FUJIFILM
Value from Innovation

FUJIFILM Holdings Corporation

TCFD REPORT

NEVER STOP

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Issued in October, 2023

INDEX

Basic Approach

In December 2021, the Fujifilm Group set new CO_2 emissions reduction targets for the establishment of a decarbonized society. These new targets mean that we will achieve our goal of zero CO_2 emissions from the energy we consume*1 by fiscal 2040 by maximizing the efficiency of our energy use and by using renewable energy sources. We will also reduce the CO_2 emitted throughout the entire lifecycle of our products, from the procurement of raw materials to the manufacture, transportation, use and disposal of products, by 50% (compared to fiscal 2019 levels) by fiscal 2030. These new decarbonization targets established by the Fujifilm Group are in line with the 1.5 °C goal set out in the Paris Agreement.

To achieve these targets, we have established the Green Value Climate Strategy,*2 the new Fujifilm Group environmental strategy. Guided by this strategy, we will promote manufacturing that pursues the minimalization of environmental impact through the introduction and utilization of fuels that do not emit significant amounts of CO_2 such as synthetic methane and hydrogen in addition to our use of electricity. We also promote the development and ubiquitization of products and services that have excellent environmental performance. Another measure we have started is our internal carbon pricing (ICP) system which accelerates the implementation of our sustainability efforts in fiscal 2022. We continue to direct our strategy and efforts toward initiatives that address climate change a global social issue that must be addressed imminently.

*1 Direct emissions from our manufacturing processes (scope 1) and indirect emissions due to the use of electricity and steam supplied from other companies (scope 2).

*2 For more information about the Green Climate Strategy, please see the following website:

Environmental Strategy Briefing on April 13, 2022

https://ir.fujifilm.com/en/investors/ir-materials/presentations/main/0118/teaserItems1/0/tableContents/019/multiFileUpload2_0/link/ff_presentation_20220413_001j.pdf

Governance

Our ESG Committee chaired by our president deliberates and makes decisions regarding matters related to our climate change activities. The committee meets regularly, and its agenda is reported to the Board of Directors, who then provide instructions and guidance regarding the reports received from the ESG Committee to ensure the effectiveness of the process.

The ESG Committee deliberates issues related to climate change which it considers to be priority risks alongside compliance issues and other risks (2.2.3 Compliance and Risk Management Promotion Structure). In addition to the targets for reducing CO_2 emissions and expanding the use of renewable energy, the committee makes decisions regarding our participation in climate change-related initiatives. Past deliberations have resulted in our endorsement of the TCFD recommendations, our joining RE100 and our obtainment of SBT validation.

In fiscal 2021, the Board of Directors deliberated and approved our introduction of internal carbon pricing (ICP) and information disclosure in compliance with the TCFD recommendations. Additionally, the ESG Committee deliberates to determine the effect that the degree of achievement of decarbonization targets will have on medium-term performance-linked share-based remuneration with final decisions on the matter made by the Board of Directors.

Risk Management

The Fujifilm Group has established an IT system monitoring the environmental performance of all of its group companies to ensure progress on climate change issues. The system enables us to collect data on energy consumption and the volume of greenhouse gases emitted, including CO_2 and CFCs, at each of our business sites in many countries and regions and use this data to identify risks. The Energy Strategy Promotion Committee analyzes the factors affecting these risks and reports high-priority issues to the ESG Committee and then supports the ESG committee in their decisions to ensure the appropriateness of operations. We utilize internal carbon pricing in our evaluation of climate-related risks, and we review the anticipated impact of our operations and the actions required.

A scenario analysis based on the TCFD recommendations enables us to identify the risks connected to our own environmental performance as well as the risks in our supply chains and on worksites. We implement measures to address the important issues that require risk mitigation.

