Environment

Environment

Goal

WHAT FUJITSU ASPIRES TO BE

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

GOALS FOR FY2022

Fulfill our social responsibilities and help to resolve environmental challenges

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

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.

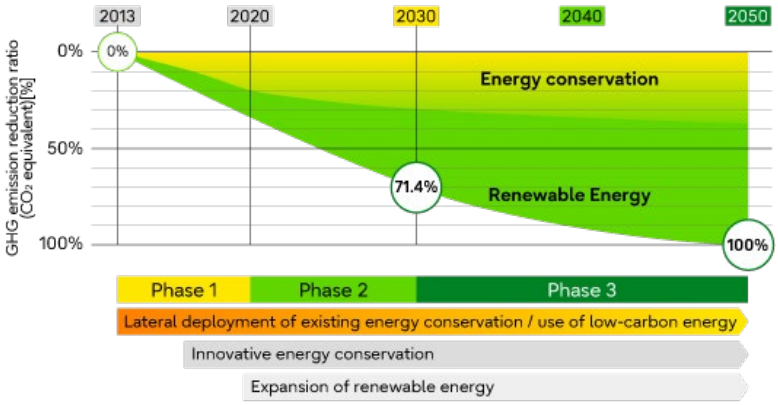
Image of Achievement Fiscal Year for Environmental Vision, Targets, and Other Goals

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 medium- to long-term environmental vision. In August 2017, we acquired SBT certification (2°C-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°C-aligned by SBTi. In June 2022, we submitted a commitment letter to the SBT Initiative towards the Net-Zero targets and it was accepted.



Roadmap to 2050 for achieving our own zero CO_2 emissions

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. Up until now, we have focused on our sites in Europe and the United States; however, promoting use in Japan has been an issue. In response, in FY 2020, we converted to 100% renewable energy at three domestic system laboratories (Aomori, Kumamoto, Oita) which use a large amount of energy as offices. In FY 2021, we converted to 100% renewable energy at the Kawasaki Plant, which is our headquarters, and essentially converted to renewable energy for all power used at floors contracted by the Fujitsu Group at the Shiodome City Center, which is our head office.

Exterior of Kawasaki Plant

- 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

Avoiding Risks Associated with Business Activities and Minimizing Environmental Impact (Water Risk Countermeasures)

The Fujitsu Group conducts flooding damage impact assessments for each business site according to the level of business impact using hazard maps and implements countermeasures. We determine whether each business site falls within the "estimated flood inundation area (planned scale: once every 10–100 years or assumed maximum scale: once every 1,000 years)" for nearby rivers as established by the Ministry of Land, Infrastructure, Transport and Tourism or prefectural governments. We also assess what the impact will be on-

site and off-site, and whether there will be an impact from water ingress in buildings, etc. We then use a four-point scale to rank the business sites with a high level of impact. For sites that correspond with the most hazardous level, we assign a four and then take various measures to reduce risk, such as protecting the site perimeter with retaining walls and watertight panels.

› Click here for details > Add link to “Response to Environmental Risks”

Sliding gates

Removable watertight panels

Gates that can be raised and lowered

Examples of Contribution to Solving Environmental Issues of Customers and Society Through Business

Achieving Environmental Value Trading Such as CO_2 Reductions, for Which Global Demand is Remarkable

In April 2022, IHI Corporation and Fujitsu launched a joint business project with the aim of contributing to the realization of a carbon-neutral society and to revitalize the market of environmental value trading(*1) ecosystems. Under this joint project, IHI and Fujitsu will work toward the commercialization and promotion of an environmental value distribution platform by leveraging their business knowledge in blockchain technology and new carbon neutrality technology. These efforts will be targeted at aspects of the environmental value trading market such as the efficient reduction of CO_2 across corporations and countries, which is a theme for which initiatives are being conducted on a global scale. Specifically, the two parties will create tokens(*2) expressing the environment value of CO_2 reduction as calculated from data through IHI’s IoT platform ILIPS (IHI group Lifecycle Partner System) and establish a platform for distributing these tokens to the environmental value trading market by leveraging Fujitsu’s ConnectionChain security technology to safely interconnect various blockchains, thereby aiming for the efficient distribution of environmental value.

The two companies will aim to efficiently distribute environmental value such as CO_2 reductions created by companies around the world through the platform that will be launched through this joint business project, and contribute to the realization of a carbon-neutral society, which is a common global goal.

*1 Environmental value trading: Trading in which parties measure and certify the amount of emission reduction, absorption, or removal for substances such as CO_2, and acquire rights for the decarbonization effect as tradable value.
*2 Token: Digitized rights and assets independently issued by companies and organizations using blockchain technology.

