Medium- to Long-Term Vision Focused on Climate Change

The Fujitsu Group Medium/Long-term Environmental Vision "Fujitsu Climate and Energy Vision"

The Fujitsu Group has established the "Fujitsu Climate and Energy Vision," a medium- to long-term environmental vision with the goal of bringing the Fujitsu Group's CO_2 emissions to zero by 2050, as well as contributing to the achievement of a carbon neutral society and the adaptation to climate change, through provision of technologies and services supporting digital transformation.

The Importance of Responding to Climate Change

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

The Fujitsu Group considers climate change to be a serious issue (materiality) that must be addressed, and we have been actively working to meet the goals we previously set in our Environmental Action Plan. Furthermore, in order to contribute to addressing the issue as a leading company, we recognized the need for the Fujitsu Group to have a long-term vision and tackle the issue as a united group. We gathered knowledge and engaged in dialogue with various stakeholders through interviews with outside experts and the activities of external organizations. (*1) Taking these into account, the Environmental Management Committee (*2), led by the CEO, formulated the Fujitsu Climate and Energy Vision, our medium- to long-term environmental vision with regard to climate change, and we made it public in May 2017.

In addition, in April 2021, we revised the emissions reduction targets for FY2030 shown in Vision 1 from 33% to 71.4% in order to accelerate our own moves toward carbon neutrality.

(*1) See here for the status of stakeholder dialogue at that time.
(*2) The name of the committee in 2017. The current name is the Sustainability Management Committee.

Concept

As an international framework of measures against global warming starting in 2020, the Paris Agreement (*3), which sets a goal of limiting the rise in global average temperature to less than 2°C above the average temperature prior to the industrial revolution, came into effect in November 2016. In order to achieve this, the goal to "achieve a balance between emissions and removals of greenhouse gases (GHG) in the second half of this century" has been set, and a shift to a carbon neutral society will be necessary beginning in 2050.

Various changes are taking place in the global market as well, and it is expected that regulations on CO_2 emissions will be tightened, carbon taxes and other carbon pricing will be applied to more countries, and carbon taxes will rise sharply.

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

This vision has three pillars, namely, Our Business: Achieving Zero CO_2 Emissions; Mitigation: Contributing to a Carbon Neutral Society; and Adaptation: Contributing to Measures in Society to Adapt to Climate Change. The Fujitsu Group aims to use ICT effectively to accelerate its own efforts to shift away from carbon, and by providing the knowledge gained from such efforts to customers and society as solutions, leverage its own business activities as a way to mitigate and adapt to climate change.

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

Achieving Zero CO_2 Emissions

Contributing to a Carbon Neutral Society

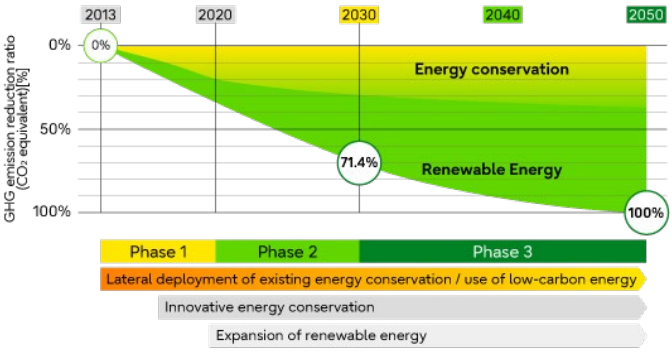
Contributing to Measures to Adapt to Climate Change

Three pillars of the Fujitsu Climate and Energy Vision

Vision 1　Achieving Zero CO_2 Emissions in the Fujitsu Group

The Fujitsu Group established a roadmap for reducing CO_2 emissions where it would gradually reduce them to zero in three phases by 2050, with its intention to take the initiative as a global ICT company to strive to create a carbon neutral society. The roadmap has been certified at 1.5°C by the Science Based Targets initiative (SBTi) (*4) that recommends setting scientifically consistent targets.

In June 2022, we submitted a commitment letter to the SBT Initiative towards the Net-Zero targets and it was accepted.



The Roadmap to reduce the Fujitsu Group's CO_2 Emissions to Zero by 2050

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

Phase I

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

Phase Ⅱ

In Phase II (until 2030), the Fujitsu Group will work to establish and spread a transition to AI and ZEB (*5), etc. to accelerate the reduction of emissions. Further, we will expand strategic implementation of renewable energy, which is expected to become easier to use in Japan, with consideration given to local characteristics and economic efficiency.

