries and regions are also expanding their energy-related regulations for ICT products, and energy e.ficiency 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.

FY2023 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Reduce CO ₂ emissions due to product power consumption by 7.5% or more in comparison to FY2020.	Reduced by 34.2%



Note: In line with the improvement in the accuracy of data collection, we have retroactively adjusted the figures.

Fujitsu Group Environmental Action Plan (Stage XI) Initiatives

Aiming for net-zero emissions for the entire value chain, the Fujitsu Group Environmental Action Plan (Stage XI) has set a target of reducing emissions in FY 2025 by 12.5% or more in comparison to FY 2020. To achieve this target, each unit has been working to improve energy efficiency, etc. of products in the FY2023–FY2025 pipeline. Specifically, we are actively pushing the use of low-power components, aggregating functions to reduce terminal numbers, using high-efficiency power supplies, optimizing power-management controls, reducing the number of components, and implementing eco-friendly devices.

Attained a 34.2% Reduction in CO₂ Emissions in Comparison to FY2020

In FY2023, as a result of applying and expanding energy-saving technologies in our servers, storage, PCs, and network devices, we were able to attain a 34.2% reduction in CO₂ emissions in comparison to FY2020.

Working Toward Our Targets

In order to achieve net-zero GHS emissions across the entire value chain, 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.

Initiatives in FY2023

CELSIUS W5012-Combined speed, power, stability and energy savings

The CELSIUS W5012 P C is a fully equipped PC workstation with the latest technology. PC workstations are designed to perform processing-intensive tasks, and our CELSIUS series provides this functionality.

The CELSIUS W5012, which came to market in FY2023, features Windows 11 Pro, a 13th generation Intel® Core™ processor and DDR5 memory, and is suitable for CAD, architectural and structural analysis, healthcare, and 2D and 3D video production.

In terms of eco-friendliness, the use of low-power components has enabled a 44% reduction in power consumption during use compared with previous models. CELSIUS W5012 also achieved an AAA rating in energy consumption efficiency (FY2022 standard) based on Japan's Energy Conservation Act.

With full deployment of the latest technologies with energy savings in the CELSIUS W5012, Fujitsu will continue to strive to realizing a society that is both environment- and people-friendly.



- [Case Studies](#) >

Activities to Reduce CO₂ Emissions in the Upstream Portion of the Supply Chain

Our Approach

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

Starting in FY2016, we have also been expanding these efforts further upstream in the supply chain by encouraging our suppliers to include their own suppliers (secondary suppliers from the perspective of the Fujitsu Group) in these activities.

In parallel, we have also participated in the CDP Supply Chain program since FY2018. Based on our international environmental research activities, we are taking a more in-depth look at the activities of our primary suppliers to reduce CO₂ emissions and conserve water resources, and considering the issues and our policies.

Moreover, as a new initiative, we are asking our main suppliers to establish a CO₂ reduction target based on the international standard of Science Based Targets (SBT). Starting in FY2022, we have also expanded the target suppliers for CO₂ emissions reduction to include those in the services industry in addition to the existing category of parts manufacturing as we strive to further reduce global warming.

The Group hosts seminars on setting reduction targets based on SBT. About 90% of target suppliers attend the seminar.

In addition, we also host webinars on how to set targets and share FAQ. We support our suppliers' CO₂ reduction efforts through the provision of a simple tool for suppliers to visualize CO₂ emissions (Scope 1 and 2) of their own company and determine the appropriateness of their SBT.

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 society for the future and a sustainable water environment.

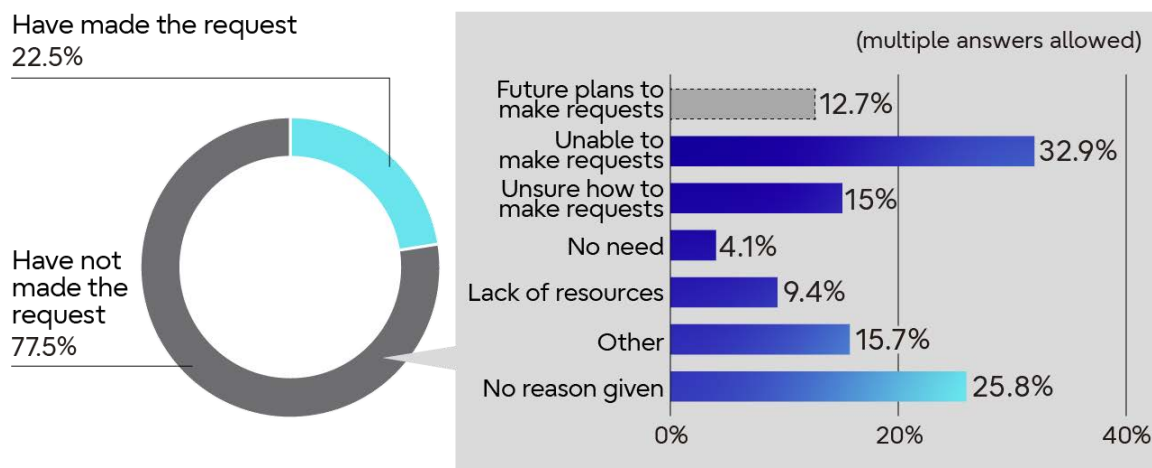
FY2023 Performance

Targets Under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Reduction of CO ₂ Emissions: Drive Activities to Reduce CO ₂ Emissions in the Supply Chain	Requested that secondary suppliers (over 49,000 companies) engaged in activities to reduce emissions through primary suppliers of the Fujitsu Group (612 companies)

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

The Fujitsu Group has requested that its primary suppliers, who account for the top 80% of the Group's procurement, to engage in activities to reduce their CO₂ emissions, and to expand these efforts to also include their own suppliers (the Fujitsu Group's secondary suppliers). We also conducted our own environmental survey to ascertain the status of activities by these suppliers. We then provided suppliers who responded to the survey with feedback in the form of a report that analyzed survey responses as a reference for their future activities, and we also requested that they further promote these activities and expand them to include their own suppliers.

