

Special Feature 1

The Fujitsu Group Medium/Long-term Environmental Vision

FUJITSU Climate and Energy Vision

Fujitsu Group has established the “FUJITSU Climate and Energy Vision,” a medium- to long-term environmental vision through 2050, with the goal of bringing the Fujitsu Group’s CO₂ emissions to zero, and achieving a decarbonized society, as well as contributing to the response to climate change, through technology supporting digital transformation. The following is an explanation of the thinking behind the newly established vision and our approach to its implementation.

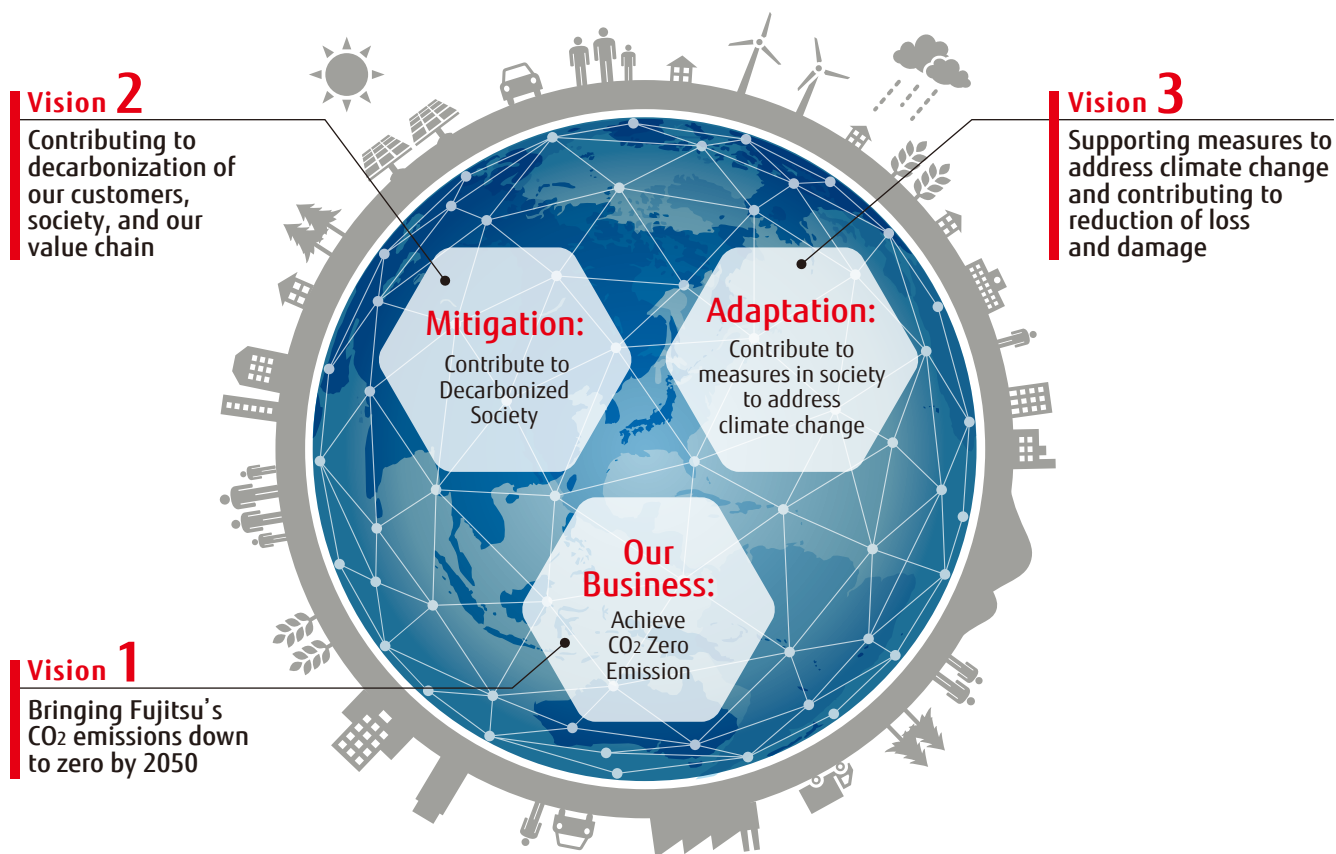


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The Fujitsu Group Medium/Long-term Environmental Vision

Basic Concept of the FUJITSU Climate and Energy Vision

Fujitsu's vision is to “contribute to creation of a decarbonized society and to address climate change” and to “achieve zero CO₂ emissions from Fujitsu by 2050.”