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

Phase Ⅲ

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

The Fujitsu Group intends to increase the use of renewable energy in the electricity consumed at Fujitsu Group locations to at least 40% by 2030 and to 100% by 2050. In July 2018, Fujitsu gained membership to RE100, a collaborative initiative led by The Climate Group in partnership with CDP, for companies committed to sourcing 100% of the electricity they use from renewable sources.

Visions 2 and 3: Contributing to a Carbon Neutral Society and Contributing to Measures in Society to Adapt to Climate Change

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

Vision 2: Contributing to a Carbon Neutral Society

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

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

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

Medium- to Long-Term Vision Focused on Climate Change

Medium- to Long-Term Targets

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

Approval by Science Based Targets (SBT) Initiative

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

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

In April 2021, we revised its reduction targets in fiscal 2030 from 33% to 71.4% below fiscal 2013 levels and were validated as 1.5°C-aligned targets by the SBT initiatives. In June 2022, we submitted a commitment letter to the SBT Initiative towards the Net-Zero targets and it was accepted.

Targets

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

Joining RE100 as Japan's First Gold Member

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

RE100 | CLIMATE GROUP | CDP

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

Renewable Energy Electricity Usage Goals at Fujitsu Group Locations

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

Medium- to Long-Term Vision Focused on Climate Change

TCFD-Based Information Disclosure

The Task Force on Climate-Related Financial Disclosures (TCFD) was established by the Financial Stability Board at the request of the G20 with the objective to reduce the risk of instability in financial markets due to climate change. The task force announced its recommendations in June 2017, asking companies and organizations to identify and disclose the risks and opportunities arising from climate change. The Fujitsu Group announced its support for the TCFD recommendations in April 2019 and is making every effort to disclose information in line with those recommendations to investors and other stakeholders. Disclosures are provided via media such as financial statements, CDP(*1) questionnaires, the Integrated Report, and websites.

(*1) CDP: An international nonprofit organization that conducts environmental surveys of thousands of companies worldwide and acts on behalf of institutional investors with a combined US$130 trillion in assets. (As of June 2022).

Item		Response status	Reference
Governance	Oversight structure under the Board of Directors for climate-related risks and opportunities	• In the Fujitsu Group, the Sustainability Management Committee shares the risks and opportunities arising from climate change, deliberates on medium- and long-term issues, and formulates policy. It also reports on the results of these activities to the Board of Directors at meetings of the Management Council. In October 2021, the results of analysis using multiple climate change scenarios, including limiting global warming to 1.5°C, were reported on and discussed by the Sustainability Management Committee. • The Risk Management & Compliance Committee regularly reports to the Board of Directors on the most serious risks identified for the group as a whole, including climate risks. The Fujitsu Group has also developed an environmental management system (EMS) based on the ISO 14001 standard, and the results of EMS activities are reported to the Board of Directors at meetings of the Management Council.	• Sustainability Management in the Fujitsu Group • Corporate Governance • Environmental Management Systems • Risk Management
	Role of management in assessing and managing climate-related risks and opportunities	• Fujitsu's CEO, in the role of Chair of the Sustainability Management Committee and the Risk Management & Compliance Committee, bears ultimate responsibility for all decisions made and all business conducted. The Board of Directors is responsible for oversight based on reports from meetings of the Management Council. The Chief Sustainability Officer (CSO) bears the highest level of responsibility for sustainability, and in that role proposes reforms to the Board of Directors and to management and conducts business that relates to sustainability. • In April 2022, it was decided to add "non-financial indicators" that include consideration of climate change issues to the evaluation indicators for bonuses paid to Executive Directors.	

<table>
<tr><td rowspan="3">Strategy</td><td>Short-, medium- and long-term climate-related risks and opportunities</td><td rowspan="2">• Based on analyses of climate change scenarios, the Fujitsu Group identifies the risks and opportunities relating to climate change and considers and promotes appropriate responses. Developing services and IT products that contribute to climate change mitigation and adaptation offers opportunities for increased sales, while factors such as physical and regulatory risks have an impact on the operating costs of Fujitsu's operations and supply chain.

Major risks
Stronger regulation (carbon tax, etc.), Stronger competition in low-carbon technologies, Insufficient responses to customer needs

Risk responses
Ongoing reductions in greenhouse gas emissions, Increased use of renewable energy, Information disclosure aimed at ensuring transparency in climate change strategy, etc.

Major opportunities
Supplying products/services to tackle climate change, Proposing new uses of digital technology, etc.

Opportunity responses
Services for climate change mitigation/adaptation (CO_2 emissions calculation, visualization, etc.), Energy-efficient products (HPC, 5G virtualization base stations, etc.)