As of the end of FY2023, 22.5% (126 suppliers) responded that they had requested their own suppliers to engage in emissions reduction activities. Over 49,000 secondary suppliers have been asked to engage in emissions reduction activities, and this should substantially impact awareness.



Status of primary suppliers' request that secondary suppliers engage in activities to reduce their CO₂ emissions*

* Excludes suppliers who did not respond and suppliers without secondary suppliers.

Offering Guidelines for Activities for Reducing CO₂ Emissions

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

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

- [Japan](#) >
- [Global](#) >

2. Practical activities: Procedure for target setting

1. Setting of Activity contents

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



2. Selection of Progress Indexes (Numerical data)

Select CO₂ emissions data, or data leading to CO₂ emissions directly.



2. Practical activities:

Examples for activity contents and progress indexes



* If it is

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

3. Setting

Set nu

* If it is

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

Informational materials for business partners

Resource Circulation

External Trends

Strengthening Global Resource Circulation

Goal 12 of the Sustainable Development Goals (SDGs), adopted by the United Nations in September 2015, is 'Responsible consumption and production'. The actions that organizations are urged to take in order 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 significant reductions in the volume of pollutants emitted into the air, water, and soil. The European Commission also announced its Sustainable Products Initiative (SPI), the cornerstone of its new Circular Economy Action Plan (CEAP), in March 2020. It launched a series of bills and policy packages central to achieving the objectives of the CEAP, including the Eco-Design for Sustainable Products Regulation (ESPR). The ESPR product scope not only expanded, but the Regulation also established performance requirements such as recyclability, durability, repairability, and use of recycled materials. With the increase in product sustainability requirements, the ESPR will also introduce a Digital Product Passport (DPP) to trace throughout the product life cycle, and Carbon Footprint to provide environmental impact assessment information. The requirement for more efficient use of resources is expected to increase worldwide. For example, in the U.S., more and more states are passing Right to Repair laws, while in Japan, the Ministry of Economy, Trade and Industry (METI) is working on building a Circular Economy Information Distribution Platform. Companies will need to accommodate these requirements going forward.

The Problem of Plastic Waste

A report published by the Organization for Economic Cooperation and Development (OECD) in June 2022 predicts that the amount of plastic waste generated globally will triple by 2060 from its 2019 level of 353 Mt. Additionally, while the resumed session of the Fifth United Nations Environment Assembly (UNEA-5.2) held in February 2022 recognized the usefulness of plastics, it also noted that the problem of plastic pollution, in particular marine pollution, is global in scale. It therefore convened an intergovernmental negotiating committee to begin work during the second half of 2022 on developing an international legally binding instrument on plastic pollution, including in the marine environment, with the ambition of concluding the instrument by the end of 2024. In view of these developments, companies need to engage in plastic resource circulation throughout the product life cycle.

The Fujitsu Group's Position

Aiming for Resource Circulation

The Fujitsu Group has a long-standing commitment to the 3Rs of resource management: reduce, reuse, recycle. The push of the "Circular economy" is gaining momentum worldwide. In particular, the abovementioned CEAP adopted in Europe in March 2020 has prompted a wave of discussion around resource recycling, including such topics as the reuse of waste as a resource, improvement of product recyclability and the use of recycled materials. Our existing practices already incorporate recycled plastics in ICT products and use paper instead of plastic for packaging. Building on this foundation, we are now taking a step further by promoting measures such as reducing the number of parts in our products and making them smaller, thinner, and lighter. We are also focusing on the reuse of resources from used ICT products and waste generated at our business sites. In the past, reusing resources from used ICT products continues to be one of the targets of our Environmental Action Plan. We have achieved a reuse rate of over 90% for ICT products used in business and are committed to maintaining this high level and are now continuing our efforts as internal target. In light of the urgent need to address the problem of plastic waste, as outlined above, we will continue to implement initiatives that target packaging materials and other plastic waste. Although changes in our business structure have led to a reduction in overall waste generated, we remain dedicated to further reducing waste and strengthening our recycling and resource utilization efforts to further contribute to a more recycling oriented society.

In addition to company-wide measures such as resource-conserving products, we will look at circular economy business models tailored to the characteristics of individual products, and place greater emphasis on designing products tailored to these new business models.

Responses to The Act on Promotion of Resource Circulation for Plastics

Given the growing environmental challenges posed by plastic waste, both in Japan and globally, there is a need for immediate measures to promote plastic resource recycling, including rationalizing their use, municipal recycling, and establishing systems to encourage voluntary collection and recycling by businesses.

Designated a “high-volume waste emitter” under the legislation, Fujitsu has established targets for reducing and recycling plastic waste and is implementing activities in line with those targets.