The Paris Agreement, which came into effect in December 2015, established a goal of limiting the rise in global average temperatures to less than two degrees above the average temperature prior to the industrial revolution. In order to achieve this, the goal to “achieve a balance between emissions and removals of greenhouse gases (GHG) in the second half of this century” has been set, and a shift to a decarbonized society will be necessary beginning in 2050.

It is expected that regulations of CO₂ emissions will be strengthened, and that carbon prices will rise sharply. In addition, investment taking into account Environmental, Social and Governance (ESG) factors*, and a pullback in investment in fossil fuel industries, will continue.

In light of this background, the Fujitsu Group established “FUJITSU Climate and Energy Vision,” a medium- to long-term environmental vision that clarifies the role it should play in climate change countermeasures, as well as how it sees itself in the future, as a global ICT company.

This vision has three pillars, namely, “Our Business: Achieve Zero CO₂ Emissions,” “Mitigation: Contribute to a Decarbonized Society,” and “Adaptation: Contribute to Measures in Society to Address 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 respond to climate change.

* ESG investment: to invest in companies that are highly rated in terms of environmental, social and governance criteria

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Vision 1 Achieving Zero CO₂ Emissions in the Fujitsu Group

Fujitsu has formulated a roadmap to reduce its CO₂ emissions to zero by 2050.

According to a report by the Intergovernmental Panel on Climate Change (IPCC), it is likely that keeping the temperature increase at 2°C or less until the end of this century will require worldwide GHG emissions to be reduced by 41% to 72% by 2050, and to close to zero by 2100. In light of this report, each country of the developed world has established a goal to reduce CO₂ emissions by at least 80% by 2050, and is moving forward with tightening restrictions, promoting technological development strategies, and establishing an investment environment, etc. Japan has also established a goal to reduce domestic CO₂ emissions by at least 80% by 2050 in the Plan for Measures against Global Warming adopted in May 2016 through a cabinet resolution.

In light of such circumstances, the Fujitsu Group established the challenging goal of reducing its CO₂ emissions to zero by 2050, with its intention to take the initiative as a global ICT company to strive to create a decarbonized society. This goal has been established with scenarios recommended by the Science Based Targets (SBT) initiative, and it is also consistent with the 2°C goal.*¹ We will promote measures to reduce CO₂ emissions that combine “further encouragement of energy conservation,” “strategic use and expansion of renewable energy,” and “utilization of carbon credits” to achieve this.

In addition, the Fujitsu Group’s roadmap to zero CO₂ emissions will consist of a shift away from carbon in three phases from now until 2050, with consideration given to the dissemination of technology and the perspective of economic

efficiency, etc. In Phase I (until 2020), from the perspective of usability and economic efficiency of the technology, in Japan, we will horizontally deploy energy conservation technologies that already exist, verify new energy conservation technologies that use AI, etc., and move forward with the use of low-carbon energy. Overseas, we will proactively implement renewable energy, focusing on the EU. We will also prepare for the following phases. In Phase II (until 2030), the Fujitsu Group will work to establish and spread a transition to AI and ZEB*², etc., to accelerate the reduction of emissions. Further, we will expand strategic implementation of renewable energy, which

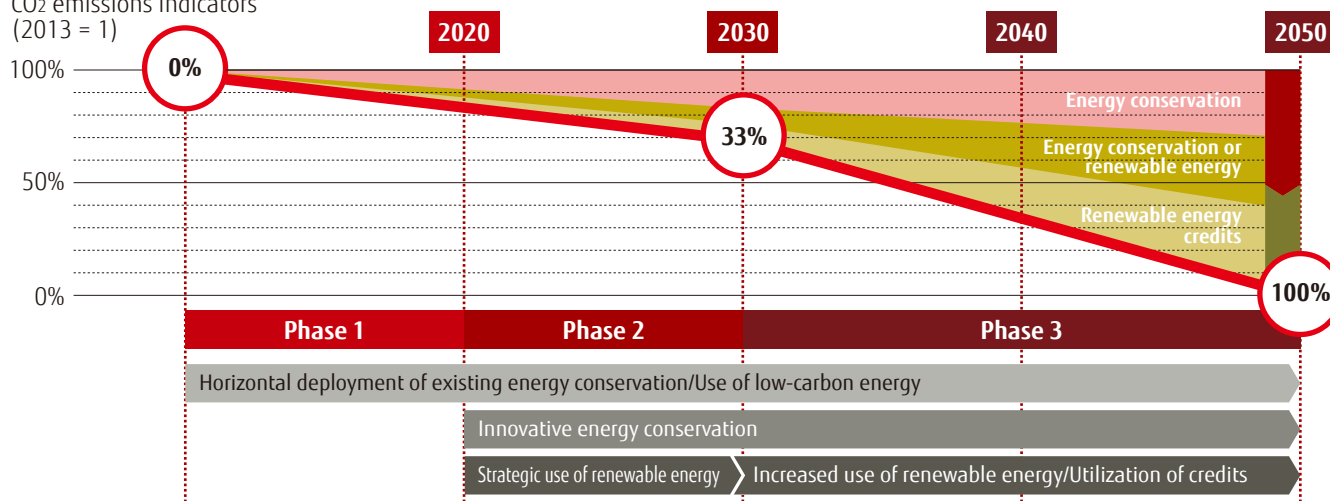
is expected to be easier to use in Japan as well, with consideration given to local characteristics and economic efficiency. In Phase III (2030 and after), we will accelerate implementation of increasingly easy-to-use renewable energy, while supplementing with offsets from carbon credits, with an eye toward deploying and deepening innovative energy conservation technologies and shifting away from carbon.