Note: See the CDP responses (C 2.3, 2.4) for details.</td><td rowspan="3">• Response to Environmental Risks

• The Fujitsu Group Medium/Long-term Environmental Vision</td></tr>
<tr><td>Impacts on business, strategy, and financial planning</td></tr>
<tr><td>Resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario</td><td>• In 2021, the Fujitsu Group conducted scenario analyses out to 2050 using 1.5°C and 4°C scenarios, focusing on businesses likely to be impacted by climate change.
• As a result of our analysis with respect to Fujitsu's risk responses and its ability to seize opportunities by helping customers to resolve issues, our assessment showed that Fujitsu's business strategy was resilient in the medium- and long-term.</td></tr>
<tr><td rowspan="3">Risk Management</td><td>Climate-related risk identification and assessment process</td><td>• Group-wide risk management is conducted by the Risk Management & Compliance Committee. This committee conducts matrix analysis of the results of the risk assessments by each department in terms of impact and likelihood of occurrence. It then identifies and assesses those risks and reports its findings to the Board of Directors.</td><td rowspan="3">• Response to Environmental Risks
• Environmental Management Systems
• Risk Management</td></tr>
<tr><td>Climate-related risk management process</td><td>• Fujitsu monitors risks using environmental management systems that are based on the ISO14001 standard. The Sustainability Management Committee is responsible for managing the progress of climate change measures.</td></tr>
<tr><td>Status of integration with organization-wide risk management</td><td>• The Risk Management & Compliance Committee identifies and assesses risk for the entire company, including climate change risk. It collaborates with the Sustainability Management Committee to identify, analyze, and assess risks, and then formulates and implements recurrence prevention measures.</td></tr>
</table>

Metrics and Targets

Metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process

- The Fujitsu Group recognizes the importance of reducing greenhouse gas (GHG) emissions and adopting renewable energy sources in addressing climate-related risks. We also believe that the deployment of innovative energy-saving technologies implemented by our company will lead to the acquisition of climate-related opportunities. We therefore use our GHG emissions and our rate of renewable energy adoption as indicators. We have set SBTi certification targets and RE100 targets as medium- and long-term goals and established the "Environmental Action Plan" for short-term goals. We are monitoring those indicators, managing the progress of our strategies, and conducting risk management.

Scope 1 and 2, and the corresponding Scope 3 GHG emissions

GHG emissions

Item	GHG Emissions Performance (FY2021)
Scope 1	68 ktons-CO_2
Scope 2 (Location-based)	524 ktons-CO_2
Scope 2 (Market-based)	422 ktons-CO_2
Scope 3 (Category 1)	1,207 ktons-CO_2 ★
Scope 3 (Category 11)	3,142 ktons-CO_2 ★

Targets used by the organization to manage climate-related risks and opportunities and performance against targets

Climate-related targets & performance

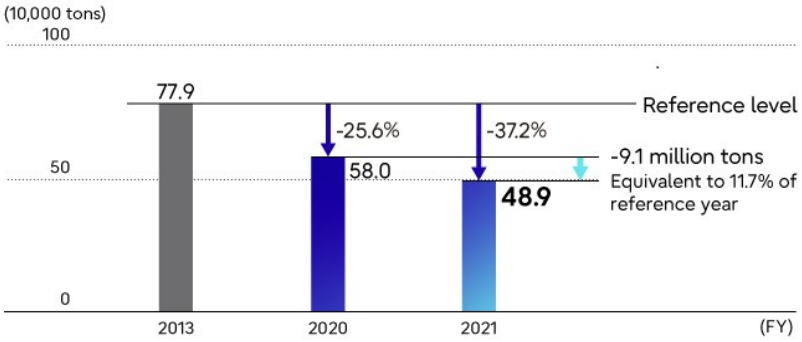
Item		Targets		Performance (FY2021)
Reducing the volume of our own GHG emissions*1	Short-term	33.6% reduction by 2021*2	Environmental Action Plan	37.2% reduction
	Medium-term	71.4% reduction by 2030*2	SBT 1.5°C certification	
	Long-term	80% reduction by 2050*2, *3	SBT certification	
Reducing the volume of the value chains' GHG emissions*1	Medium-term	30% reduction by 2030*4	SBT certification	46.9% reduction
Renewable energy adoption rate	Medium-term	40% adoption by 2030	RE100 membership	20%★ adoption
	Long-term	100% adoption by 2050	RE100 membership	

*1: vs. 2013 *2: Scope 1 + Scope 2 *3: Excluding carbon credits
*4: Scope 3 Category 1 + Category 11