Target: Promotion of zero-emissions activities for plastic waste and greater use of returnable plastics

FY2023 waste plastics emissions: 1.8 thousand tons

RELATED INFORMATION

Actions and targets related to resource circulation initiatives under the Fujitsu Group Environmental Action Plan (Stage XI)

- [Saving and Reusing Resources in Products and Circular Economy Initiatives](#) >
- [Reducing the Amount of Water Used](#) >
- [Activities to Conserve Water Resources in the Upstream Portion of the Supply Chain](#) >

Saving and Reusing Resources in Products and Circular Economy Initiatives

Saving Resources in Products and Circular Economy Initiatives

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 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 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. Given the growing importance of the circular economy worldwide in recent years, we will continue to promote the reduction of environmental impact through resource saving while shifting our focus to the realization of the circular economy.

FY2023 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Development of products and services that contribute to a circular economy business model	Each Product Business Division set its own goals.

We have established a new resource goal: “Develop products and services that contribute to a circular economy business model.”

Under Stage X of Fujitsu Group Environmental Action Plan, we have been uniformly promoting resource saving and resource efficiency(*1) improvement for all products. The goal of Stage XI is to develop products and services that contribute to a circular economy business model. To achieve this goal, we will pursue a shift from a one-time purchase model to a service type business model or new business models.

(*1) Resource Efficiency is our own index calculated by dividing the product value by the environmental burden from resource usage and disposal of each material (resource) that makes up the product.

Each Product Business Division set its own goals.

The Product Design and Development Divisions played a leading role in organizing briefings and workshops on the circular economy business, and the Product Business Divisions have set targets in accordance with the Fujitsu Group Environmental Action Plan (Stage XI).

Looking Ahead

In FY2024, we will provide education for front-line employees (sales, consultants, etc.) to deepen their understanding of circular economy business. In addition, workshops will be held to train them to conduct business negotiations related to the circular economy.

Examples of Initiatives in FY2023

Development of a reuse program for ATM maintenance parts (Fujitsu Frontech)

When we replace our customers' ATMs, we take back old ATMs that would normally be scrapped and refurbish some of the parts to be used as maintenance parts. This reduces the number of newly manufactured maintenance parts, thereby limiting the use of new resources and helping to reduce waste.



ATM remanufactured maintenance parts (units)

- [Introduction of Other Initiatives \(Case Studies\)](#) >

Product Recycling

Our Approach

The Fujitsu Group's recycling activities are based on the concept of Extended Producer Responsibility (EPR), which holds producers responsible for product design and manufacturing as well as disposal and recycling, and the concept of Individual Producer Responsibility (IPR), which holds a company responsible for its own products. Fujitsu is certified for area-wide disposal of industrial waste based on the Act to Promote Effective Utilization of Resources in Japan. In accordance with these concepts, Fujitsu Recycling Centers around Japan are entrusted to properly dispose of industrial waste, and one of Fujitsu's voluntary management indicators is "to reuse at least 90% of the resources in its ICT products for businesses."

Changes in Resource Reuse Rates of End-of-life Business ICT Products

Item	FY2021	FY2022	FY2023
Resource reuse rate (%)	92.9	93.6	94.1

- [Introduction of Initiatives \(Case Studies\)](#) >

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 XI).

FY2023 Performance

Targets under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Adding policies to reduce water consumption and reducing water usage by at least 57 thousand m ³ by the end of FY2025. (*1)	Water consumption was reduced 59 thousand m ³ (target for FY2023: 38 thousand m ³)

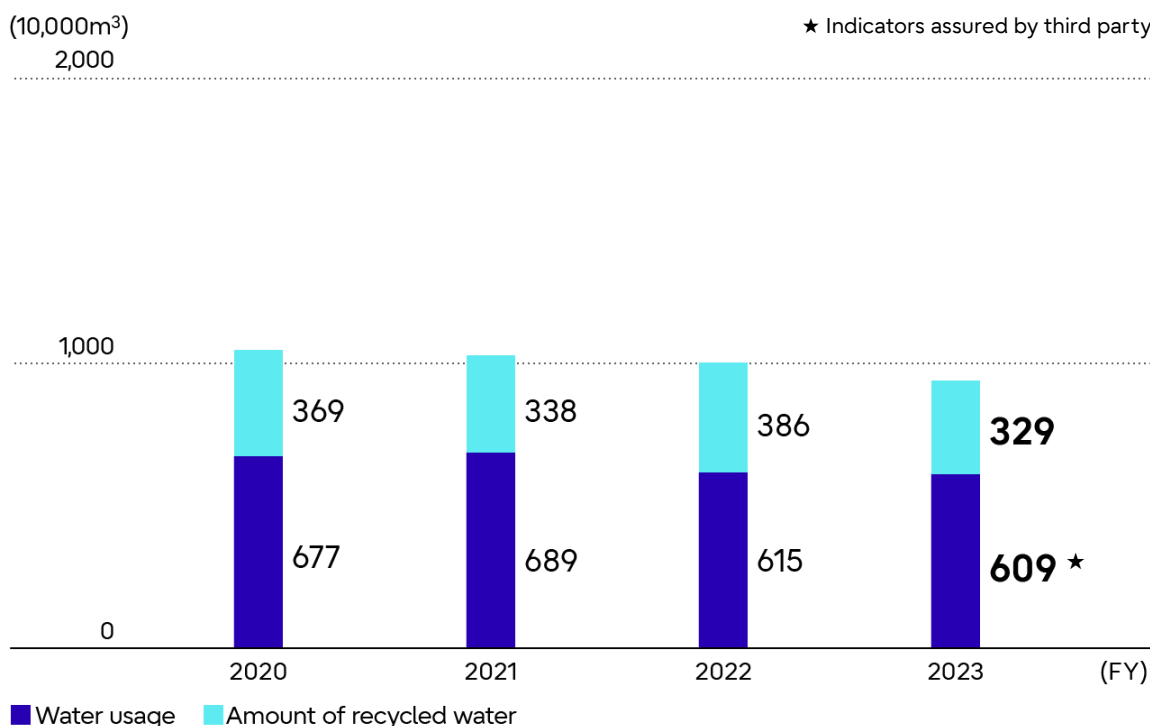
(*1) Target organizations: Japan; Fujitsu and Fujitsu Group offices (excluding data centers)
Overseas; Fujitsu and Fujitsu Group manufacturing sites

The policies we established in FY2023 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 upgrading air conditioners from water-cooled units to air-cooled units. We implemented these policies at each business site, plant, etc., so that we could make more efficient use of our water resources.