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

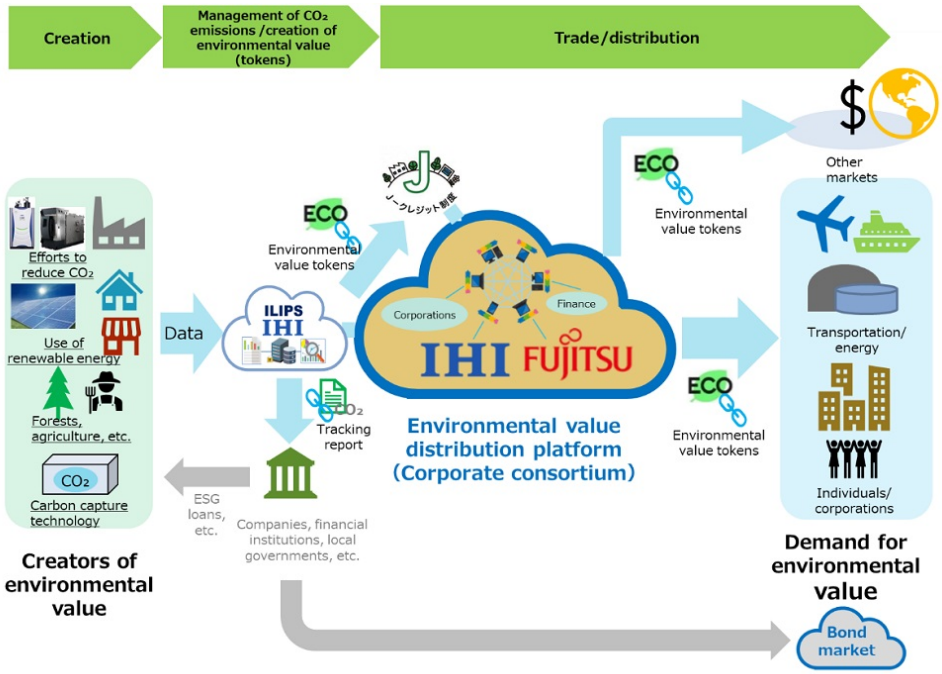


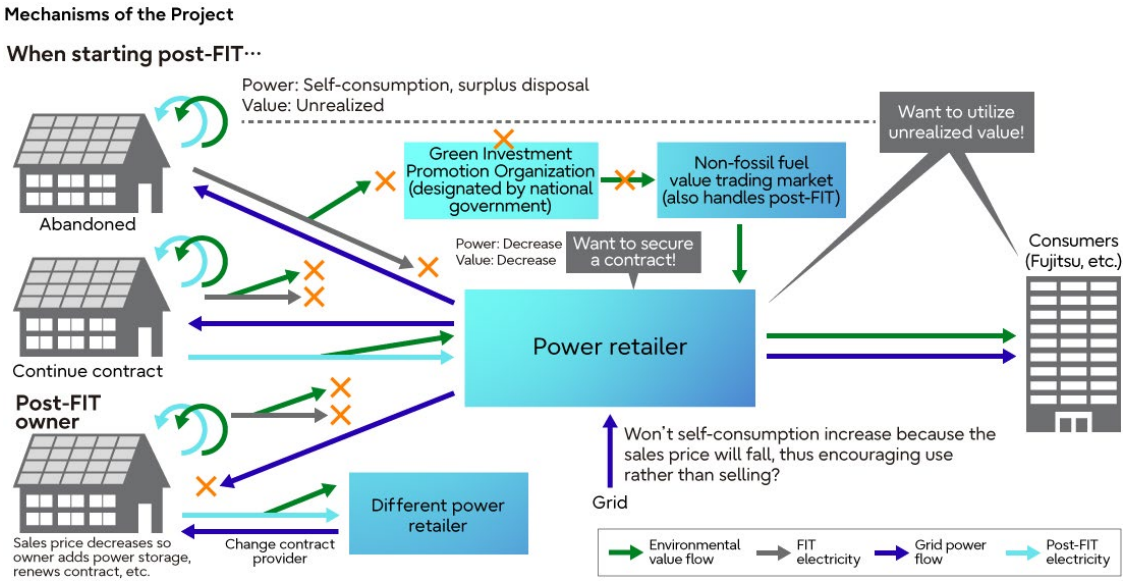
Image of market utilizing the new environmental value distribution platform

Joint Field Trial Project Aimed at Environmental Value Distribution Among Households and Companies

TEPCO Energy Partner, Inc., GridShare Japan Corporation (a 100% subsidiary of ITOCHU Corporation), Ridgelinez Limited, and Fujitsu conducted a field trial aimed at the distribution of environmental value between households and businesses, with the aim of achieving carbon neutrality. Until now, households have not utilized the environmental value generated during self-consumption of electricity from photovoltaic power generation. From November 2019, in conjunction with the end of the Feed-in Tariff Scheme for Renewable Energy (FIT) period, the unit price of electricity sold will be lower than during the FIT period. Therefore, we assume that the environmental value that is not used during self-consumption will increase even further. In the joint field trial project, in order to solve the problem in which precious environmental value is not being utilized, we devised an app that converts the environmental value generated during self-consumption into tokens (crypto assets), and then uses those tokens to support companies that contribute to the SDGs. With the aim of directing users' attention to the environmental value of self-consumption that has been unutilized thus far, use tokens as a form of visualization and created an app that allows users to continuously enjoy a series of events consisting of collecting more tokens in conjunction with a greater amount of self-consumption, using those tokens to support corporations, and then receiving novelties gifts from companies. By using blockchain in this app, we are able to perform the integrated process of collecting self-consumption data of solar power generation, and managing and issuing environmental value certificates. In addition to users having fun with this app, corporations are also able to collect precious environmental value and utilize it for initiatives such as RE100. Other benefits include the ability to gain understanding for corporate environmental contribution activities through the app, and the ability of corporations to heighten engagement with users through novelty gifts.