*¹ The GHG reduction target, with the Group’s carbon credits subtracted, was approved by the SBT initiative in June 2017.

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

The Roadmap to Reduce the Fujitsu Group’s CO₂ Emissions to Zero by 2050

CO₂ emissions indicators
(2013 = 1)



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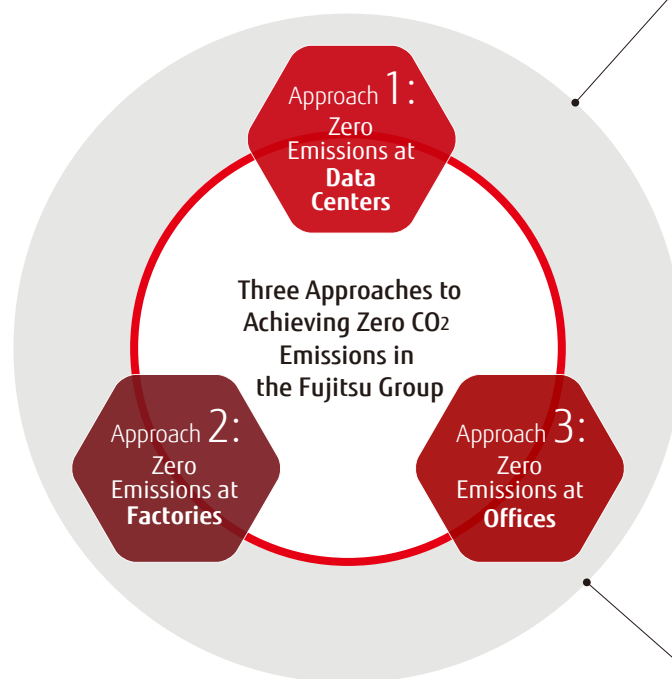
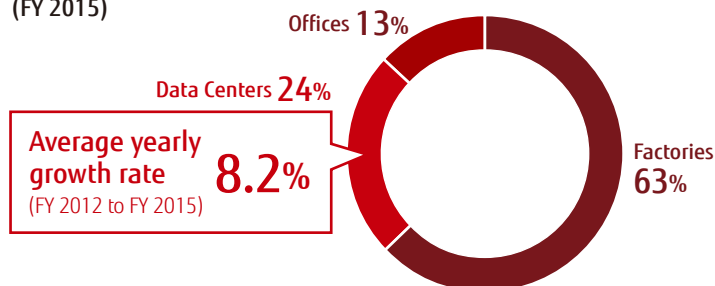
Vision 1 Achieving Zero CO₂ Emissions in the Fujitsu Group

Fujitsu will promote zero emissions at “data centers,” “factories,” and “offices.”

With its nature as both an ICT manufacturer and an ICT services company, the Fujitsu Group has implemented measures to reduce CO₂ emissions at “data centers,” “factories,” and “offices.”

Measures to reduce CO₂ emissions at “data centers” are of particular importance. With the rapid diffusion and expansion of cloud computing, energy consumption at data centers is on an increasing trend. Energy usage at Fujitsu Group data centers has increased 8.2% each year during the four years since FY 2012. With the demand for society to transition to IoT and for the advanced use of AI, etc., strengthening the cloud business infrastructure is a key factor in the Fujitsu Group’s growth strategy, and we recognize that measures to conserve energy at data centers are a particularly important matter.