As a result, in FY2023 we reduced our water usage by 59 thousand m³, which is 104% of the 57 thousand m³ target set in the Fujitsu Group Environmental Action Plan (Stage XI).

Water Usage in FY2023 was 6.09 Million m³ (a 1% Reduction Compared to the Previous Fiscal Year)

The total amount of water we used in FY 2023 was 6.09 million m³ (output level per sales amount: 162 m³/100 million yen), a reduction of 1% compared to FY 2022. Additionally, 3.29 million m³ of that usage was recycled water, which was a decrease of 14.6% in comparison to FY 2022. Since the total amount of water we used declined slightly, recycled water comprised 54.1% of our total water usage, a deterioration of 8.7% over FY 2022.



Trends in Water Usage and Amounts of Recycled Water

Activities to Conserve Water Resources in the Upstream Portion of the Supply Chain

Our Approach

We have also situated the conservation of water resources as a priority issue which we need to ask our suppliers to address, as well as the reduction of CO₂ emissions.

We have participated in the CDP Supply Chain program since FY2018, in parallel with the above-mentioned activities. Based on our international environmental research activities, we are taking a more in-depth look at the activities of our primary suppliers to reduce CO₂ emissions and conserve water resources, and considering the issues and our policies.

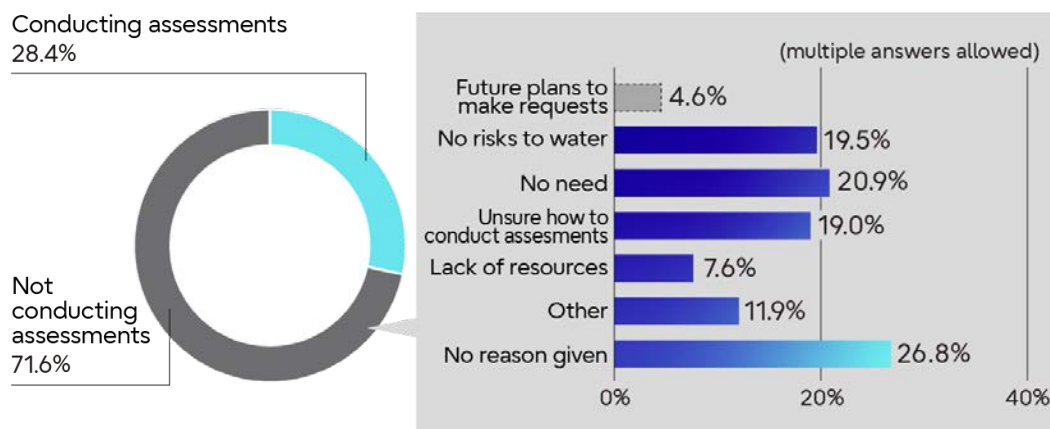
We expect that having the entire supply chain work toward reducing emissions can produce even greater reduction effects (synergies), while also expanding the network of these activities through the supply chain to cover an even wider area spreading beyond national boundaries. Through efforts such as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

FY2023 Performance

Targets Under the Fujitsu Group Environmental Action Plan (Stage XI)	FY2023 result
Conservation of Water Resources: Request that Primary Suppliers Engage in Activities to Conserve Water	Requested that 612 of the Fujitsu Group's primary suppliers engage in activities to conserve water

Conservation of Water Resources: Requesting that Primary Suppliers Work to Conserve Water Resources as a Key Theme They Should Address

Against the backdrop of worsening water resource problems and growing international concern, in addition to continuing our work to reduce CO₂ emissions as pursued under the Fujitsu Group Environmental Action Plan (Stage VIII) from FY2016 to FY2018, we situated the conservation of water resources as a priority issue which we need to ask our suppliers to address, starting in FY2019. 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

Since many companies are globally connected through their supply chains, water conservation is an issue that no company can afford to ignore. The first step in conserving water resources is to have an accurate understanding of inherent water risks. An environmental survey conducted by Fujitsu in FY2023 found that 28.4% of suppliers had conducted water risk assessments. As the case in FY2022, this indicates that suppliers have an ongoing awareness of water risk as an issue that needs to be addressed.

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 request that even more suppliers conduct water risk assessments and request that they work to conserve water resources.

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

- [Japan](#) >
- [Global](#) >

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

Seawater (brine) 97.5%
 fresh water 2.5%
 I wish you could live in the seawater, like us!

70% Iceberg/Ice sheet
 30% Groundwater, etc.

1% (or less) 0.01% of the Easily available Shallow Groundwater
 Used for agriculture, industry, domestic use, etc.