- The Fujitsu Group Medium/Long-term Environmental Vision
- Fujitsu Group Environmental Action Plan

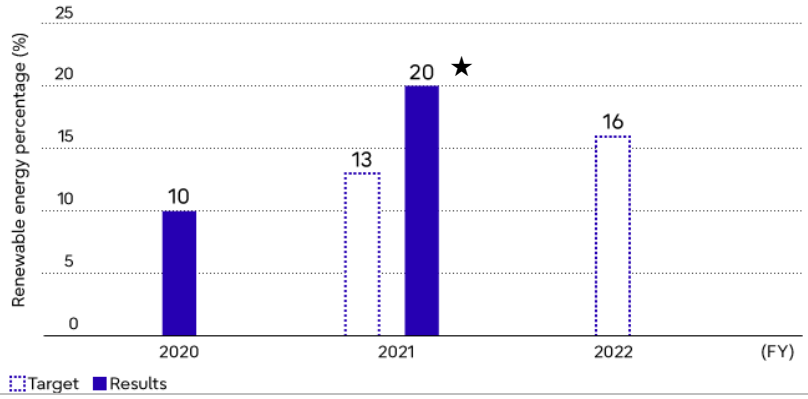
GHG emissions reduction targets & performance (Scope 1+2)

Environmental Action Plan (Stage X) GHG Emissions Reductions



Progress against renewable energy adoption targets

Environmental Action Plan (Stage X) Renewable energy percentage



Governance

The Fujitsu Group has established a Sustainability Management Committee, chaired by the CEO. This committee examines medium- and long-term issues, formulates policy, shares the business risks and opportunities of climate change and decides how to address those risks and opportunities, and manages the company's progress. It also reports on the results of its activities to the Board of Directors at meetings of the Management Council. In October 2020, the committee made a key decision by revising the Fujitsu Group GHG reduction target (SBT) from 2.0°C to 1.5°C, and in April 2021 the new target was validated as 1.5°C-aligned by the SBTi. And in October 2021, the results of scenario analyses using two external scenarios, one for 1.5°C and the other for 4°C, were reported to the Sustainability Management Committee. The findings prompted lively discussion among the committee members on topics such as the need to discuss management strategies, the selection of key solutions, and the measurement of impacts once solutions are provided.

Within the company-wide risk management regime and with oversight by the Board of Directors, the Risk Management & Compliance Committee, chaired by the CEO, conducts risk analysis and implements responses for the entire Group, including on issues relating to climate change. This committee is also the ultimate decision-making body for risk management and reports regularly to the Board of Directors regarding major risks that have been identified, analyzed, and assessed. The Fujitsu Group has also developed environmental management systems (EMS) based on the ISO 14001 standard, and the results of EMS activities are reported to the Board of Directors at meetings of the Management Council.

To further strengthen governance relating to climate change, in April 2022 we added ESG-related third-party evaluations (DJSI(*2)) and CDP climate change program(*3) evaluations as assessment indices for the bonuses paid to Executive Directors. As of FY2022, these indices will apply to their bonuses. (Executive compensation consists of base compensation, bonuses, and performance-linked stock compensation.).

(*2) Dow Jones Sustainability Index (DJSI): This is a share index published by S&P Dow Jones of the United States that analyzes companies with respect to their corporate economic, environmental, and social performance, and selects companies with superior corporate sustainability.

(*3) CDP climate change program: A program run by CDP to survey and assess corporate climate change initiatives and publish the results of those surveys.

Strategy

Climate Change Risks and Opportunities

We have identified the risks and opportunities of climate change for the Fujitsu Group, and considered our responses, by analyzing the business impacts of climate change using external scenarios for 2°C of global warming in FY2018, and for warming of 1.5°C and 4°C in FY2021. Our aim is to address the transitional and physical risks that negatively impact Fujitsu operations and supply chains, and to identify the climate-related risks faced by customers so that we can better make proposals that create value and grasp the business opportunities on offer.

