Environment

Environment

Goal

WHAT FUJITSU ASPIRES TO BE

Fujitsu will fulfill its social responsibilities as a global corporate SX leader. In addition to achieving our carbon neutrality goals, we will solve various environmental challenges by providing innovative solutions through co-creation with our customers

GOALS FOR FY2025*

Fulfill our social responsibilities and help to resolve environmental challenges

- Reduce greenhouse gas (GHG) emissions from Fujitsu facilities and the supply chain with the aim of achieving Science Based Targets (SBT) net zero
- 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

GOALS FOR FY2022

Fulfill our social responsibilities and help to resolve environmental challenges

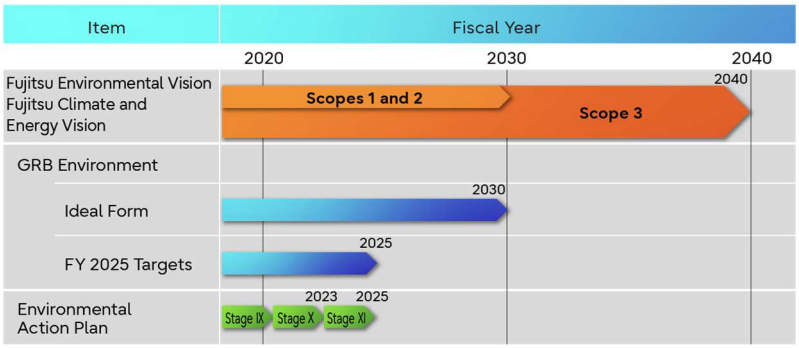
- Reduce greenhouse gas emissions at Fujitsu sites by 37.8% or more from the base year level (Reduce by 4.2% each year compared with FY2013)
- Avoid risks associated with our business activities and minimize our impact on the environment
- Help to resolve environmental challenges for customers and society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

* Specific targets are set in the Fujitsu Group Environmental Action Plan (Stage XI)

Introduction

Climate change is a global issue that impacts the sustainability of society, and it is closely related to water and resource recycling issues. Engaging in global environmental conservation is essential for achieving Our Purpose. The Fujitsu Group does its utmost to reduce environmental impact and minimize risks throughout the value chain, and we contribute to the realization of a sustainable society by solving environmental issues together with our customers.

Image of Achievement Fiscal Year for Environmental Vision, Targets, and Other Goals



To Reduce GHG Emissions in Accordance With 1.5°C Target

Updating Medium- and Long-term Goals

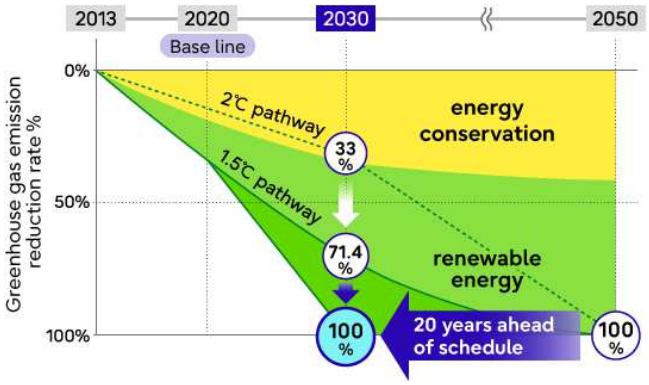
In May 2017, the Fujitsu Group formulated the Fujitsu Climate and Energy Vision as our environmental vision. In August 2017, we acquired SBT certification (2℃-aligned) for our reduction standard by 2030. As the movement toward carbon neutrality accelerated, we reconsidered the role that the Fujitsu Group must fulfill, and in April 2021 we raised our GHG emissions reduction target for 2030 from a 33% reduction compared to FY 2013 to a 71.4% reduction. This reduction target has been certified as 1.5℃-aligned by SBTi.

In order to accelerate decarbonization in the global community together with our supply chain, we have moved up the target deadline for 100% reduction by 20 years from the previous FY 2050 to FY 2030.

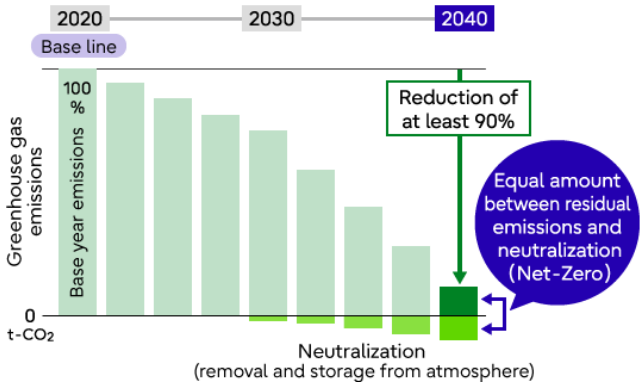
Furthermore, we have decided to aim for Net-Zero emissions in the entire value chain, including the supply chain (Scope 3), by FY 2040.

To ensure this target, we will follow the Fujitsu Group Environmental Action Plan (Stage XI) that we created as our activities through FY 2050.

(Our Net-Zero target for FY 2040 from the base year of FY 2020 received Net-Zero Certification from the SBT initiative in June 2023.).