Energy Usage Rate by Sector (FY 2015)



1 Zero Emissions at Data Centers

At data centers, electric power is mainly consumed by ICT equipment and air conditioning. We significantly reduce power consumption by utilizing AI to control the load on those ICT devices, the rotational speed of fans, and data center air conditioning. In addition, we utilize our strengths as an ICT vendor to promote energy conservation in the hardware and software built into the ICT platform, including development of element technology for hardware such as AI chips and energy-conserving power supplies that use GaN-HEMT, and development of software for the mutual accommodation of ICT device resources according to the workload.

2 Zero Emissions at Factories

We utilize VR, AR, robotics, AI, and other digital technologies in the design, development, and manufacturing processes to improve productivity in a variety of processes, thereby conserving energy. In addition, we aim to increase energy conservation and the use of renewable energy further by expanding the use of energy that in the past has been optimized only within the factory to surrounding areas, and accommodating others with renewable energy and thermal energy.

3 Zero Emissions at Offices

In addition to relocating to buildings that are highly energy-efficient, it is important to conserve energy through “workstyle reform” in offices. For example, streamlining communication and sharing knowledge by utilizing ICT, and utilizing AI to support work, etc., make it possible to reduce overtime and achieve greater energy conservation in air conditioning, office automation, and lighting, etc. Further, controlling air conditioning to match the decreased use of offices due to the spread of teleworking also makes it possible to reduce energy use.

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

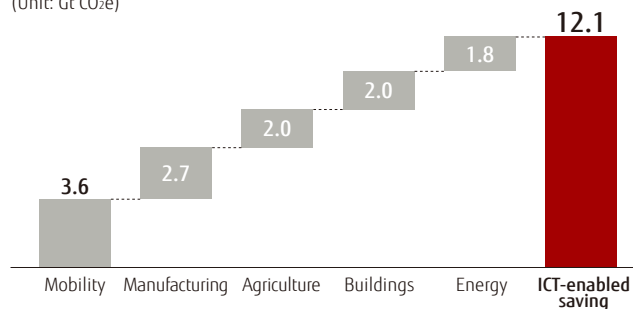
Fujitsu provides social innovation to support “mitigation” and “adaptation” of climate change.

To control the increase of global warming, it is important to reduce emissions of GHG, one of the causes of global warming, to “mitigate” it. At the same time, global warming has started to impact regions around the world in the form of natural disasters, so “adaptation” measures to radically minimize loss and damage are needed.

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

Potential to Reduce CO₂ through ICT —SMARTER2030—

(Unit: Gt CO₂e)

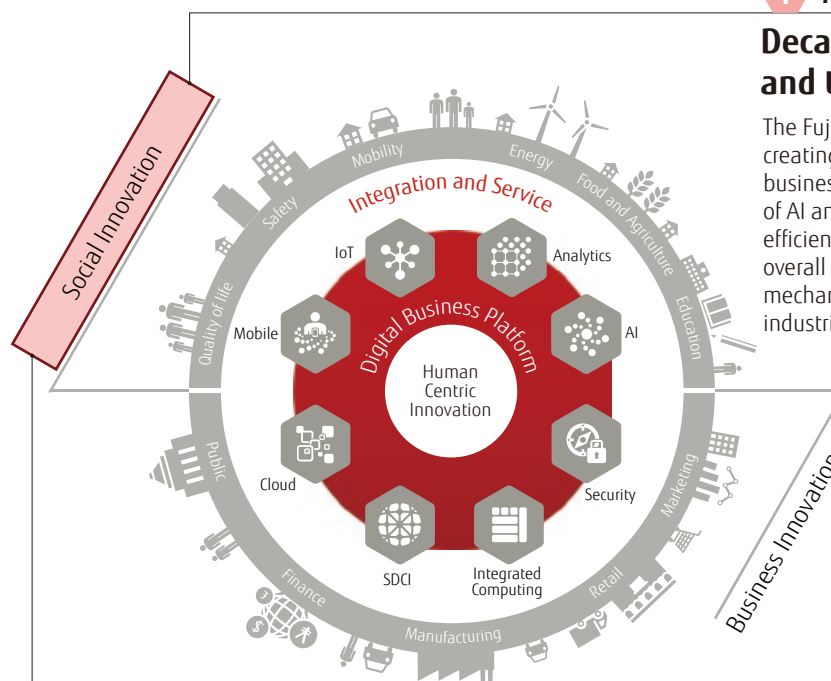


出典: “#SMARTer2030”, Global e-Sustainability Initiative

1 Mitigation of Climate Change

Decarbonization of Customers, Society, and the Value Chain

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



2 Responding to the Impact of Climate Change

Supporting Measures to Address the Impact of Climate Change

The key point of measures to address 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, stable supply of agricultural products, and minimization of food product loss, thereby contribute to minimization of damage to our customers and society caused by climate change.