<Risks>

Risk type		Term	Details	Key responses
Transition	Policy/Regulation	Short- to long-term	• Increased costs due to stronger laws and regulations relating to greenhouse gas emissions and energy use (carbon taxes, energy-saving policies, etc.) • Risk of lost corporate value if such laws or regulations are violated	• Ongoing reductions in greenhouse gas emissions (increased use of renewable energy, comprehensive energy savings) • Strict compliance with laws and regulations through EMS
	Market	Medium- and long-term	• Surging electricity prices with the shift to a carbon-neutral world (widespread electrification, etc.)	• Reduced electricity consumption by formulating internal company standards and developing innovative technology, etc.
	Technology	Medium- and long-term	• Risk of missing out on business opportunities if we fall behind in fiercely competitive technology development (energy savings, low-carbon services, etc.) and cannot meet market needs	• Promote innovation and develop products/services that address customers' climate change issues
	Reputation	Short- to long-term	• Increased cost of responding to demands from stakeholders (investors, customers, etc.) • Negative impacts on ratings and sales due to delays in responding to external demands	• Formulation and promotion of our Medium/Long-term Environmental Vision and Environmental Action Plan • Proactive information disclosure to ensure transparency in our climate change strategy
Physical (Natural disasters etc.)	Chronic/Acute	Short- to long-term	• Increased cost of responding to changing rainfall/weather patterns, higher average temperatures, higher sea levels, droughts, etc. • Increased recovery costs when operations, including supply chains, stop due to increasingly severe abnormal weather events	• Implement measures such as greater multi-sourcing, stronger BCP measures, and conducting surveys of suppliers' business continuity systems • Assess potential water risks and undertake monitoring

<Opportunities>

Opportunity type	Term	Details	Key responses
Products/services	Short- to long-term	• Increased sales by developing and supplying products and services that are highly energy-efficient	• Development and supply of high-performance, energy-saving 5G virtualization base stations, high-performance, low-energy supercomputers, etc.

Market	Short- to long-term	• Seizing new market opportunities for climate change solutions created using ICT	• Development and supply of measures to calculate and visualize CO_2 emissions in supply chains and more efficiently search for new materials in the shift to zero emissions
Resilience	Short- to long-term	• Increased sales through new products and services for resilience enhancement	• Development and supply of disaster prevention information systems and AI predictive water management systems to forecast river levels during floods

Scenario Analysis

Premise

In FY2021, the Fujitsu Group conducted scenario analyses out to 2050 using scenarios for 1.5°C and 4°C of global warming. The analyses studied businesses likely to be impacted by climate change in the following areas: Sustainable Manufacturing (sectors studied: petrochemicals, automotive, foods, electronic device-related businesses), Trusted Society (sectors studied: public sector, transportation, energy-related businesses), and Hybrid IT (sector studied: datacenter-related businesses).

Scenario selection	• 1.5°C, 4°C scenarios *Selected based on data from the IPCC, IEA, IRENA, etc.
Target businesses	Opportunity-focused analysis: Addressing climate-related risk in client industries • Sustainable Manufacturing (sectors studied: petrochemicals, automotive, foods, electronic device-related businesses) • Trusted Society (sectors studied: public sector, transportation, energy-related businesses) Analysis of both risks and opportunities: Addressing climate-related risk in Fujitsu businesses and client industries • Hybrid IT (sector studied: datacenter-related businesses)
Term	• 2050

Analysis steps & details

The analysis was conducted in 4 steps: assessment of risk severity, definition of scenarios, evaluation of impacts on business, and discussion of countermeasures.

We began by organizing the risks and opportunities for the target businesses based on data such as the TCFD recommendations and external reports. We also conducted workshops to look at the qualitative aspects of business impacts stemming from the respective items from the perspectives of Fujitsu and industry generally, and we assessed the severity of each risk or opportunity as “High”, “Medium” or “Low”. We then considered the future changes in each of the items classified as having a “High” severity and defined our scenarios using data from agencies such as the IPCC, IEA, and the Ministry of the Environment, together with the evidence provided in various reports. Specifically, we held an executive input session to consider global outlooks for 2050 given temperature rises of 1.5°C and 4°C, and then went on to consider the global outlook for each of the target industries, using tools such as Five Forces analysis. (See below for the 1.5°C global outlook.)