Emission reduction of Fujitsu Group (Scope 1 and 2)



Emission reduction throughout the value chain (Scope 3)

Roadmap to Net-Zero

Initiatives for Achieving Goals

Since 2018, the Fujitsu Group has been a member of the international initiative RE100, which aims to popularize and expand renewable energy.

Previously, we focused on our sites in Europe and the United States. In April 2021, however, in anticipation of full-scale introduction in Japan, we switched all electricity used in the Kawasaki Plant, the largest in the Fujitsu Group to renewable energy as Fujitsu's flagship model.

This initiative affects approximately 5% of the Group's electricity consumption in Japan.

Furthermore, in April 2022, Fujitsu Australia signed the largest renewable energy power purchase agreement (PPA) in the Group, accounting for approximately 38% of its annual power consumption.

Exterior of Kawasaki Plant

Sapphire Wind Farm
Largest wind farm in New South Wales operated by CWP Renewables

- Fujitsu Group Sustainability Data Book 2021 (p.5-3-3-12) (Examples of Initiatives in FY 2020: Introduction of Green Power)
- Fujitsu Group's Largest Facility to Source 100% of its Energy Needs from Renewables, Demonstrating Commitment to Achievement of RE100
- Fujitsu Sources 100% of Energy Needs for Global HQ from Renewables
- Fujitsu Australia signs the group's largest renewable energy power purchase agreement

Avoiding Risks Associated with Business Activities and Minimizing Environmental Impact

Fujitsu Numazu Plant Received Prime Minister's Award for the 2023 Greening Promotion Movement

The Fujitsu Group promotes activities to reduce negative effects, and increase positive effects, on biodiversity to minimize environmental impact. For example, since its inauguration in 1976, Fujitsu Numazu Plant has been actively greening its facilities. It constantly maintains the natural environment in its premises, managing lawn, a biotope, a tea garden and other gardens in its premises, as well as green areas such as woodland that remains in its natural state, including ecosystems. In addition, a large green area is opened to local residents as a place for relaxation, where the Plant carries out many community exchanges holding seasonal events such as "tea picking festival" and "waling to experience nature." Numazu Plant also is actively working to preserve biodiversity by pasturing goats for weeding, eliminating designated invasive alien species, raising "southern Japanese rice fish" (Oryzias latipes), an ancient Japanese species, in its biotope, and through other activities. In recognition of those continuous greening efforts, in April 2023, Numazu Plant received Prime Minister's Award for the 2023 Greening Promotion Movement, an award given by the Prime Minister to an individual or an organization that made outstanding achievements in the promotion of greening activities or the spread of greening awareness.

Numazu Plant (Aerial view)

Tea garden (tea picking festival)

Weeding by goat-pasturing

Biotope

Examples of How Our Business Helps Solve Environmental Issues for Customers and Society

A joint blockchain project for "J-Credit Easy Generation" has been launched to further develop environmental value exchange market

Fujitsu and IHI Corporation(*1) (IHI) have been working on a joint project since FY 2022 to realize carbon neutrality and to create an environmental value distribution platform that supports environmental value trading. Now, to simplify the environmental value creation process (collection, verification, and reporting of data such as CO_2 emissions) for the J-Credit(*2) issuance, they launched the "J-Credit Easy Generation"(*3) in June 2023.

As part of this initiative, the two companies applied for, and were selected as, collaborators engaged in a project for the "Outsourcing of Research and Development towards Digital Technology Utilization in FY 2023 J-Credit System" of the Japan's Ministry of Environment. They will work on this project from June 2023 to March 2024.

The two companies plan to start providing the "J-Credit Easy Generation" as a module of the environmental value distribution platform in FY 2024.

Overview of Joint Project

Since FY 2022, Fujitsu and IHI have been carrying out a joint project to create an environmental value distribution platform, which converts CO_2 emissions reductions calculated using data collected at IHI's IoT platform "ILIPS" (IHI group Lifecycle Partner System)*4 into tokens*5 that can be distributed on the environment value exchange market using Fujitsu's "ConnectionChain"*6 a technology that securely interconnects different blockchains.

By adding "J-Credit Easy Generation" to the environmental value distribution platform, companies and organizations that are making environmental contributions, such as reducing CO_2 emissions (environmental value creators) will be able to easily convert their environmental value, such as CO_2 reductions, into J-Credits.

At the same time, by promoting the application of digital technology to J-Credit trading, Fujitsu aims to build a sustainable value chain model that enables buyers to smoothly trade the environmental value created by environmental value creators in the form of J-Credits.

Using "J-Credit Easy Generation" as a starting point, the two companies will contribute to the realization of carbon neutrality by expanding their businesses to tackle the digital verification of the diverse environmental values, including product carbon footprint.