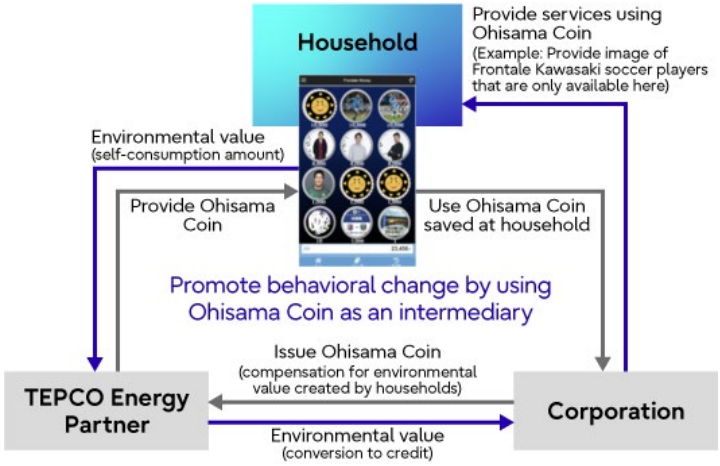
This joint field trial project had a one-month field trial period from February 14, 2022 to March 21, 2022, which includes the questionnaire response period. About 200 monitors from ordinary households participated in the project. When a monitor actually consumes the electricity generated by the solar power generation, a token called Ohisama Coin is collected. The "Ohisama Coin" is used to virtually support three projects: (1) Kawasaki Frontale, (2) Cool Japan, and (3) Mothers and Children in Africa. (The African Mother and Child Support Project is being exhibited on the Web at the Tokyo International Conference on African Development (TICAD) by the Japanese government, and future collaboration is also being considered.) By examining the results of the joint

field trial, we were able to identify current issues with systems and apps, as well as issues with future business development. We are currently considering holding new field trials from FY 2022.



(a) Issues after post-FIT at ordinary households

(b) Image of screen for the Ohisama Coin token app



(c) Flow of tokens

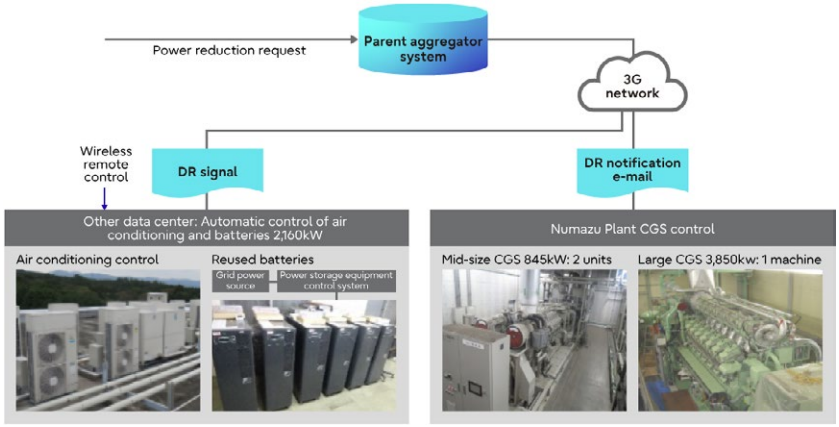
VPP(*3) and DR(*4) Field Trial Project With an Eye on the Future Energy Market in Japan

ENERES Co., Ltd. and Fujitsu have applied blockchain technology to develop a system that realizes the trading of insufficient and surplus power among power consumers. Specifically, in response to requests from power transmission and distribution companies to curb demand-side power when supply-side power is in short supply, we operated cogeneration(*5) power generators at Fujitsu's Numazu Plant. We have been working on the VPP/DR field trial for seven years, from the negawatt trading(*6) field trial in 2015 to the power supply severe weather adjustment capacity(*7) for Power I' (ability to adjust to sudden increases in demand in the event of a once-in-a-decade heat wave or severe winter) in 2021. In this field trial, in addition to acquiring incentives through the effective use of cogeneration, we also utilized distributed power sources to solve the environmental issue and social issue of securing power supply adjustment capacity to respond to the sudden increase in demand during severe weather in the TEPCO service area. With cooperation from Fujitsu Laboratories, we utilized the blockchain technology developed so far to address the identified issues, thereby developing a power loan trading technology for mutual loaning of surplus power among consumers who have