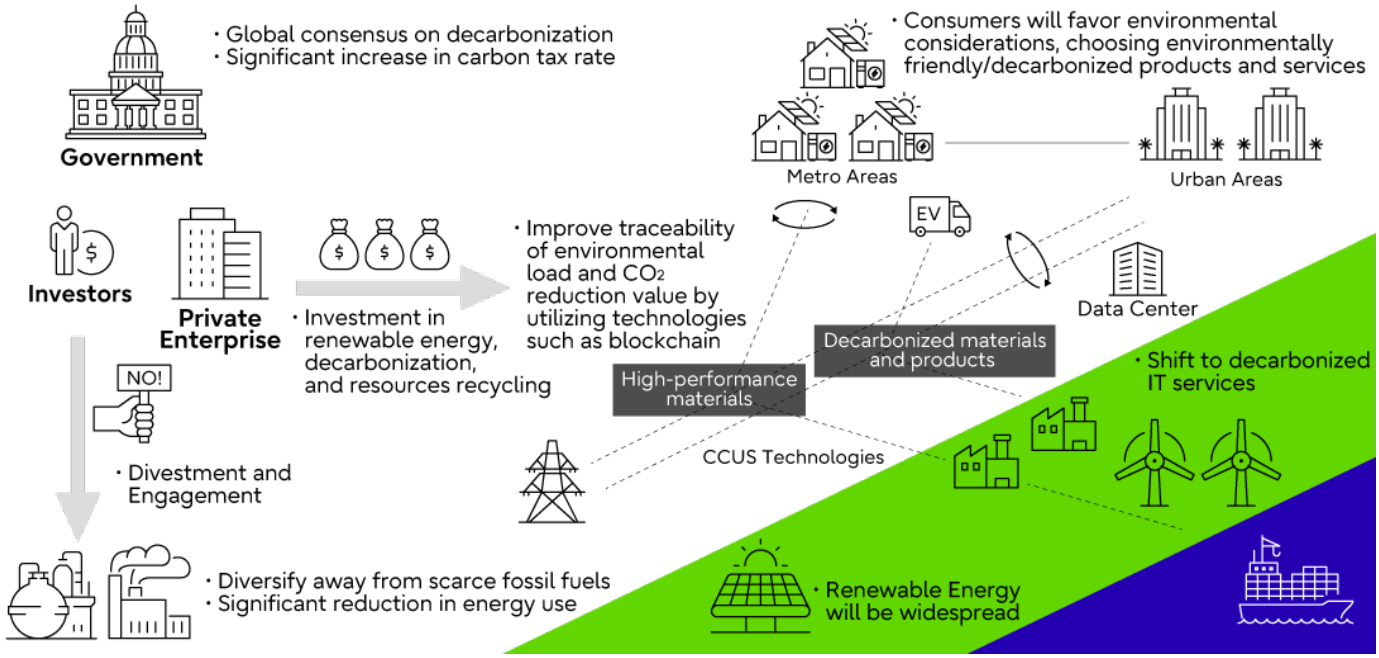


Fig. 1.5°C global outlook "A carbon-neutral world in 2050"

To look at the impacts on business, we then tentatively calculated the qualitative gap between the scenarios and our existing strategies and plans with respect to risks and opportunities. For Hybrid IT (sector studied: datacenter-related businesses), we discussed how the impacts of climate change on business would affect our Profit and Loss Statement, specifically looking at which financial indicators would be impacted and in what ways. We then summarized those impacts by developing calculation logic for each impact. Both internal and external data and information were used to confirm the positive (opportunities) and negative (risks) impacts on operating profit in 2050. For example, the calculations for the 1.5°C scenario showed rising costs due to changes in power prices, but also revealed that there will be increased demand for carbon-neutral datacenters and for datacenters generally due to increased communications traffic as the uptake of smart devices accelerates. Overall, the calculations showed that the negative financial impacts of risks will be outweighed by the positive financial benefits arising from opportunities, ultimately leading to a net positive financial impact on operating profits.

Our analysis of Sustainable Manufacturing (sectors studied: petrochemicals, automotive, foods, electronic device-related businesses) and Trusted Society (sectors studied: public sector, transportation, energy-related businesses) focused on the business opportunities arising from climate change, assuming the potential to establish new climate change-related markets and concluding that the net impact on sales in 2050 would be positive.

Finally, we held a workshop in which we organized the trends in each industry that had been identified when defining the scenarios and the direction of measures to deal with the business impacts requiring emphasis. In specific terms, during the group work we reviewed the current initiatives and gathered views on the directions that future initiatives should take, taking into account the expectations on Fujitsu in the medium- and long-term.

Analysis results

Because we were able to confirm that the study and development directions for our business unit offerings are aligned with the opportunities shown in the scenario analyses, and that countermeasures for the identified risks are also being prepared, our assessment was that Fujitsu's businesses are strategically resilient from a medium- and long-term perspective.

Using the scenario analysis results as one input for business consideration, we also announced the value proposition themes for our Key Focus Areas such as Carbon Neutrality (promoting the visualization and reduction of CO_2 emissions), Resilient Supply Chain (resilient response to uncertainty) in the Sustainable Manufacturing area, and Sustainable Energy & Environment (carbon neutrality through green energy) in the

Trusted Society area. We are now progressing with discussions on the details of our offerings, considering the opportunity-related measures revealed by the scenario analyses.