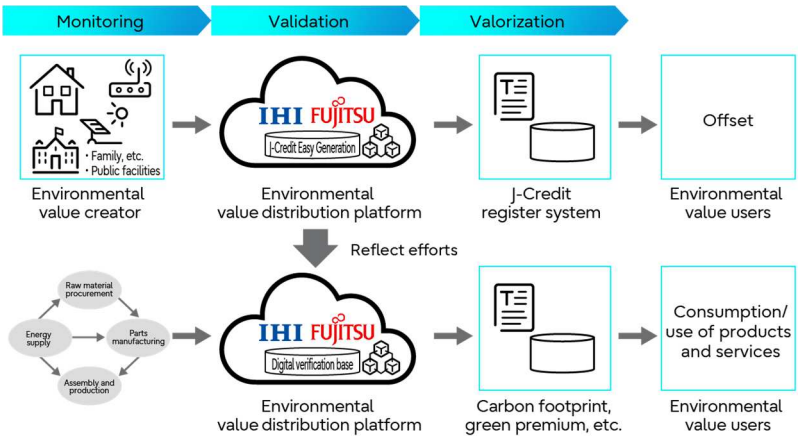


Figure 1 Digital verification of diverse environment values

Overview of the Demonstration Project of "J-Credit Easy Generation" for the Ministry of Environment's J-Credits (Public Offering Overview)

This project considers the simplification of the process from monitoring to issuing J-Credits through IoT and blockchain technology using the methodology of "Introduction of Photovoltaic Power Generation Facilities (EN-R-002)."

The demonstration will be conducted in the following three phases:

1. From June 2023 to August 2023: Planning the demonstration and sorting out the issues to be verified
2. From September 2023 to December 2023: Conducting the demonstration
3. From January 2024 to March 2024: Making final adjustments for actual operation

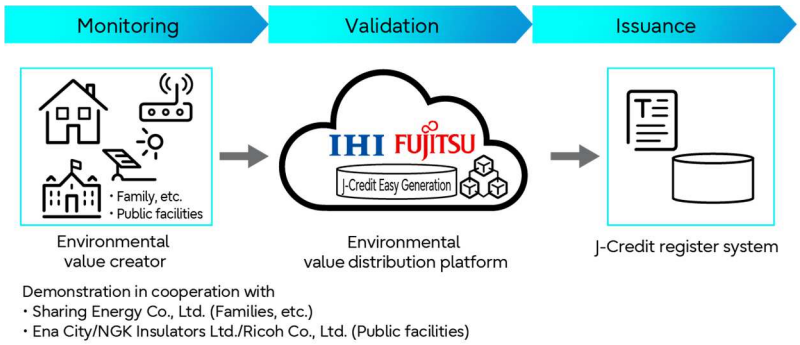


Figure 2 Demonstration of "J-Credit Easy Generation"

*1 IHI Corporation: based in Koto City, Tokyo, presided by Hiroshi Ide, CEO.
*2 J-Credit: A system in which the Japanese government certifies the amount of greenhouse gases reduced or absorbed as credits.
*3 J-Credit Easy Generation: A system that simplifies the process of creating environmental value for J-Credits using IoT and blockchain technology.
*4 ILIPS: A common platform for IHI Group products that accumulates data from equipment and facilities on cloud servers for use in lifecycle business to enhance IHI Group products and services.
*5 Tokens: Digitized rights and assets issued independently by a company or organization through blockchain technology.
*6 ConnectionChain: Blockchain technology that securely interconnects different blockchains and ensures transparency of transactions.

› Fujitsu and IHI start joint project on new environmental value distribution platform using blockchain technology

Fujitsu and Chugoku Electric Power T&D conduct joint trials to expand use of renewable energy and improve maintenance of power transmission facilities

To expand use of renewable energy, Fujitsu and Chugoku Electric Power Transmission & Distribution Company, Incorporated(*7) (Chugoku Electric Power T&D) aim to realize dynamic line rating (DLR)(*8) a promising next-generation power network technology and to utilize drones for improving the maintenance of power transmission facilities. To this end, they conducted joint trials for one year from September 2021 to verify the practical application of environmental data(*9), including wind conditions, obtained and converted through power transmission facilities of Chugoku Electric Power T&D.

In order to boost the use of renewable energy, power transmitters and distributors are aiming to develop next-generation power networks by strengthening power grid(*10), developing grid control technologies, and in other ways. Chugoku Electric Power T&D also actively take on this challenge.

Moreover, Chugoku Electric Power T&D utilizes drones for maintenance work, such as patrolling and inspecting its facilities, and locating any malfunctions. As drones flight is greatly affected by wind, however, further utilization of them requires real-time and accurate monitoring of environmental data (wind conditions) in the vicinity of power lines installed over a wide area.

Utilizing Fujitsu's proprietary data conversion technology, these joint trials converted optical ground wire (OPGW)(*11) vibration data from the OPGW of the power transmission lines through optical fiber sensing technology(*12) into estimated environmental data in the vicinity of the transmission, and then compared and verified that data with the actually measured data at the site. Consequently, it was confirmed that they were generally in agreement with each other.

This enables the efficient and accurate acquisition of environmental data (wind conditions) near the power transmission facilities installed over extensive areas, which can be more widely applied to patrols and inspections with DLR and drones. This will then help expand the use of renewable energy and further enhance the maintenance of power transmission facilities.

The two companies will promote the early development of an advanced power grid operation support system that can utilize environmental data (wind conditions) and temperature data of the power lines to manage power transmission capacity flexibly through DLR and to improve maintenance operations with drones. At the same time, they will further advance digital transformation (DX) to reform maintenance operations and solve social issues such as sustainable energy supply.