Why Companies can't be Independent of Water Risk
 "In the "Sustainable Development Goals (SDGs)" adopted by UN in September 2015 including targets for water and sanitation, water-related disasters, and conservation of the water environment -> The private sector, such as enterprises, are required to take action."
 *Water risk may overshadow business continuity.
 -> Impact on investor behavior (ex: Growing environmental investments)
 -> Increase and strengthen questions on water resources in various environmental activity evaluations.
 *Even if the internal process is safe, water risk in entire supply chain could affect whole business.
 -> Cooperation with business partners and customers is required.
 *Increased frequency of weather "extreme phenomenon" (floods, droughts, etc.)
 -> Growing global water risk requires constant monitoring now and in the future.
 Reference: Long-term changes in (Ministry of Land, Infrastructure, Transport and Agency) such as heavy rain or extremely hot days (extreme phenomenon) https://www.data.mhl.go.jp/gdp/ef/index_extreme.html
 Reference: weather and climate extracts (The World Climate Research programme) <https://www.wcrp-climate.org/gc-extremes-items>

Water risk analysis tools (Example)

WRI Aqueduct Water Risk Atlas <https://www.wri.org/aqueduct>
 - Indicate risks by specifying areas by address or latitude-longitude.
 - A detailed breakdown of risk is possible with using 12 metrics.
 - Future risks 10 or 20 years from now can be calculated taking into account climate change, global economic development, population growth, etc.

WWF-DEG Water Risk Filter <https://waterskfilter.panda.org/>
 - Display risk by entering industry and address (+ business information as optional).
 - Evaluation results can be output in the CDP Water response format.
 - Risk mitigation measures are presented for indicators evaluated as high risk.
 - Additional water-related opportunity analysis capability is planned.

WBCSD Global Water Tool
 - Launched in 2007 as the first public tool for water risk analysis.
 - No longer available since handing over the position to Aqueduct Water Risk Atlas and WWF-DEG Water Risk Filter.

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

Contents of "Water Risk Assessment for Companies"

Living in Harmony with Nature (Conservation of Biodiversity)

Management Approach

Biodiversity loss poses an enormous global risk; an integrated response is vital to secure a carbon-neutral and nature-positive future

The Global Risks Report 2023 released by the World Economic Forum (WEF), ranks “Biodiversity loss and ecosystem collapse” as the fourth most severe, long-term risk globally, recognizing biodiversity loss alongside climate change as an urgent and critical issue. Viewing the delivery of a nature-positive world as essential to addressing this issue, the G7 Summit held in June 2021 agreed on a G7 2030 Nature Compact, which includes a commitment to “halt and reverse biodiversity loss by 2030”. Part 2 of the 15th Conference of the Parties to the UN Convention on Biological Diversity (CBD-COP15) held in December 2022 adopted the Kunming-Montreal Global Biodiversity Framework, which includes international targets for 2030. The framework establishes “23 Global Targets for 2030” aimed at the 2030 Mission “To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet” (excerpt). Business groups such as the World Business Council for Sustainable Development (WBCSD) and international environmental NGOs such as the World Wide Fund for Nature (WWF) have also announced a joint proposal with a target of achieving a nature-positive planet by 2030. Thus, it is now considered vital that we not only have carbon-neutral initiatives to counter climate change, but also integrated measures aimed at delivering nature-positive outcomes.

To deliver nature-positive outcomes, we have established a vision and a mid-term goal in line with international targets

Committed to delivering nature-positive outcomes, in 2022 the Fujitsu Group formulated its vision for 2050, its 2030 Mid-term Target, and its 2025 Short-term Target (Environmental Action Plan Stage XI) in line with international targets (Kunming-Montreal Global Biodiversity Framework).

Vision for 2050: Create a world in harmony with nature, where "nature and biodiversity," which are fundamental to a sustainable society, are fully restored through digital technology.

2030 Mid-term Target: Reduce negative impacts on biodiversity by at least 25% (Base year : FY2020) in the area of company's corporate activities, including supply chain, and promote activities to increase positive impacts on it..

2025 Short-term Target: Reduce negative impacts on biodiversity by at least 12.5% (Base year : FY2020) in the area of company's corporate activities, including supply chain, and promote activities to increase positive impacts on it.

We will continue to implement activities to reduce negative impacts and increase positive impacts on biodiversity.

FY2023 Results

Target Under Stage XI of the Fujitsu Group Environmental Action Plan	FY2023 result
Reduce negative impacts on biodiversity by at least 12.5% (Base year : FY2020) in the area of company's corporate activities, including supply chain, and promote activities to increase positive impacts on it.	Negative impacts on biodiversity were reduced by 27.5% (Base year: FY2020) in locations where Group and supply chain activities are located. As one of Fujitsu Group activities to increase our positive impact on biodiversity, the Fujitsu Numazu Plant has been certified by the Ministry of the Environment as a Nationally Certified Sustainably Managed Natural Sites, contributing to the achievement of the 30 by 30 target.

Establishment of a calculation method that uses Ecological Footprint (EF) as the indicator for visualizing the impact of corporate activities on biodiversity

Of the Global Targets for 2030 established by the Kunming-Montreal Global Biodiversity Framework adopted at CBD-COP15, one of the most relevant targets to the business sector is Target 15: "Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions:

- (a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity, including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains, and portfolios;
- (b) Provide information needed to consumers to promote sustainable consumption patterns;
- (c) Report on compliance with access and benefit-sharing regulations and measures, as applicable; in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production."

At the 24th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-24), assessment indicators for each target were also discussed and Ecological Footprint was proposed as one of the candidate indicators for Target 15.