<Opportunity Analysis>

* Main Risk and Opportunity Items　Policy / regulation, markets, technology, reputation　Natural disasters

Target businesses	Sectors studied	Risk severity assessment (both 1.5°C and 4°C)		Scenario definitions	Countermeasure considerations (in part)
		Policy/regulation, markets, technology, reputation	Natural disasters		
Sustainable Manufacturing	Petrochemical businesses	Proliferation of ICT in recycling-based business platform in the shift to carbon-neutrality Carbon pricing Emissions targets Energy-saving measures Key product / Service price variations	Increased damage to factories/supply chains due to heightened risk of natural disasters Flooding / Changing weather patterns More severe abnormal weather events	**1.5°C scenario** Switch to environmentally friendly products that use carbon-neutral materials throughout the supply chain, increasing portfolio reform, increased demand for greater traceability and more efficient R&D	• Visualization of CO_2 emissions throughout the supply chain, support for strategies and policies aimed at carbon-neutrality • Eco-friendly materials development solutions that use materials informatics • Management visualization with an ESG pivot, formulation and implementation of SX measures through data-driven management
				4°C scenario Increased demand for resilient factories and supply chains due to increasingly severe natural disasters	• Support for risk event simulation and timely provision of risk information • Rapid solutions through data-driven management (review of manufacturing systems, suppliers, SCM, etc.)
	Automotive businesses	Stronger regulation of internal combustion engines; widespread adoption of electric vehicles, move toward carbon-neutrality in the entire product life cycle Carbon pricing Emissions targets Key product / Service price variations Proliferation of next-generation technology Changes in investor sentiment	Increased damage to factories/supply chains due to heightened risk of natural disasters Flooding / Changing weather patterns	**1.5°C scenario** Increased demand for services such as MaaS and greater supply chain traceability to help reduce environmental impacts through the entire life cycle	• Visualization of CO_2 emissions throughout the supply chain, support for strategies and policies aimed at carbon-neutrality • Support for EV demand (e.g., circular management of EV batteries) • Management visualization with an ESG pivot, formulation and implementation of SX measures through data-driven management • Process automation services using digital technology, from design through to manufacturing and maintenance
				4°C scenario Faster rollout of internal combustion engines, increased demand for advanced technology. Also, increased demand for enhanced business continuity and stability in raw materials procurement in the face of more severe natural disasters	• Support for risk event simulation and timely provision of risk information • Rapid solutions through data-driven management (review of manufacturing systems, suppliers, SCM, etc.) • Engineering outsourcing service which contributes to acceleration of development processes/technology and selection of management resources

	Food-related businesses	Increased awareness of ethical consumption, promotion of resource recycling and biodiversity, etc. Key product / Service price variations Proliferation of next-generation technology	Increased damage to agriculture due to heightened risk from natural disasters and temperature rises Higher average temperatures More severe abnormal weather events	**1.5°C scenario**	
				Changed consumer awareness leading to increased demand for measures to deal with food waste and support smart agriculture, certificates of origin, and environmentally friendly packaging materials	• Visualization of CO_2 emissions throughout the supply chain, support for strategies and policies aimed at carbon-neutrality • Support for greater traceability throughout the value chain (supply-demand optimization, help with changes in consumer behavior) • Management visualization with an ESG pivot, formulation and implementation of SX measures through data-driven management
				4°C scenario	
				Increased demand for "resilient agriculture" to cope with issues of stable food supply resulting from natural disasters	• Support for risk event simulation and timely provision of risk information • Rapid solutions through data-driven management (review of manufacturing systems, suppliers, SCM, etc.)
	Electronic device-related businesses	Energy savings in factories and growth in the market for products for EVs; potential for fundamental manufacturing reforms, such as 3D printers and the "buy local" movement Carbon pricing Emissions targets Key product / Service price variations Proliferation of next-generation technology Changes in investor sentiment	Increased damage to factories/supply chains due to heightened risk of natural disasters, water shortages Flooding / Changing weather patterns	**1.5°C scenario**	
				Proliferation of energy/labor-saving technologies. Increased demand from radical changes to business models (demand chains, etc.)	• Visualization of CO_2 emissions throughout the supply chain, support for strategies and policies aimed at carbon-neutrality • Process automation services using digital technology, from design through to manufacturing and maintenance • Management visualization with an ESG pivot, formulation and implementation of SX measures through data-driven management
				4°C scenario	
				Increased demand for higher labor productivity in production sites and the construction of factories and supply chains capable of handling the risks posed by natural disasters	• Process automation services using digital technology, from design through to manufacturing and maintenance • Support for risk event simulation and timely provision of risk information • Rapid solutions through data-driven management (review of manufacturing systems, suppliers, SCM, etc.)
Trusted Society	Public sector, transportation, energy-related businesses	The values by which we select cities and services, such as environmental concerns, will changes as we shift to carbon neutrality Carbon pricing Emissions targets Key product / Service price variations	Increased damage to cities, buildings, and infrastructure due to heightened risk from natural disasters Flooding / Changing weather patterns More severe abnormal weather events	**1.5°C scenario**	
				Increased demand for quantifying and visualizing new values, such as environmental concerns, and the digitalization of urban and energy infrastructure	• Services/solutions related to prediction and regulation of the energy supply-demand balance using real-time data as green energy is used to transition to a carbon neutral society
				4°C scenario	
				Increased demand for resilient urban infrastructure	• Construction of Digital Twin platforms, enhanced use of simulations, optimization of urban infrastructure that caters for population flows and individuals, support for resilience in transport and logistics, disaster prevention/minimization, etc.