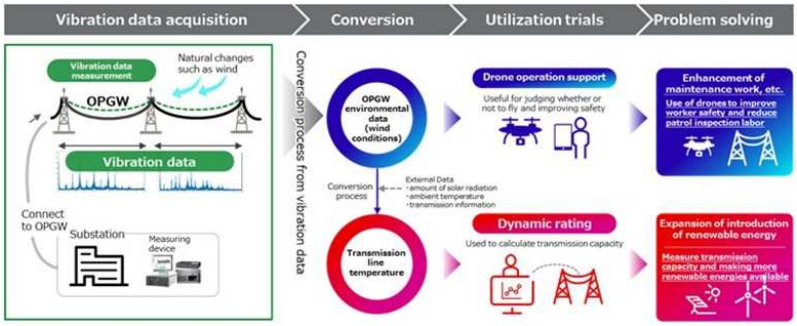


Figure 1: Overview of the field trials

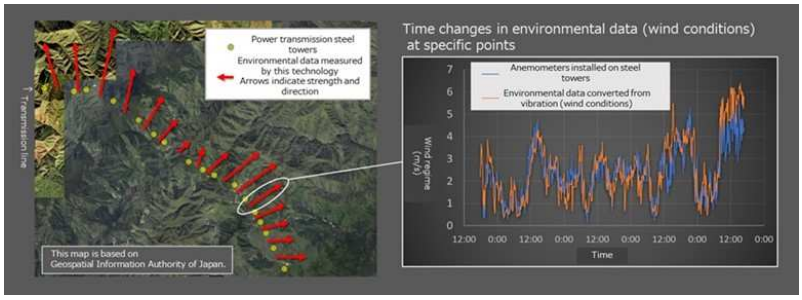


Figure 2 Screen image of prototype system supporting advanced operation of transmission network (in Japanese)

*7 Chugoku Electric Power Transmission & Distribution Company, Incorporated: based in Hiroshima City, Hiroshima Prefecture, presided by Hiroyuki Hasegawa.
*8 Dynamic line rating: Technology to flexibly operate transmission capacity of electric transmission and transformation facilities.
*9 Environmental data: A data group of estimated environmental conditions (e.g., wind conditions) along the optical ground wire (OPGW) and its vicinity.
*10 Power grid: A series of electric power facilities and systems consisting of transmission, transformation and distribution of electricity from power stations to users.
*11 OPGW: Optical Ground Wire. Equipment that incorporates optical fiber cables in overhead ground wires to protect power transmission lines from lightning strikes.
*12 Optical fiber sensing technology: Technology that enables real-time measurement of how optical fiber cables vibrate by inputting specific laser pulse light into optical fiber cables for communication and measuring changes and components of light such as backscattered light. For the measurement, a dedicated measuring device and a computer for data calculation are used.

› Fujitsu and Chugoku Electric Power T&D conduct joint trials to expand use of renewables and improve maintenance of power transmission facilities

Fujitsu began selling a service that provides up to 100% of the electricity consumed by Fujitsu Data Center users from renewable energy sources

Aiming to help customers accelerate their efforts to reduce greenhouse gas (GHG) emissions throughout their supply chains, Fujitsu began selling a service that provides environmental value(*13) to the users of Fujitsu Data Centers (DC) through the "Environmental Value Delivery Service"(*14) in FY 2022.

To achieve carbon neutrality, each company will need to reduce not only their own GHG emissions but also indirect GHG emissions from the services of other companies it uses.

On the other hand, it is revealed that more than 80% of companies are facing challenges in achieving carbon neutrality.

As a leading global environmental-friendly company, Fujitsu has set the goal of fulfilling its social responsibility and contributing to solving environmental issues. To contribute to this goal in its DC business as well, Fujitsu has begun offering "Environmental Value Delivery Service" from a new perspective.

Overview of Environmental Value Delivery Service

This service provides Fujitsu DC users in Tatebayashi, Yokohama and Akashi with up to 100% of the contracted electricity from renewable energy sources. As Fujitsu issues a certificate as proof of use of renewable energy for DC service, they can publicly demonstrate that they are helping reduce GHG emissions(*15).