In response, the Fujitsu Group established a calculation method that uses the Ecological Footprint indicator to enable a comprehensive evaluation of the organization's activities. Selected to measure negative impacts on biodiversity, the method identified significant negative-impact factors in the Ecological Footprint assessment of the Group's activities. See below for details.

The Fujitsu Group selected Ecological Footprint as an evaluation indicator for the following reasons:

- ① Ecological Footprint is a Component indicator for Target 15 of the Global Targets for 2030, proposed by SBSTTA-24, selected based on scientific findings.
- ② It enables comprehensive evaluation of all corporate activities.

Goal/Milestone/Target ⁵	Headline indicator	Summary of the assessment	Component indicator	Complementary indicators
Target 15. All businesses (public and private, large, medium and small) assess and report on their dependencies and impacts on biodiversity, from local to global, and progressively reduce negative impacts, by at least half and increase positive impacts, reducing biodiversity-related risks to businesses and moving towards the full sustainability of extraction and production practices, sourcing and supply chains, and use and disposal.	15.0.1 [Number of companies assessing and reporting on their][Quantified volumes of] Dependencies [and] impacts[, risks and opportunities] of businesses on biodiversity [and related human rights]	Relevance: Green Nationally feasible: Yellow Globally feasible with national disaggregation: Yellow Readiness: Red Summary: Relevant, not fully operational Most Parties felt that an indicator on dependencies and impacts was relevant; however, such an indicator would need to be further defined and elaborated. Parties suggested a number of adjustments to the indicator and/or alternative indicators	The (will align with the Task Force for Nature-related Financial Disclosures) 15.4.1 Ecological footprint 15.4.2 Recycling rate	t15.1. CO₂ emission per unit of value added (SDG indicator 9.4.1) t15.2. Change in water-use efficiency over time (SDG indicator 6.4.1)

CO-CHAIRS' SUMMARY AND PROPOSED LIST OF INDICATORS FOR CONSIDERATION IN DEVELOPING THE
MONITORING FRAMEWORK FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

Source: CBD/SBSTTA/REC/24/2, March 27, 2022

In examining the calculation method, we used the Business & Biodiversity Interrelationship Map® (developed by Japan Business Initiative for Biodiversity (JBIB)) as the basis for extracting items that have biodiversity-related dependencies and impacts, and determined the corresponding amount of activity for each item, as set out in the following table:

Table: Nature-related dependencies and impacts and corresponding activity data in the Fujitsu Group

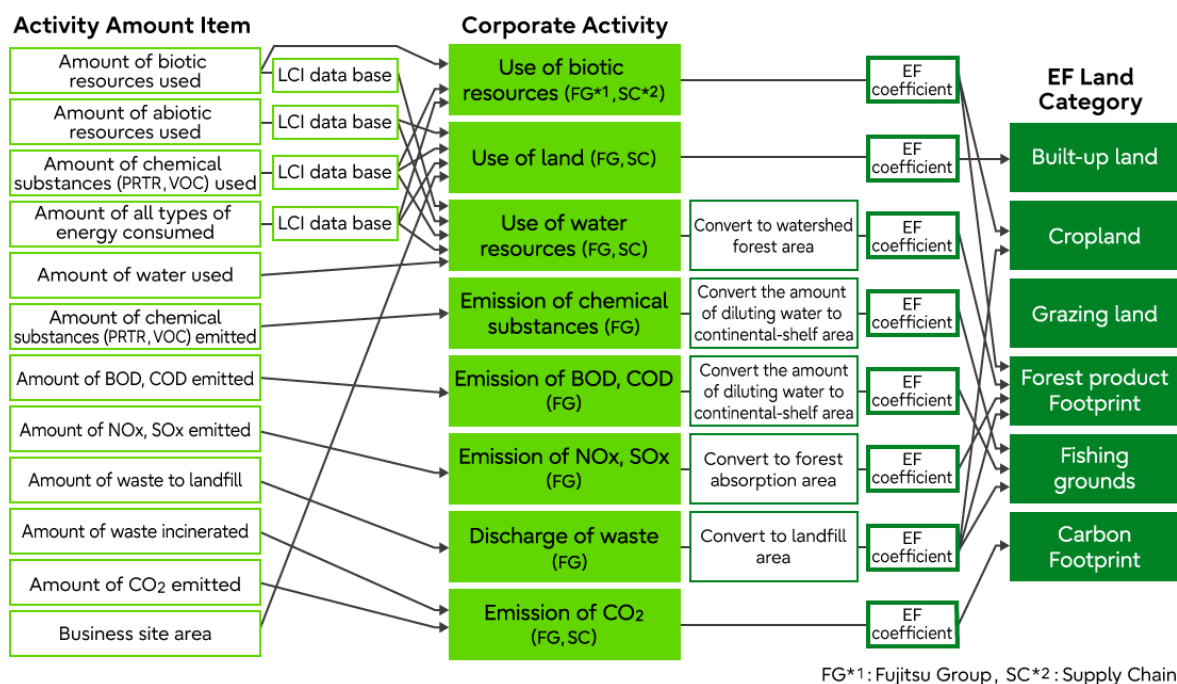
Life Cycle	Nature-related Dependency	Nature-related Impact	Impact Driver	Activity Amount
Procurement	Consumption of raw materials	—	Resource use/replenishment	Amount of resources used (biotic, abiotic)
	—	Emissions released into the atmosphere	Climate change	Amount of CO ₂ emitted
Design & Development / Manufacturing	Consumption of water resources	—	Resource use/replenishment	Amount of water used
	Consumption of chemical substances	—	Resource use/replenishment	Amount of PRTR, VOC handled