<Risk & Opportunity Analysis>

Target businesses	Sectors studied	Risk severity assessment (both 1.5°C and 4°C)		Scenario definitions	Countermeasure considerations (in part)
		Policy/regulation, markets, technology, reputation	Natural disasters		
Hybrid IT	Datacenter-related businesses	Traceability of environmental values, datacenter electrification, and the adoption of smart technology will all progress Emissions targets Key product / Service price variations Proliferation of next-generation technology Changes in investor sentiment	Increased damage to datacenters due to heightened risk from natural disasters Higher average temperatures More severe abnormal weather events	**1.5°C scenario**	
				Energy savings and environmental concerns become the standard for service selection by customers, and carbon neutrality in datacenters themselves becomes a source of competitive strength	• Highly energy-efficient datacenters, etc.
				4°C scenario	
				Increased demand for resilient datacenters. Disaster risk for Fujitsu-owned datacenters is also increasing and countermeasures are needed	• Disaster recovery center services in case disasters occur • Resilient earthquake-proof datacenters equipped with every security measure, etc.

* The above scenario analyses are intended to verify the strategic resilience of Fujitsu businesses based on an assumed hypothesis and are positioned as one simulation that takes into account future uncertainties.

Risk Management

As part of our company-wide risk management system, we have established the Risk Management and Compliance Committee to identify, assess and manage risks across the entire Fujitsu Group, including those related to climate change. To conduct company-wide risk assessments on a regular basis, the committee prepares tools, distributes them to each employee responsible for risk management and compliance, and gathers responses. The departments in charge of each risk across the company utilize these tools to conduct assessments on items such as the impact and likelihood of occurrence related to risk threats and the status of countermeasures, and they also provide responses regarding those risk threats. Climate change-related risk assessments are conducted by all relevant departments, using information collected from across the company, based on the expertise of each department in areas such as policy, reputation, natural disasters, the supply chain, and products and services. The Risk Management and Compliance Committee conducts an integrated matrix analysis of the assessments returned by each department with respect to impact severity and likelihood, and then identifies high-priority risks at the company-wide level. The results of this analysis are reported to the Board of Directors.

The Sustainable Management Committee shares the business risks, opportunities, and countermeasures resulting from climate change, and manages their progress. The Fujitsu Group has also established environmental management systems based on the ISO 14001 standard. Under these systems, we monitor regulatory compliance and other risks.

Metrics and Targets

In April 2021, the Fujitsu Group adopted a GHG emissions reduction target consistent with 1.5°C of global warming and committed to reducing its emissions by 71.4% (on 2013 levels) by 2030. To reach that target, we have set GHG emissions reduction targets and are managing our GHG emissions and our rate of renewable energy adoption as indicators.

In FY2021, we emitted 489 ktons-CO_2 against our annual GHG emissions target of 517 ktons-CO_2, achieving a reduction of 28 ktons-CO_2, which exceeded our reductions target. We also increased our use of renewable energy by as much as 20%, against our annual target of 13%. Specific initiatives include a Power Purchase Agreement signed in April 2022 by Fujitsu Australia Limited (FAL) to procure renewable energy for the next 10 years from the Sapphire Wind Farm(*4), operated by CWP Renewables. As of June 2022, around 40% of the power supplied to FAL datacenters was renewable energy. This equates to roughly 30% of the annual power use by the entire FAL organization. This measure alone has enabled FAL to offset around 30 ktons-CO_2 of its annual greenhouse gas emissions.

(*4) Sapphire Wind Farm: Largest wind-operated power station in NSW, run by CWP Renewables.