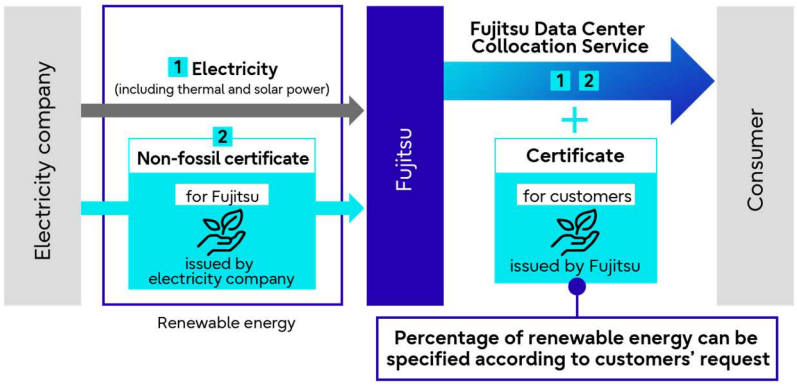


Figure 1 Overview of Environmental Value Delivery Service

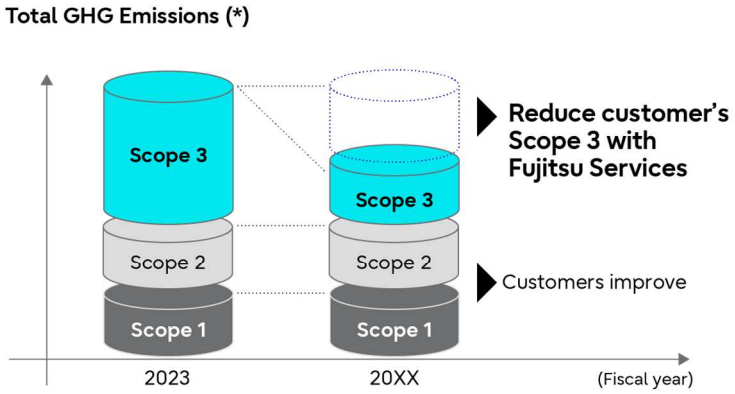


Figure 2 What can be achieved through Environmental Value Delivery Service

*13 The energy generated in a non-GHG-emitting manner is recognized as non-GHG-emitting value in environmental activities.
*14 FUJITSU Hybrid IT Service, Collocation Service, Environmental Value Delivery Service.
*15 This aims to reduce customers' Scope 3.

› Environmental Value Delivery Service (Japanese text only)

Environmental Management

Environmental Management System

We are continuously working to improve our ISO14001 (*1) based environmental management systems and to promote Group-wide environmental management.

(*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.

Fujitsu Group's Environmental Management Systems (EMS)

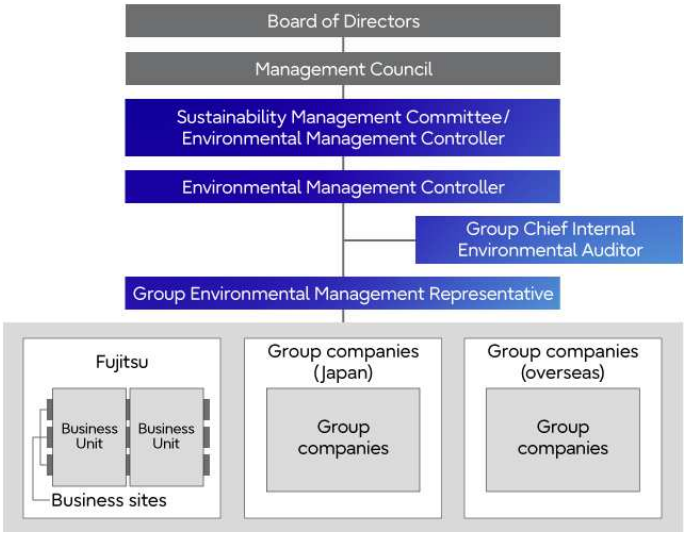
Fujitsu Group has constructed Environmental Management Systems (EMS) based on the ISO 14001 international standard and is promoting environmental improvement activities across the Group. After acquiring ISO 14001 certification for consolidated subsidiaries in Japan at the end of FY 2004, we expanded 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.

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 order to promote environmental activities, we consider medium- and long-term issues, formulate policies, share business risks and opportunities due to climate change, consider ways to respond, and report regularly to the Sustainability Management Committee in order to improve EMS and strengthen governance. Based on that, final approvals on environmental management at the Fujitsu Group are made at meetings of the Management Council.

In the promotion of environmental activities, we have organized environmental organizations in charge of issue-specifics, etc., composed of relevant parties that go beyond the framework of business groups and business units. Through the promotion structure shown in the figure below, 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.

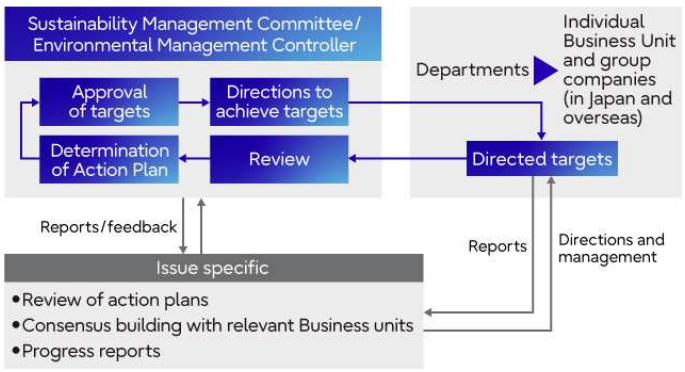
As of March 2023, Fujitsu and 29 domestic Group Fujitsu companies had acquired ISO 14001 Group Integrated Certification.In the Group as a whole, 62 companies, including 30 companies with integrated certification, have acquired ISO 14001 certification.

Activity Flow

The Sustainability Management Committee deliberates on the status of environmental activities related to the entire Group, the achievement status of targets, and new activities, which are all regularly reported by the environmental activities promotion organization. For example, the committee determines the directions to be taken for reduction of energy consumption and CO_2 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.

Organizations in charge of issue-specific are sub-organizations set up under the Sustainability Management Committee, with the goal of providing dedicated responses to address specific tasks professionally. The tasks of the organizations are discussing targets and confirm the progress and promote to achieve for the Environmental Action Plan. After receiving progress reports from the organizations, the Environmental Management Controller approves the status of activities and suggestions of future focuses, etc., and instructs all organizations to implement the necessary initiatives.