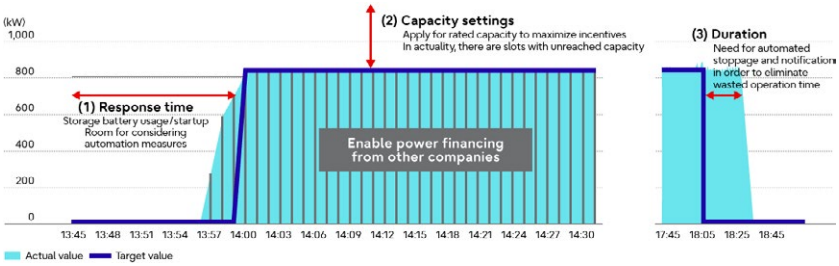
contracted with aggregators(*8) in the power field. We utilize this technology in various aspects of Fujitsu's energy business. Based on the experience and know-how gained from this project, we will further collaborate with AutoGrid in the United States to expand renewable energy and realize a carbon-free society by maximizing the use of distributed energy resources in the Japanese energy market.

*3 VPP: Acronym for "Virtual Power Plant." A technology that controls distributed power sources such as generators and storage batteries to function like a single large power plant.
*4 DR: Acronym for "Demand Response." A mechanism for suppressing demand during peak power hours by effectively saving electricity on the demand side.
*5 Cogeneration: A system that uses substances such as natural gas, petroleum, and LP gas as fuel to generate electricity using a power generator, and also recovers the exhaust heat generated at that time for use in hot water supply, air conditioning, etc.
*6 Negawatt trading: A system in which the power demand side reduces power consumption to achieve peak cuts, and a reward is paid according to the amount of reduction.
*7 Severe weather response adjustment capability: A system for suppressing power consumption on the demand side during severe weather months (July to September and December to February) when power is in short supply.
*8 Aggregator: A business operator that provides integrated control of distributed energy resources and provides energy services from VPPs, DRs, etc.

› Fujitsu, AutoGrid to Boost Renewable Energy Use in Japan Towards Realization of Decarbonized Society with Virtual Power Plant Solution

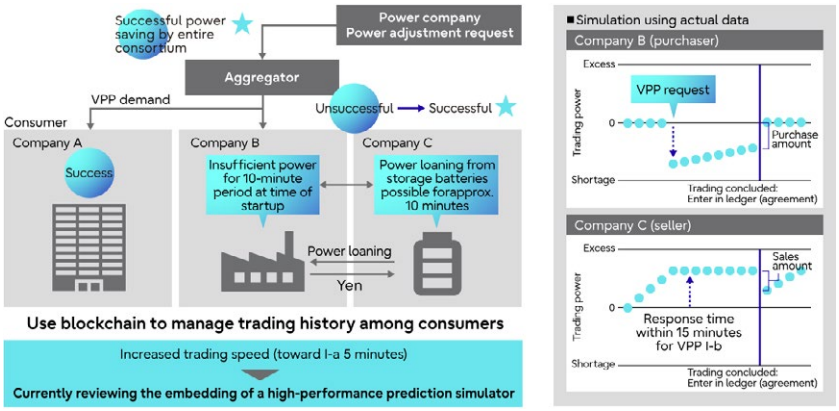


(a) Overview of VPP/DR Field Trial Project



Success rate in VPP trading (response 15min.) is about 50%

(b) Current status: Conditions of power source I-b



Energy matching and increased trading speed → Improved VPP success rate by 40%
(results of simulation using actual data)

(c) Development of technology for power source I-a

Fig. Participation in METI's DR/VPP Field Trial (from 2015) Full-scale VPP (from 2021)
Power source I-b (support for 15 minutes) →
Currently accumulating technology for I-a (support for 5 minutes)

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.

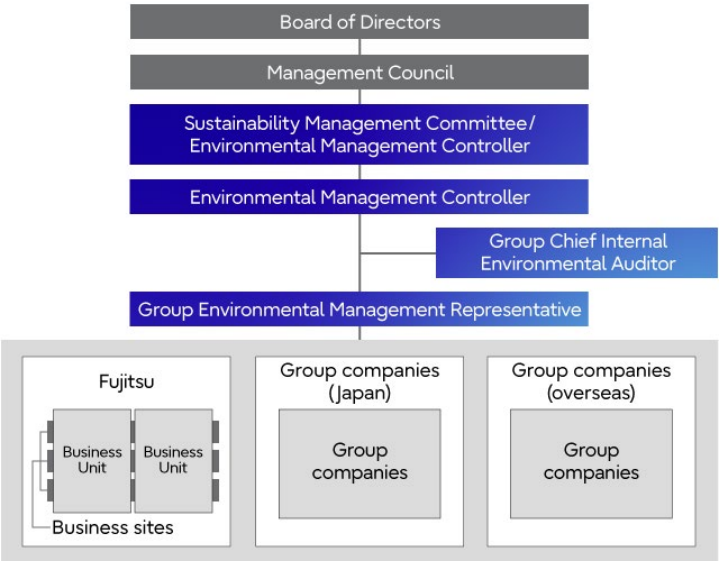
Fujitsu Group's Environmental Management Systems (EMS)

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 "environmental initiatives" medium-to-long term visions considered and activity policy discussed and decided, and business operations being considered with risks and opportunities from climate change, with regular reports into Sustainability Management Committee, which aim of raising the level of the EMS and strengthening its governance. Based on that, final approvals on environmental management at the Fujitsu Group are made at meetings of the Management Council.