Strategy

In our TCFD scenario analyses, we considered two climate-related scenarios, referencing Representative Concentration Pathways (RCP) 2.6 to 8.5 detailed in a report by the Intergovernmental Panel on Climate Change (IPCC). One is the 1.5 °C scenario in which rigorous measures are implemented for the establishment of a decarbonized society to effectively keep temperature the rise down to 2 °C or less from the level during the Industrial Revolution by the year 2100. The other is the 4 °C scenario in which the average temperature is predicted to rise between 3.2 and 5 °C from the level during the Industrial Revolution as a result of a failure to implement measures that surpass current efforts.

1. Scenario analysis results

(1) 4 °C scenario:
Measures surpassing the current efforts have not been implemented, resulting in the average temperature rising 3.2 to 5 °C above the level during the Industrial Revolution by the year 2100.

① **Risks (Physical risks)**
In the 4 °C scenario, we identified risks such as the impact of climate change on production facilities, the disruption of the supply of raw materials and factory shutdowns due to power failures. To address these risks, we have been developing preventive measures based on our Business Continuity Plans (BCPs), which include the diversification of production sites and procurement sources and the implementation of measures to secure the stable supply of power. In recent years in particular, typhoons and heavy rains caused by climate change have damage the power grids which are important lifelines in various regions, disrupting their operations. Since the 1960s, the Fujifilm Group has been mitigating the risk of operational shutdowns due to power failures by gradually establishing in-house cogeneration systems at its major production sites, thereby ensuring a stable supply of power.
Changes to animal and plant habitats due to increased temperatures changes in precipitation patterns may lead to a decline in the animal and plant population and to their extinction. These changes are likely to cause procurement instabilities and a steep increase in the prices for plant-derived materials. In addition, the depletion of fossil fuel resources is expected to cause supply instabilities and cause the prices of petroleum-based materials to rise. The Fujifilm Group is working to reduce these risks by reducing the materials that it consumes, including the use of thinner films made from plant-derived materials and the recycling of multifunction device components in the area of business innovation.

② **Opportunities**
Global warming has increased the frequency and severity of extreme heat events, marine heatwaves, rainstorms, droughts and tropical cyclones. We anticipate a rise in society's demand for products and services aimed at adapting to extreme weather patterns and to the impact of these extreme weather events on ecosystems and human health.

Resilience of social infrastructure
In the face of the growing frequency of extreme weather events, the resilience of the social infrastructure is an important issues that must be addressed. To adapt to these changes in the climate, the Fujifilm Group is committed to contributing to society through its high-definition lens processing and manufacturing technologies to create high-sensitivity surveillance cameras for the monitoring of river and sea levels at night and during inclement weather. The Fujifilm Group will also leverage its degradation analysis technologies for bridges and embankments using high-precision image analysis and AI technologies to contribute to society. In addition, we foresee a rise in the importance of solutions that are able to quickly contribute to disaster relief efforts and the restoration of the livelihoods of residents after a disaster, and solutions contributing to the maintenance of local government functions through the digitalization of local governments' disaster response procedures.

Securing drinking water and water for agricultural use
Changes in the climate and ecosystem will also increase the difficulty of accessing food and drinking water. This is expected to result in an increase in the amount of drinking water produced and manufactured at factories. The global water shortage is growing into a major risk, and we believe we can leverage our filtration technology employing ion exchange membranes for the desalination of brine and seawater to contribute significantly to the securing of drinking water and water for agricultural use.

Reducing the burden on medical professionals and improving access to medical services
The rise in temperature is seriously impacting people's health. The burden on medical professionals has increased with the unforeseen spread of infectious and other diseases. Typhoons, torrential rains and heat waves have increased in frequency, impeding the movement of patients and medical professionals. The possibility of the collapse of the medical care system is a real risk in countries and regions suffering from a shortage of medical professionals. Applying our medical IT technologies, diagnostic imaging systems and AI technologies globally will enable us to contribute to the reduction of the burdens borne by medical professionals and to improve people access to medical care through remote diagnosis technologies and others methods.

(2) 1.5 °C scenario
Rigorous measures are implemented for the establishment of a decarbonized society, keeping the temperature rise to 2 °C or less from the level during the Industrial Revolution by the year 2100.