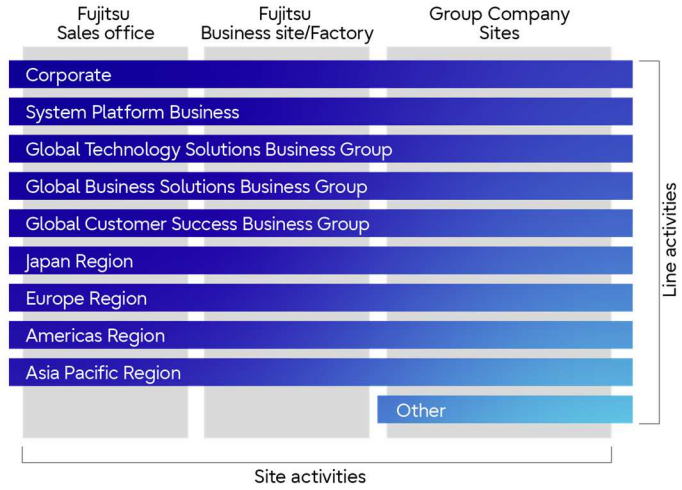
Activity Flow



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 Business Groups 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.

Line/Site Matrix



› Environmental Management Initiatives (Case Studies)

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

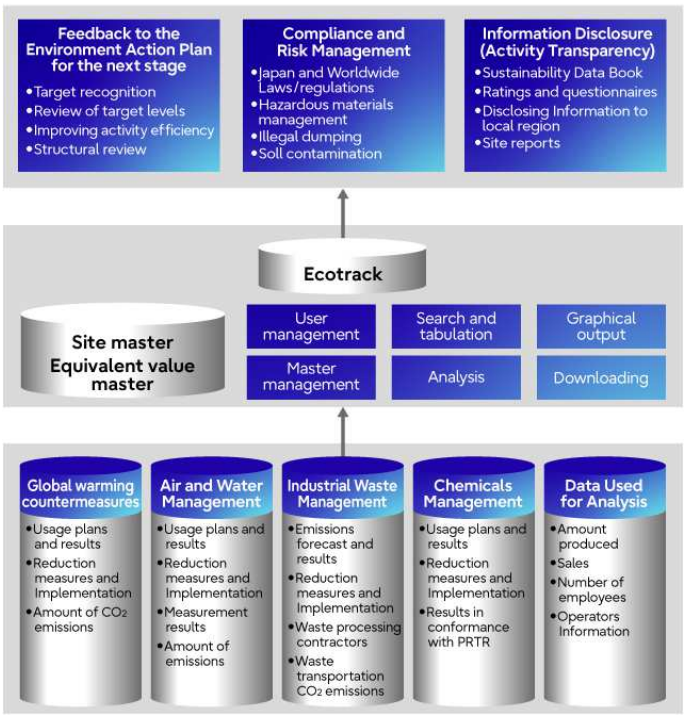
We are working to improve the efficiency and visibility of environmental management by making full use of the Global Environment Database System (Ecotrack), which can centrally manage aspects such as planning, performance, and policy information at business sites scattered throughout the world, and the ISO 14001 Green Management System (GMS), which centrally manages compliance and risk management status to support EMS operations.

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 Environmental Database System

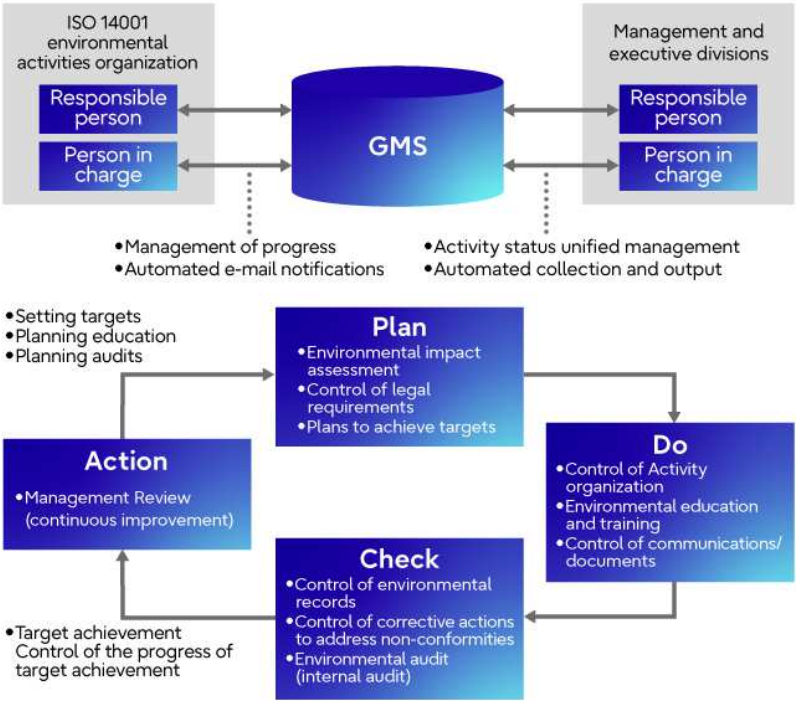


Using the ISO 14001 Green Management System

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 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. For the internal audit in FY 2022, we continued to consider the promotion of Work-from-Home through work style reforms, and conducted on-site audits at manufacturing sites, data centers, and other sites with a high environmental impact.