Environmental Management Framework



Within the Sustainability Management Committee, 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 this promotion structure, we are moving swiftly to popularize initiatives for addressing environmental issues throughout the Group.

Constructing and Operating Environmental Management Systems

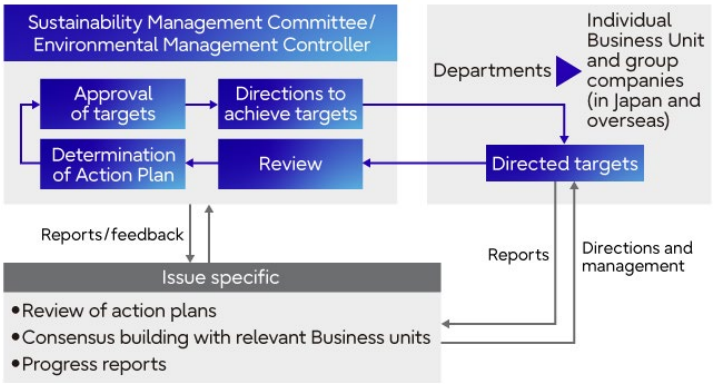
The Fujitsu Group has constructed EMS based on the ISO 14001 international standard and is promoting environmental improvement activities across the group. By constructing EMS worldwide, the Fujitsu Group further strengthened its Group governance. This also allows the Group to promote even more efficient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

As of March 2022, the Fujitsu Group has acquired group-integrated ISO 14001 certification for a total of 29 companies including Fujitsu and its group companies in Japan.

Activity Flow

The Sustainability Management Committee reviews and conducts deliberations about the new challenges and activities directions of "environmental initiatives", which related to whole group companies regarding the operational status and achievement of targets with regular report. For example, the committee determines the directions to be taken for reduction of energy consumption and CO_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.

Activity Flow



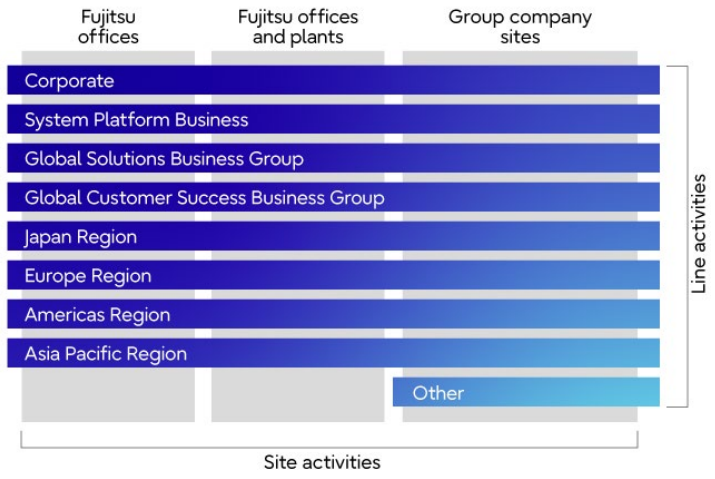
Organizations in charge of issue-specific are sub-organizations set up under the Sustainability Management Committee, with the goal of providing dedicated responses to address specific tasks professionally. The tasks of the organizations are discussing targets and confirm the progress and promote to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

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

Environmental Management Initiatives (Case Studies)

Operations Utilizing ICT

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

EMS Operations Using ICT

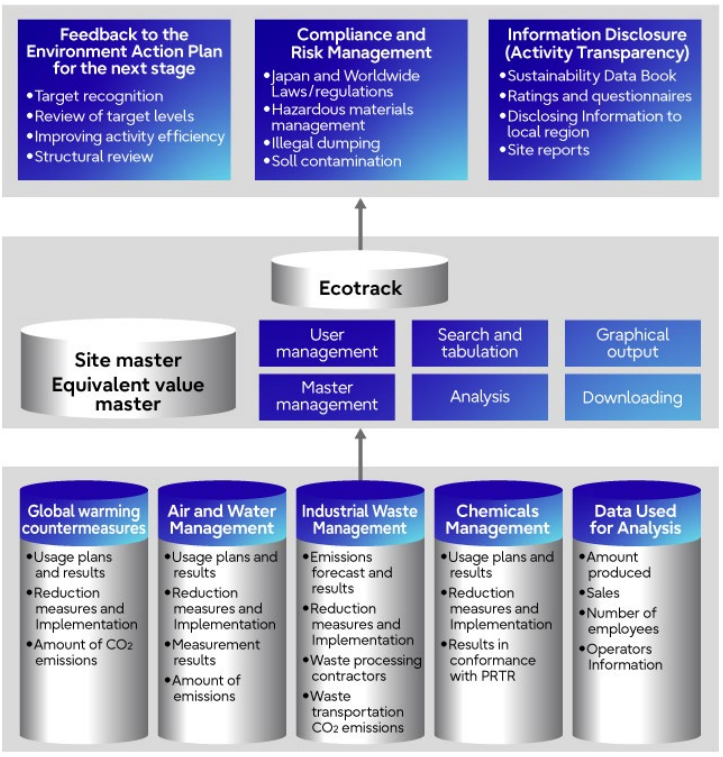
The Fujitsu Group employs its own ICT-driven environmental management tools. Examples include the Global Environment Database System (Ecotrack) which can centrally manage aspects such as planning, performance, and policy information, at business sites scattered throughout the world, and the ISO 14001 Green Management System (GMS) which centrally manages compliance and risk management status to support EMS operations. These tools are employed to visualize environmental management and make it more efficient.