① **Risks (Physical risks)**
In the 1.5 °C scenario, measures to reduce the use of fossil fuels and encourage technological innovation are implemented in the transition to a decarbonized society. These efforts include, for example, a carbon tax and carbon border adjustment mechanism designed to discourage the transfer of business operations prompted by differences between the carbon taxes of different countries and regions. The Fujifilm Group's direct and indirect CO_2 emissions in fiscal 2021 were 1,053,000 tons. Assuming that the carbon tax is in line with the internal carbon pricing set for the first half of fiscal 2022, ¥11,000/ton-CO_2, our financial risk is estimated to be approx. ¥11.6 billion.
In December 2021, the Fujifilm Group raised its climate change targets in its Sustainable Value Plan 2030 (SVP 2030), and we set the target of achieving net zero CO_2 emissions from our energy consumption by fiscal 2040. To achieve this, we are promoting energy conservation and using renewable energy sources. Through energy conservation and the use of renewable energy sources, our direct CO_2 emissions in fiscal 2021 were reduced 3% from the fiscal 2019 level, the base year we are using to evaluate progress toward our target.

② **Opportunities**
As the CO_2 emissions from human activity are chiefly the result of energy usage, we expect to increase energy

efficiency to the highest possible level and move toward a society that uses chiefly renewable sources of energy with no CO_2 emissions (wind, solar, hydroelectric, etc.).

Energy conservation
To increase the energy efficiency of society as a whole, we will prioritize the use of more energy efficient methods in our products and services. We contribute to the reduction of CO_2 emissions through our products that, when in use, emit less CO_2 during data storage due to the use of large-capacity magnetic tape data archive systems and due to the energy-saving features of our multifunction devices.

Creating energy
It is expected that many different infrastructure development projects will enable the use of natural energy sources. Among these projects, there is expected to be an increase in the number of wind power generation facilities, both on land and offshore. These locations require difficult inspections in high places and remote areas, and require advances in technologies for facility degradation diagnosis and inspection. We are presently working in collaboration with wind power energy suppliers to develop technologies that will enable the inspection and diagnosis of wind power turbine blade defects while in operation, even in the strong winds experienced in coastal and offshore areas, through a combination of high-performance, vibration-proof, superzoom cameras that employ our imaging technologies and high-precision forming technologies together with high-precision image analysis and AI technologies. We will contribute to the promotion and stable operation of wind power generation facilities.

Storing energy
Due to the fluctuations in the electric power generated by natural energy sources that are dependent on the weather, time of day and season, energy storage technology is essential for ensuring a stable supply of power. We are using our dispersion and coating and materials technologies and material technologies to work with other companies to develop a semi-solid battery that is lower in cost and higher in capacity than existing liquid lithium-ion batteries. We believe that these batteries will also be usable in electric vehicles and in many stationary applications.

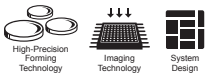
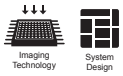
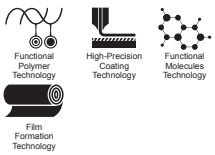
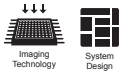
CO_2 recovery and sequestration
In the transition to a decarbonized society, it is necessary for industries that cannot avoid using CO_2-emitting fossil fuels to capture CO_2 in the atmosphere and sequester it. In this area, we believe we will be able to produce useful materials from CO_2 using our bioengineering technology.
materials from CO_2 using our bioengineering technology.