In FY 2022, we carried out internal audits of 72 business sites in Japan, including the plants and offices of Fujitsu and its Group companies. When conducting audits, we closely examined the results of internal audits and external audits from FY 2021. The four points emphasized were (1) the status of implementation of the environmental management system, (2) the feasibility of achieving Environmental Action Plan Stage X, (3) the status of initiatives that regard the environment as a business opportunity, and (4) the status of the response to environmental risks associated with business conversion. There was one finding of a minor defect (non-conformity) and 11 observations (conformity). Of the observation, two were considered to be an effect of the resumption of on-site audits.

External Audits and Results

To maintain our ISO 14001 certification, we are carrying out external audits by a certifying body. In FY 2022, we were audited in Japan by the Japan Audit and Certification Organization for Environment and Quality (JACO). As a result, there were 36 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 2020 (Japan)	FY 2021 (Japan)	FY 2022(Japan)
Number of findings by internal audits	13	7	12
Number of findings by external audits	0	0	0
Number of opportunities for improvement	52	33	36

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 2022.

Environmental Management

Response to Environmental Risks

Environmental Risk Management Structure

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
- Environmental Management System

Efforts to Minimize Risks to the Environment

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.

In addition to risks such as implementation of stricter regulations for greenhouse gas emissions and a carbon tax, there is demand from customers and society for contribution to carbon neutral. This creates a risk of increasing the energy cost incurred by the Fujitsu Group, as well as the cost required to comply with regulations related to measures for reducing greenhouse gas emissions. 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. As the trend toward carbon neutrality in the global community as a measure against climate change, we have obtained net-zero target certification from the Science Based Targets initiative (SBTi). We will further raise the 1.5°C level we acquired in fiscal 2021 and aim for net-zero by FY 2040.

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	● 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.
	○ 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.
Technology Risks	● 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).
	○ 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.
Market Risks	● Risk:	Losing business opportunities if products, solutions, and services do not meet energy-saving performance needs.
	○ 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.
Risks to Reputation	● 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).
	○ 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.

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

Upstream Supply Chain	● 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.
	○ Response:	Conduct surveys of the business continuity capabilities of suppliers and implement measures to procure materials from multiple sources.
Downstream Supply Chain	● Risk:	Losing business opportunities due to the inability to obtain environmental labelling, which is a green procurement requirement of customers.
	○ 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.

RELATED INFORMATION

Fujitsu Group Responses to the CDP Climate Change Questionnaire 2022 (Risk-Related Questions) (PDF link)

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.

Specifically, while using tools and databases provided by NGOs and national and local governments, we identify water stress conditions and natural disaster risks in regions where our business sites are located in accordance with RCP 4.5 (intermediate stabilization scenario) from among the emissions scenarios defined by the Intergovernmental Panel on Climate Change (IPCC). 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 2022 (Risk-Related Questions) (PDF link)

Physical Climate Risk Adaptation

Fujitsu have risk assessment systems that include Physical Climate risk in place in Japan, Oceania, Europe and cross regional department Global Delivery.

As physical risk is different based on the location, adaption is tailored to that specific location and risk, for example.

Fujitsu Australia and New Zealand has identified the main physical climate risks to our business in the region, which include short term weather events e.g. extreme heat, flooding, storm events, as well as long-term climatic impacts e.g. drought.

Key measures undertaken in Australia and New Zealand to adapt to climate risks have included:

- Extreme heat events
  - Processes to ensure built-in redundancy of critical equipment and reliable operation of uninterruptable power sources in the event of grid-scale outages.
  - Ensuring equipment is designed to tolerate extreme temperatures.
  - Installing temporary cooling equipment (e.g. misting) to reduce ambient temperatures.
- Bushfire
  - Updating site-based procedures to assess business critical activities and evaluate which activities can be performed remotely in the short term.
  - Turning off external air intakes to offices and data centers to limit smoke ingress.
- Drought
  - Deployment and maintenance of rainwater storage tanks at some sites.
  - Use of recycled water where possible.
  - Installing real-time water loggers at all data centers to monitor consumption trends and help inform water usage efficiency projects.
- Other
  - Climate risk (e.g. extreme heat modelling) incorporated into assessment of siting of new data centers

Within Europe the climate risk is different to Oceania and a number of measures to adapt to climate change risk have been undertaken at a cost of over £1million in one London location showing the seriousness that we consider Climate impact and the commitment that we take protecting our continued service.

- Installing the infrastructure to enable the local water authority pumping equipment to use our data centers Uninterruptable Power Supply (UPS) in the event of a flood
- Dredging the local lagoon to help it act as a water sink

Other examples of adaption based on Physical climate risk in specific locations

- Philippines, the Business Continuity Planning includes natural disaster events such a typhoons and monsoons and other extreme weather events
- Malaysia – Natural Disaster Prevention guidelines provides emergency contact details and advice for employees with their safety prevalent

Another example off adaption is the modernisation and cocreation of the Flood Warning System (working with the UK Environment Agency). A system that can issue flood warnings to citizens within 20 minutes. The flood warning service hosts more than 1.5 million registered properties, 2.9 million telephone numbers, 180,000 email addresses and 1.5 million registrations for mobile text alerts. Since its launch the flood warning system has sent more than 7 million messages across email, text, telephone and social media.