Additionally, the communication infrastructure of all companies in the Fujitsu Group is used for EMS operations. For example, we try to conduct smart communication in our EMS operations, through activities such as using remote video conferencing systems to conduct EMS briefings.

Using the Global Environment Database System

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

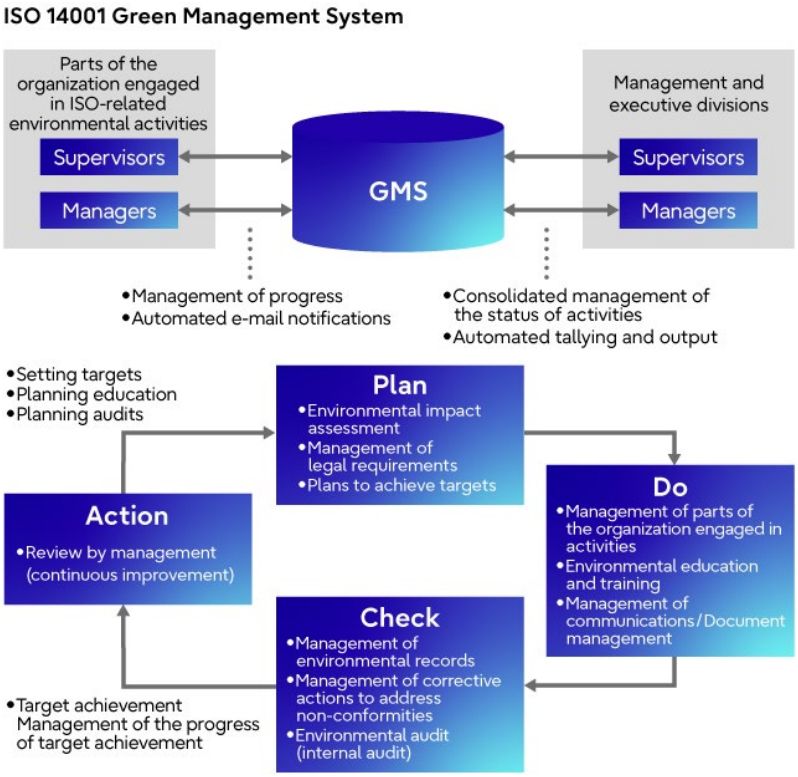
Global Environmental Database System



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.



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.

Internal audits continued in FY 2021. Due to the impact of COVID-19, we conducted audits remotely using smartphones based on the Fujitsu Group's instructions for preventing infection, which included the promotion of Work-from-Home, as well as avoiding face-to-face contact in meeting rooms and travel between prefectures.

In FY 2021, we carried out internal audits of 82 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 2020. The four points emphasized were (1) the status of implementation of the environmental management system, (2) checking the status of our efforts in response to the Environmental Action Plan Stage X, (3) identification of risks to corporate management that could harm Fujitsu's reputation, and (4) sampling inspections at sites such as plants.

Since Fujitsu acquired integrated ISO 14001 certification in FY 2005, FY 2021 was the first time no non-conformities were detected. Six observations were noted, that proportionally to the reduction by half of the audit organization number. Due to the continuing COVID-19 pandemic, on-site inspections were foregone and all audits were conducted remotely. Fujitsu continued to provide support to each part of the organization, including briefing sessions for EMS person in charge via remote conferencing systems, online education for newly appointed person in charge, education about waste, and confirmation of legal compliance, and the number of findings was kept at the same level as in the previous year.

External Audits and Results

To maintain our ISO 14001 certification, we are carrying out external audits by a certifying body. In FY 2021, we were audited in Japan by the Japan Audit and Certification Organization for Environment and Quality (JACO). As a result, there were 33 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 2019 (Japan and overseas)	FY 2020 (Japan)	FY 2021 (Japan)
Number of findings by internal audits	30	13	6
Number of findings by external audits	6	0	0
Number of opportunities for improvement	50	52	33

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 2021.