Solutions services adapted to a decentralized society
To shift from a centralized society made up of large cities into a decentralized society spread across local areas through the use of natural energy, we believe we need to disseminate solutions that support the living conditions and business activities in decentralized communities.
In support of this, solutions services for business activities that foster digitization, automation and the paperless execution of business processes are expected to become necessary in a decentralized society that includes remote working and hybrid workstyles to reduce CO_2 emissions by reducing the time needed for operations and the transportation and space required. Demand for these activities is likely to grow in the future.
To continue to provide the medical care necessary for life, it is expected that solutions capable of supporting medical professionals and the use of medical IT systems, diagnostic medical imaging systems and AI technologies and solutions will be necessary in every community to contribute to increased access to medical care as described in the 4 °C scenario. This will be a big business opportunity for us. Therefore, we are contributing to the regional medical services that will be a critical part of a decentralized society through our medical system business (sales target for FY2030: one trillion yen).

In view of these developments, the Fujifilm Group plans to continue refine its core technologies and develop a wide variety of products and services that will become essential in a society built upon the foundation of a resilient energy platform.

2. Details of the scenario analyses

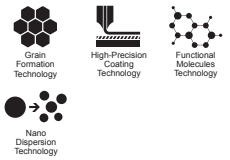
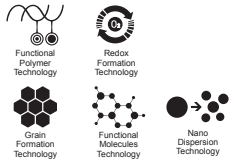
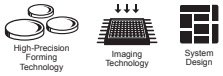
(1) 4 °C scenario:

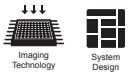
4 °C scenario: Measures that surpass the current measures have not been implemented, resulting in the average temperature rising 3.2 to 5°C above the level during the Industrial Revolution by the year 2100.			
	Environment, Social Conditions and Systems	Risks	Measures (Activities)
Risks (Physical risks)	Increase in the frequency and severity of heat waves, rainstorms, tropical cyclones, etc. Torrential rains on land will trigger flooding. When these events happen in ocean areas, they are expected to trigger high waves and high tides that will eventually lead to flooding and landslides.	Cessation of procurement and factory production due to sea level rise or natural disasters, such as flooding. • Factory production stoppages due to droughts. • Breakdown of power grids and power outages due to typhoons.	• Study hazard maps and risk assessments at our own sites and major suppliers' sites. • Develop Business Continuity Plans (BCPs) that include the diversification of suppliers and production sites geographically. • Obtain and monitor the latest rain forecasts and prevent flooding by controlling water gates to factories. • Continually assess water risks for all sites using our own water risk assessment system (Please see 3.4.5.) • Install regular and emergency in-house power generation systems.
	In some areas, anomalies may result in droughts, negatively impacting farmland and ecosystems. Changes in temperature and precipitation patterns alter animal habitats, lowering their population and even driving them into extinction. This causes supply instability and price increases for plantderived materials. Other results include the depletion of fossil fuels as well as supply instability and price increases for oil-derived materials.	• Material shortages due to trees and forests dying. (paper: pulp, film: cellulose)	Paper • Reduce paper through Document Solutions Services utilizing digital and IT technologies. Film • Reduce film materials by designing thinner films and promoting recycling.
		• Materials shortages due to fossil fuel depletion.	• Utilize used multifunction devices. (reuse) • Aim for an appropriate number of devices and the reduction of unimportant printouts by providing appropriate management throughout the lifecycle of multifunction devices (device selection/operation/ disposal). (Managed Print Services)
	Increase in the frequency and severity of heat waves increases heat stress, which affects people's wellbeing.	• Intense heat has a growing adverse impact on the health of employees, such as heatstroke and sleep deprivation.	• Measure the heat index at work sites and communicate heatstroke warnings to employees.
	Environment, SocialConditions and Systems	Our Technologies*2	Business Opportunities
Opportunities*1	There is increased demand for systems, products and technologies that are required by society to adapt to extreme weather.		
	• Monitoring and predicting climate	• Lens processing, polishing, coating and manufacturing technology/Image processing technology 	Resilience of social infrastructure • Provide high-sensitivity surveillance cameras capable of monitoring rivers and weather even in stormy weather or at night
	• Preventive maintenance of infrastructure such as structures and catchments	• High-precision image analysis and AI technologies 	• Provide infrastructure degradation diagnosis services for bridges, dam walls, and embankments to be prepared for typhoons. • Solutions that contribute to local government operations and the fast support and restoration of the normal lives of citizens in the event of a disaster, through the digitalization of local government disaster response processes.
	• Securing water for everyday life	• Ion exchange technologies enabling selective ion permeation 	Securing drinking water and water for agricultural use • Contribution to measures to address water shortages using water filtration technologies and ion exchange membranes.
	• The burden on medical professionals will grow with the increase in unforeseen diseases and infections. Disruptions to transportation networks due to inclement weather will restrict the mobility of medical professionals and patients.	• Medical IT, diagnostic medical imaging and AI technologies 	Reducing the burden on medical professionals and improving accessibility to medical services • Solutions that support medical professionals and increase access to medical care using medical IT, diagnostic medical imaging and AI technologies · Highly portable X-ray devices that are small and rechargeable · Diagnostic medical equipment with AI features for the inspection of infectious diseases on remote islands and in other regions • Highly portable and waterless clinical chemical inspection system