Life Cycle	Nature-related Dependency	Nature-related Impact	Impact Driver	Activity Amount
Design & Development / Manufacturing	Consumption of energy	—	Resource use/replenishment	Amount of electricity purchased
				Amount of heavy oil Type A used
				Amount of kerosene used
				Amount of gasoline used
				Amount of light oil used
				Amount of natural gas used
				Amount of city gas used
				Amount of LPG used
				Amount of LNG used

Life Cycle	Nature-related Dependency	Nature-related Impact	Impact Driver	Activity Amount
Design & Development / Manufacturing				Amount of district heating and cooling supply used
	—	Emissions released into the atmosphere	Climate change	Amount of CO ₂ emitted
			Pollution/pollution removal	Amount of NO _x , SO _x emitted
				Amount of PRTR, VOC emitted
				Amount of waste incinerated
	—	Discharge into water bodies	Pollution/pollution removal	Amount of BOD, COD emitted
				Amount of PRTR emitted
	—	Discharge into the ground	Pollution/pollution removal	Amount of waste to landfill

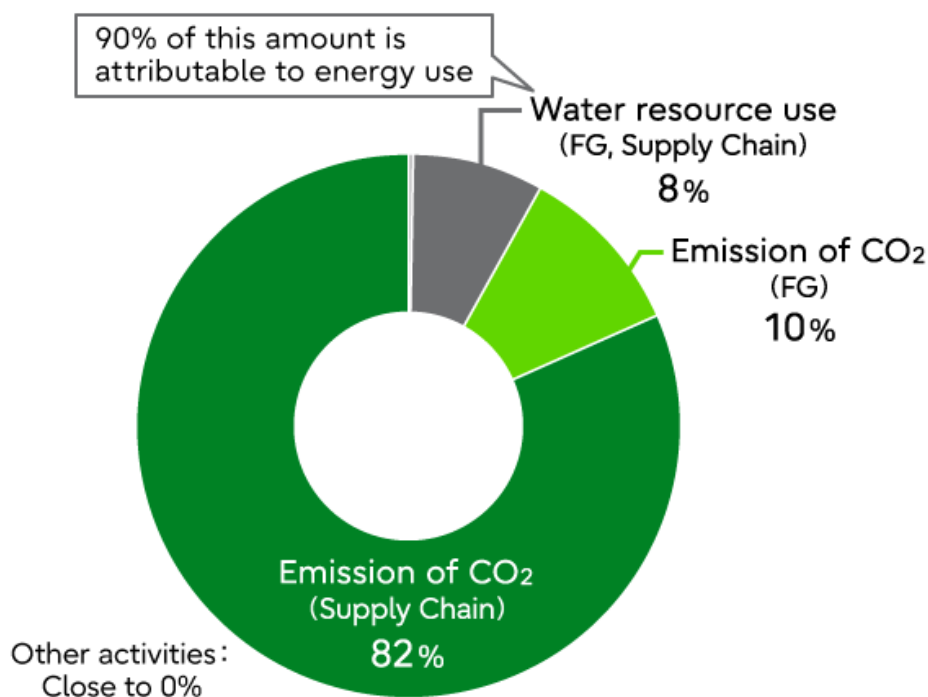
Life Cycle	Nature-related Dependency	Nature-related Impact	Impact Driver	Activity Amount
Logistics & Sales	Consumption of energy	—	Resource use/replenishment	Amount of energy consumed
	—	Emissions released into the atmosphere	Climate change	Amount of CO ₂ emitted
Use	—	Emissions released into the atmosphere	Climate change	Amount of CO ₂ emitted
Other	—	Land used for business	Land/freshwater/ocean use change	Business site area

We then established an Ecological Footprint (EF) calculation method, using the above Activity Amount items as inputs. We used life cycle inventory (LCI) data to convert some Activity Amount items (e.g., Amount of resources used) to Corporate Activity items that correspond to EF coefficients. Where a Corporate Activity item (e.g., Use of water resources) cannot directly use an EF coefficient, this is reflected in the EF calculation by using additional conversion logic based on scientific knowledge to expand on the original EF method.



Integrated Assessment of Corporate Activities by Ecological Footprint (EF) in the Fujitsu Group

The results of our EF assessment of the Group's corporate activities show that Emission of CO₂ from the Group and its supply chain activities together account for 92% of the negative-impact factors. Water resource use accounts for the remaining 8%, but we found that this was mainly attributable to energy use. We established that Emission of CO₂ and energy use together account for 99% of the negative-impact factors. This means that activities aimed at reducing GHG emissions, such as energy conservation and the introduction of renewables, can also reduce our Ecological Footprint. In short, this clearly demonstrates that the Group's climate change measures are proving effective in reducing negative impacts on biodiversity.