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. Moreover, as climate change countermeasures, we are working to reduce greenhouse gas emissions in line with the 1.5°C scenario of the Paris Agreement, to achieve net zero CO_2 emissions by 2050, and to contribute to mitigation/adaptation for climate change through business.

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

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

Policy/Legal Risks	● 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 2021 (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 2021 (Risk-Related Questions) (PDF link)

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

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

Results for complete elimination of ozone-depleting substances

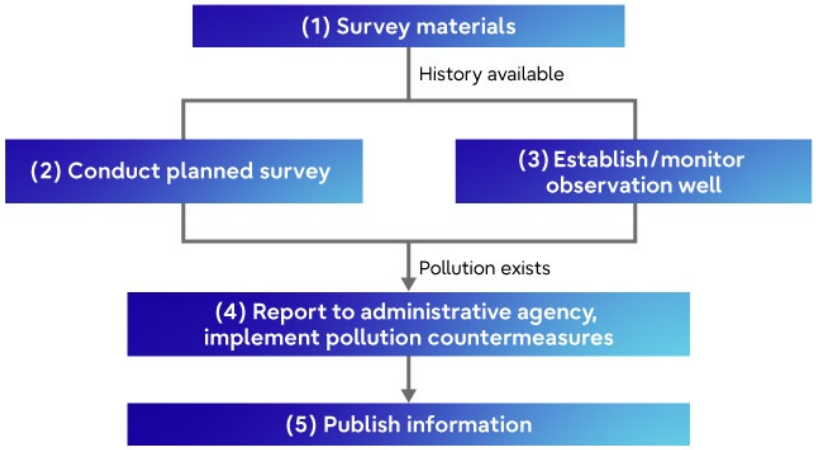
Ozone-depleting substances	Time of complete elimination
Washing chlorofluorocarbons (CFC-113, CFC-115)	End of 1992
Carbon tetrachloride	End of 1992
1,1,1-trichloroethane	End of October 1994
Alternative chlorofluorocarbons (HCFCs)	End of March 1999

Preventing Pollution of Soil and Groundwater

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

As of FY 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.

Monitor Impact of Groundwater Pollution on Areas Outside of Premises*



*Monitor impact of groundwater pollution on areas outside of premises, which is the greatest risk of soil/groundwater water pollution

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	2.2	0.04
			Chloroethylene	5.9	0.002
Oyama Plant	Oyama City, Tochigi Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Trichloroethylene	0.332	0.01
			1, 2-dichloroethylene	3.387	0.04
			Chloroethylene	0.69	0.002
Nagano Plant	Nagano City, Nagano Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Chloroethylene	0.028	0.002
FDK Washizu Plant	Kosai City, Shizuoka Prefecture	We are continuing to clean up VOCs by pumping and aeration.	Tetrachloroethylene	0.039	0.01
			Trichloroethylene	0.42	0.01
			Cis-1, 2-dichloroethylene	0.047	0.04
			Chloroethylene	0.0055	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

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

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

Environmental Liabilities

In properly assessing the Fujitsu Group's expected future environmental liabilities, and communicating our integrity and corporate stance of not deferring our liabilities, we have recorded liabilities of 2.25 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

Recognizing that our business activities benefit from the riches of the Earth's biodiversity, while at the same time impacting it, the Fujitsu Group considers the conservation of biodiversity to be an important issue, and formulated the Fujitsu Group Biodiversity Action Principles in October 2009. We promote them based on the two pillars of reducing the impact of our business activities on biodiversity and contributing to the creation of a society that conserves biodiversity, and implement various policies such as leveraging ICT for conserving biodiversity. In recent years, based on the achievement of the internationally-discussed Nature Positive by 2030 and the content of the Post-2020 Biodiversity Framework, we have recognized the importance of promoting initiatives as soon as possible and are conducting the following activities.

- **Activity Example 1: Setting Targets for Visualizing and Reducing the Impact of Corporate Activities on Ecosystems and on Biodiversity**

  As one of the goals of the Fujitsu Group Environmental Action Plan (Stage X), we have set targets related to conserving nature and biodiversity, and have started activities to evaluate and reduce the dependence and impact on nature and biodiversity in our corporate activities.

› 5-3-3-12 Living in harmony with nature (Conservation of Biodiversity)

- **Activity Example 2: Blakiston's Fish Owl Call Recognition Project**

  We offer call recognition software used for habitat surveys of Blakiston's fish owls, which are an endangered species (software is provided to the Wild Bird Society of Japan). Implementing measures based on the results of habitat surveys is important for the conservation of Blakiston's fish owl. Surveys are conducted by analyzing recorded data of the owls' cries. However, the huge amount of time required to judge cries by human hear was a problem. By providing call recognition software, we help the surveys to be more efficient by automatically extracting their cries, greatly reducing the time for analysis.