*1 Develop and offer products that contribute to the mitigation of climate change and adaptation to it utilizing the Green Value Products Certification Program. (See 3.5.3.)

*2 Icons indicate proprietary core technologies that support our accumulated technologies

(2) 1.5 °C scenario

1.5 °C scenario: Rigorous measures are implemented for the establishment of a decarbonized society, keeping the temperature rise down to 2 °C or less above the level during the Industrial Revolution by the year 2100.			
	Environment, Social Conditions and Systems	Risks	Measures (Activities)
Risks (Physical risks)	During the transition to a decarbonized society, the government implements policies restricting the use of fossil fuels and promoting technological innovation. Carbon pricing (carbon taxes, emissions trading and carbon border adjustment mechanisms) is introduced.	• Increase in costs to build new facilities due to carbon taxes on fossil fuel and transition to fuel without emitting CO_2. • Rise in procurement prices due to carbon taxes on raw materials. Total financial impact due to direct and indirect CO_2 emissions from our manufacturing is likely to be 11.6 billion yen/year.[*1]	Promote energy saving and renewable energy usage • In December 2021 we raised our targets for addressing climate change to align them with the SBTi 1.5 °C criteria. • Reduce CO_2 emissions by 50% across the entire product lifecycle by FY2030 (compared to the FY2019 level). • Achieve net zero CO_2 emissions from our energy consumption by fiscal 2040. • Promote low carbon investment using the internal carbon pricing system. Prediction for 2030 • Accomplish CO_2 emission targets in our SVP 2030 through these measures and other energy saving measures. Reduce carbon taxes on CO_2 emissions during manufacturing by 5.6 billion yen/year compared to FY2021 level.[*2]
	Environment, SocialConditions and Systems	Our Technologies[*4]	Business Opportunities
Opportunities[*3]	• Methods with excellent energy efficiency are prioritized to reduce CO_2 emissions from energy use.	• Barium ferrite magnetic material with excellent magnetic properties and long-term storage 	Energy conservation • Reduce the energy consumption of energysaving data storage using high-capacity magnetic tape data archiving systems.
		• Advanced toner technology with a low fusing temperature 	• Downsizing, reusing, recycling, and reduced energy consumption using energy-saving multifunction devices.
		• Photopolymer materials technology with high developing performance in the printing process 	• Reduce the use of resources and energy using process-less CTP plates for printing.
	• Technology development and infrastructure improvements will shift to using renewable energy sources.	• Lens processing, polishing, coating, and manufacturing technologies, highspeed and high-precision mechatronics technology/ image processing and high-precision image analysis and AI technology 	Creating energy • Solutions that enable remote inspection and diagnosis of wind power turbines offshore and on land while in operation
	• Due to the fluctuation of electric power generated by renewable energy sources dependent on the weather, time of day and season, storage battery technology will become essential for ensuring the stable supply of power.	• Dispersion and coating technology 	Storing energy • Practical use of semi-solid batteries, expected to be lower cost and larger capacity than existing liquid lithium-ion batteries, in vehicle and stationary applications
	• Industries that cannot avoid the use of CO_2-emitting fossil fuels will develop technology for capturing CO_2 in the atmosphere and sequestering it underground. Recycling CO_2 will be also be promoted by converting CO_2 into useful materials.	• Highly efficient cell culture technology/genetic engineering 	CO_2 recovery and sequestration • Biotech production of useful materials from CO_2 utilizing hydrogen-oxidizing bacteria