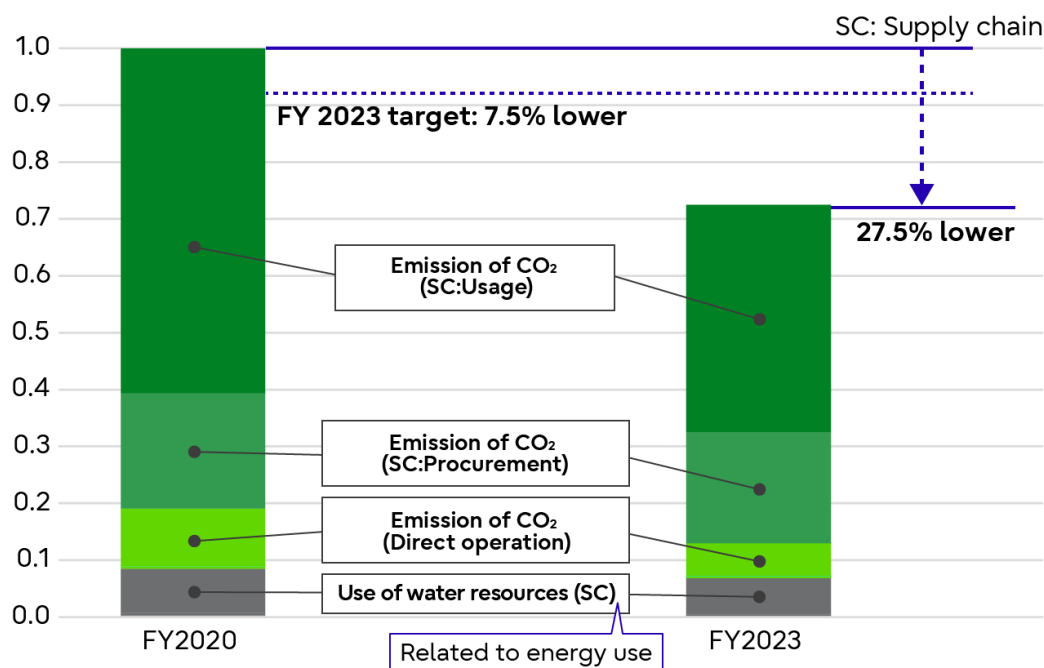
EF Calculation Results in Fujitsu Group (FY2020) - Percentage by Corporate Activity -

FY2023 Initiatives in Detail

27.5% reduction (FY2020 baseline) in negative impacts on biodiversity in the supply chain and locations in which the Group operates

As a result of using the Ecological Footprint as an indicator for assessing impacts in the supply chain and locations in which the Group operates, we have reduced the negative impact on biodiversity by 27.5% against a baseline of FY2020, thus achieving our FY2023 target of a reduction of at least 7.5% against a baseline of FY2020 (*). This is due to a reduction in CO₂ emissions, notably a significant reduction in CO₂ emissions downstream in the supply chain (Scope 3 Category 11 e missions).

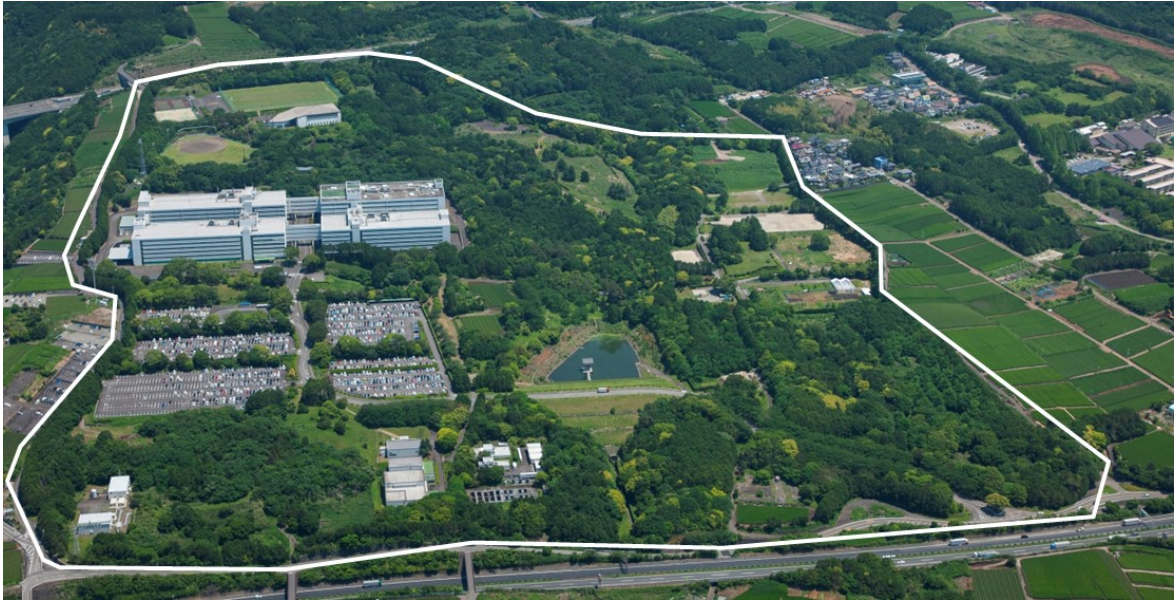
(*) EF coefficients are fixed for comparison



Fujitsu Group EF Assessment (FY2023 Results, by Corporate Activity)

One of our activities aimed at increasing our positive impact on biodiversity and contributing to the achievement of the 30by30 target involves the Fujitsu Numazu Plant, now certified by the Ministry of the Environment as a Nationally Certified Sustainably Managed Natural Sites

Just under 80% of the approximately 53 ha site occupied by the Fujitsu Numazu Plant is given over to green space to nurture the precious biodiversity of the region. The Numazu Plant manages the green space with the aim of preserving the natural environment, maintaining the landscape, and providing a place for employees and local residents to learn about the natural environment. In 2023, the Numazu Plant Green Conservation Area was certified by the Ministry of the Environment as a Nationally Certified Sustainably Managed Natural Sites.



Fujitsu Numazu Plant Green Conservation Area (certified by the Ministry of the Environment as a Nationally Certified Sustainably Managed Natural Sites)



Certification logo: Nationally Certified Sustainably Managed Natural Sites