› Blakiston's Fish Owl Call Recognition Project

- **Activity Example 3: Support for the Harapan Rainforest (Forest of Hope)**

  We continually provide support for reforestation activities in the Harapan Rainforest (Forest of Hope) on the Indonesian island of Sumatra (support provided to BirdLife International Tokyo). Dealing with forest fires and illegal logging is an urgent issue in Harapan Forest. By introducing ICT to greatly improve the efficiency of patrols in the forest patrols, this activity contributes to forest conservation.

› Providing Support for the Harapan Tropical Rainforest (Forest of Hope) (Indonesia)

- **Activity Example 4: Activities to Make Tsushima, An Island Facing a Severe Plastic Waste Pollution Problem, Greener**

  In response to global environmental issue of marine plastic litter, Fujitsu Limited holds eco-tours of Tsushima by Fujitsu Group employees (with cooperation from the Japan Environmental Action Network). We also held a coastal cleanup and an ideathon to come up with solutions to local issues. These activities aim to deepen awareness of the issue of marine plastic litter and lead to actions for resolution through hands-on experience by each and every employee.

- Tsushima, An Island Facing a Severe Plastic Waste Pollution Problem

- **Activity Example 5: Promotion of Initiatives in Collaboration with External Organizations (Keidanren, WIPO, JBIB)**

  The Fujitsu Group collaborates with various external organizations to promote initiatives for conserving biodiversity. For example, we support the Declaration of Biodiversity by Keidanren and participate in the Initiative based on the Declaration of Biodiversity by Keidanren. Also, the promotion video for the Business for GBF Project by the Ministry of the Environment and Keidanren features the Blakiston's Fish Owl Call Recognition Project as an example project. Furthermore, Fujitsu participates as a partner in WIPO GREEN, which is a framework for matching the transfer of environmental technology and services operated by the World Intellectual Property Organization (WIPO), and we signed an intellectual property asset license agreement with academic institutions in relation to technology for conserving natural assets and biodiversity. Additionally, Fujitsu participates in the Japan Business Initiative for Biodiversity (JBIB), and we hold activities for the purpose of research and practice related to corporations and biodiversity through working activities.

- Initiative based on the Declaration of Biodiversity by Keidanren
- Promotion Video for Business for GBF Project
- Fujitsu Aims to Achieve SDGs by Concluding IP Licensing Agreements Through WIPO GREEN Activities
- Japan Business Initiative for Biodiversity (JBIB)

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.

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 Management

Environmental Training and Awareness Activities for Employees

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

Comprehensive Environmental Training

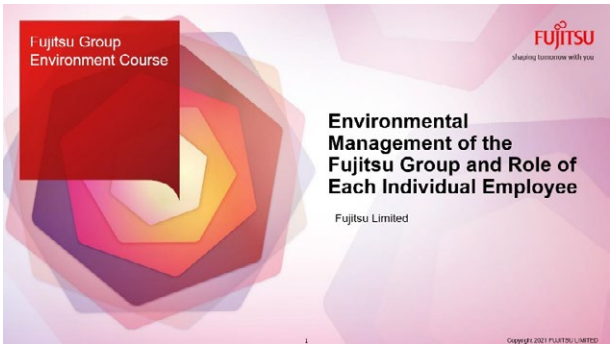
We offer environmental e-Learning opportunities for all employees through programs in our company-wide training system to promote a basic understanding of environmental management. Training is also conducted on a per-division basis. Specialized trainings such as internal auditor training and training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

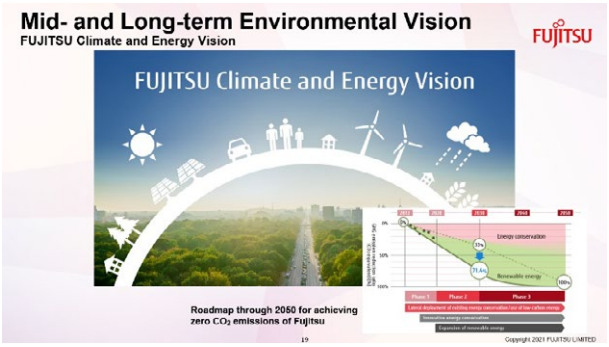
Fujitsu's Environmental Training Scheme

	New hires	Employees	Managers	Top management
General training	Environmental e-learning			
Specialized training Note: Only relevant persons attend sessions	Function-specific training (ad-hoc)			
	Internal auditor training			
	Waste management officer training			
Awareness	Seminars, workshops, etc.			
	Sustainability contribution awards			
	Communication through the Internet and social media			

Environmental e-Learning

We offer educational opportunities for employees to comprehensively learn about global trends relating to the environment, the environmental management of the Fujitsu Group, and the role played by each employee, based on the theme of "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.





Communication Through the Internet and Social Media

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

Spreading Internal Awareness About the Issue of Plastic Waste

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

Poster for the reusable shopping bag declaration

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

(External Links)

- Tsushima, One of the Most Plastic Contaminated Islands
- [Primer] What is the Marine Plastic Waste Problem?

Yammer community site, “Sustainable Consumption Activities”