Opportunities*3	• Due to the regional characteristics of renewable energy use, a transition will take place from centralized urban societies to decentralized regional communities. For this reason, solutions that support the lives of people and business activities in these decentralized communities will gain acceptance.	• IT solution and system design technology with excellent communication quality and confidentiality 	Solutions services adapted to a decentralized society • Business solutions that support remote and hybrid workstyles through the digitalization and automation of business processes, and paperless business operations
		• Medical IT, medical imaging AI technology 	• Solutions that support medical professionals and increase access to medical care using medical IT systems, diagnostic medical imaging systems and AI technologies · Highly portable X-ray devices that are small and rechargeable · Diagnostic medical equipment with AI features for the inspection of infectious diseases on remote islands and in other regions

*1 Assuming a carbon tax of ¥11,000/ton, the same level as the internal carbon pricing set for the first half of fiscal 2022, FY2021 CO_2 emissions at the manufacturing stage were 1,053,000 tons, which is 1,053,000 × ¥11,000/ton ≒ ¥11.6 billion/year.
*2 FY2021 CO_2 emissions at the manufacturing stage are 1,053,000 tons. IN SVP 2030, the CO_2 emissions target for the manufacturing stage in the year 2030 is 542,000 tons. If this target is achieved, the carbon tax savings will be (1,053-542) thousand tons × ¥11,000/ton in FY2030 compared to FY2021 (identical to *1) ≒ ¥5.6 billion/year.
*3 Develop and provide products that contribute to the mitigation of climate change and adaptation to it utilizing the Green Value Products Certification Program. (See 3.5.3.)
*4 Icons indicate proprietary core technologies that support our accumulated technologies

Metrics and Targets

In SVP 2030, The Fujifilm Group established the following targets for addressing climate change and it plans to proactively promote energy conservation and renewable energy. In addition, we manage the Green Value Products certification program certifying our products and services that excel in the reduction of the environmental impact to make greater contributions to the reduction of society's CO_2 emissions.

1. CO_2 emissions reduction targets and progress across the entire product lifecycle
Long-term target: Reduce CO_2 emissions by 50% by the end of FY2030 (compared to the FY2019 level).
Progress: 7.5% reduction at the end of FY2021 (compared to the FY2019 level).

2. CO_2 emissions reduction targets and progress regarding the Fujifilm Group's energy consumption
Long-term target: Reduce the Fujifilm Group's CO_2 emissions by 50% by the end of FY2030 (compared to the FY2019 level).
Progress: 3% reduction at the end of FY2021 (compared to the FY2019 level).
Medium-term target: Reduce the Fujifilm Group's CO_2 emissions by 11% by the end of FY2023 (compared to the FY2019 level)
Progress: 3% reduction at the end of FY2020 (compared to the FY2019 level).
Short-term target: Reduce the Fujifilm Group's CO_2 emissions by 4% by the end of FY2022 (compared to the FY2019 level).

3. Renewable Energy Usage Targets
- Convert 50% of purchased electric power to renewable energy-derived power by FY2030.
- Convert 100% of purchased electric power to renewable energy-derived power aiming at zero CO_2 emissions from our energy consumption by converting fuels used in our in-house cogeneration systems to fuels with no CO_2 emissions such as hydrogen by FY2040.
- This target was recognized as being in line with the purpose of the RE100 by the Climate Group, an international NPO. We joined the RE100 in April 2019.

4. Targets for contribution to the reduction of CO_2 emissions through products and services
- Contribute to reducing a total of 90 million tons of CO_2 emissions by FY2030.