- Co-creating a flood warning system to alert citizens faster

Switching Mechanism to enable Fujitsu Datacenter UPS to power local water pumps in the event of a flood (United Kingdom)

Dredging of a lagoon to act as a water basin (United Kingdom)

Datacenter emergency access via lagoon preserving biodiversity (United Kingdom)

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 on a planned scale)	Assessment 2 (Assessment on an assumed maximum scale)	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

(b) Sliding gates

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

(a) Removable watertight panels

(b) Gates that can be raised and lowered

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

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

Since fluorocarbons not only destroy the ozone layer but also cause global warming, we have totally eliminated the use of ozone-depleting substances in manufacturing processes (parts cleaning and solvents) by introducing precision water cleaning systems and no-clean soldering technology. On the other hand, with regard to fluorocarbons for refrigerants used in air conditioning facilities (freezers, etc.), we are switching to non-fluorocarbons when equipment is renewed, and are working to appropriately manage and dispose of Class I specified products in accordance with the Fluorocarbons Emission Control Act.

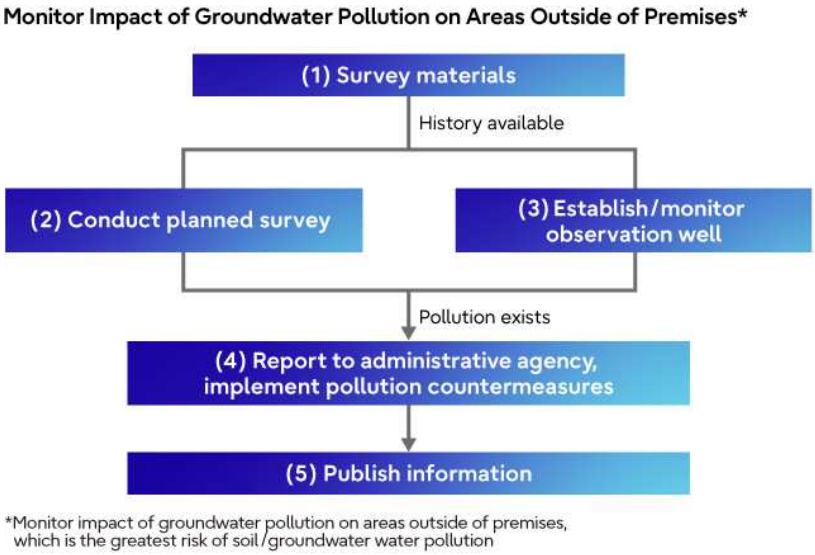
In addition, the annual confirmation of the amount of leakage in the calculation of fluorocarbons indicates that it is less than 1,000 t-CO_2 (not subject to reporting to the minister in charge) for FY 2022.

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 2021, there are four 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.



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	6.8	0.002
Oyama Plant	Oyama City, Tochigi Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Trichloroethylene	0.58	0.01
			1, 2-dichloroethylene	3.8	0.04
			Chloroethylene	1.6	0.002
Nagano Plant	Nagano City, Nagano Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Chloroethylene	0.033	0.002
FDK Washizu Plant	Kosai City, Shizuoka Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Tetrachloroethylene	0.033	0.01
			Trichloroethylene	0.34	0.01
			1, 2-dichloroethylene	0.61	0.04
			Chloroethylene	0.015	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

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

Appropriately Processing Waste

In accordance with the Act on Waste Management and Public Cleansing, we appropriately store and manage waste generated from our business sites, select waste disposal companies that can properly dispose of waste, and outsource disposal. Also, we regularly carry out on-site audits in order to confirm that subcontractors are appropriately handling the waste processing tasks we entrust to them. As part of our efforts to reduce waste, we are promoting the reuse of certain plastic trays in cooperation with a vendor that is working to reuse plastic trays and convert them into recyclable materials.

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 2.25 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 2021, to be necessary for the Fujitsu Group to conduct these tasks domestically in the next fiscal year and beyond.

Conserving Biodiversity

In recent years, risks involving the natural environment have been recognized as serious global risks. This necessitates the disclosure of relevant information disclosure by companies, and toward this end, the Task Force on Nature-related Financial Disclosures (TNFD) is considering an information disclosure framework.

If the Fujitsu Group fails to appropriately respond to information disclosure in accordance with the TNFD, its corporate reputation may decline and its ability to procure funds may be affected. Going forward, we will provide disclosures in line with the TNFD framework.

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 in conjunction with its partners in Japan and overseas and it promotes procurement from business partners that fulfill the green procurement requirements (see below).

Using the Fujitsu Group Environmental Survey Sheet, we conduct annual monitoring of our business partners' statuses with regard to environmental management systems, CO_2 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_2 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

Green procurement requirements for business partners

Requirement	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_2 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_2 Emission Reduction Initiatives

The Fujitsu Group also asks our business partners to work toward CO_2 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.

Moreover, as a new initiative, we are asking our main suppliers to establish a CO_2 reduction target based on the international standard of Science Based Targets (SBT) as we strive to further reduce global warming.

Water Resource Conservation Initiatives

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

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

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 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

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 "Environmental Management of the Fujitsu Group and Role of Each Individual Employee" This education is positioned as providing fundamental knowledge that all Fujitsu employees should have under the company-wide employee training system.

<Images of Environmental e-Learning material>