

# Environmental Initiatives



See the following for more information on Sharp's environmental activities.  
<https://global.sharp/corporate/eco/environment/>

## The SHARP Eco Vision 2050, Our Long-Term Environmental Vision

Global environmental issues such as climate change, resource depletion, and the problems presented by plastic waste are becoming more serious and are recognized as important issues among the international community. Under these circumstances, global movements aimed at resolving social issues are accelerating, such as those designed to respond to Sustainable Development Goals (SDGs<sup>\*1</sup>) and carbon neutrality<sup>\*2</sup>, as well as initiatives to realize a circular economy<sup>\*3</sup>.

In 2019, Sharp established its long-term environmental vision *SHARP Eco Vision 2050* based on its principal environmental philosophy of "Creating an Environmentally Conscious Company with Sincerity and Creativity", which was established in 1992. Our aim is to realize a sustainable global environment by setting long-term goals for 2050 in the three areas of climate change, resource recycling, and safety and security.

Furthermore, in order to realize our long-term environmental vision, we are formulating "medium-term environmental goals" that set specific initiatives and quantitative goals for each area. With respect to

climate change, we set a target of reducing CO<sub>2</sub> emissions by 40% by 2030 and 60% by 2035. Our aim is to achieve net zero CO<sub>2</sub> emissions arising from our own business activities by 2050<sup>\*4</sup>.

Sharp is engaged in initiatives to solve social issues and sustainably raise corporate value. We are doing so by working more closely with our stakeholders through corporate and environmental conservation activities.

\*1 17 social goals adopted by the United Nations in 2015 that international society needs to achieve by 2030 in order to ensure sustainable development.

\*2 A state in which the total amount of greenhouse gas emissions minus the absorption volume is effectively zero

\*3 An economic system in which discarded products and raw materials are considered as new resources and in which resources are circulated without generating waste products.

\*4 Compared with fiscal 2021. Includes post-2021 emissions of Sakai Display Products Corporation (SDP), which became a wholly owned subsidiary in June 2022. See P.3, Contribute to Carbon Neutrality.

### Long-Term Environmental Targets

Toward achieving the *SHARP Eco Vision 2050*, we have defined long-term goals in the three following areas to generate clean energy in excess of energy consumed and minimize the environmental impact of corporate activities on the global environment.

#### Climate Change



Throughout our history, Sharp has endeavored to reduce the energy we use as an organization, while making more energy-efficiency products to help reduce the amount of energy consumed in the home and by society.

As our founder, Tokuji Hayakawa, said, "Everything we produce uses electricity. As we become a bigger company, we will be responsible for using more electricity, so I propose that we also begin making electricity." Following this course, Sharp began development of solar cell, striving to popularize photovoltaic power generation for more than 50 years.

As a company that makes products that use electricity, we must take responsibility for the environmental impact of this electricity usage.

Sharp supports the global goal of achieving carbon neutrality, and we have set ourselves the challenge of meeting the following two goals by 2050 in our own activities and throughout the supply chain as a whole, so that we can achieve a decarbonized society.

- Achieve net zero CO<sub>2</sub> emissions due to our own business activities
- Generate clean energy in excess of the energy consumed throughout our supply chain

#### Resource Recycling



Sharp has created new products that offer a variety of value to the world. At the same time, we have used many of the world's resources.

Our desire is to continue to offer a variety of value to our stakeholders amid the constraints of limited resources.

Sharp intends to reach new levels of effective resource use, maximizing value from minimal resources and constructing a circular economy. We have defined two goals to achieve by the year 2050 in efforts to create a recycling-oriented society.

- Eliminate the use of new mined resources\* in products
- Eliminate final disposal of waste products generated through our business activities

\*Excludes those items not suitable for recycling from an environmental standpoint

#### Safety and Security



Sharp factories use a variety of chemical substances in the product manufacturing process. Our products also contain a variety of chemical substances. Chemical substances include substances that have a negative impact on the human body, the environment, and ecosystems. Accordingly, these chemicals must be managed in a careful and detailed manner.

Sharp corporate activities must not do harm to human health, the global environment, or ecosystems.

Sharp follows current international standards, as well as our own standards oriented toward the future, for the strict management of these relevant chemical substances. We are striving to eliminate any chemicals that harm human health, the global environment, or ecosystems.

- Conduct proper management of chemical substances to protect human health, the global environment, and ecosystems

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## Disclosure of Information Regarding Climate Change

### Addressing TCFD proposals

The Task Force on Climate-Related Financial Disclosures (TCFD) formed by the Financial Stability Board (international body that works toward financial systems stability) in 2017 put forth a proposal recommending that companies disclose information on the risks and opportunities presented by climate change. Sharp declared its support for the recommendations of the TCFD, and intends to expand disclosure of information regarding climate change in accordance with the TCFD framework.



### 1. Governance

The President and Representative Director, who chairs the Sharp Global SER Committee<sup>\*1</sup> has the responsibility for monitoring and supervising climate-related issues. The Sharp SER Committee consists of the committee chair, committee vice chair (officers responsible for administration, environment, and human resources), and members (business division general managers, presidents of subsidiary companies). In addition, the related functional departments of the headquarters assist in operations as a support team. The committee deliberates climate change and other ESG-related issues, as well as implementation of policies and visions, and important measures to take. This also confirms and reviews measures taken by each business division and subsidiary, thereby overseeing climate change and other issues faced by society.

### 2. Strategy

Sharp pursues environmental activities based on the *SHARP Eco Vision 2050*, our long-term environmental vision formulated to achieve a sustainable global environment. Sharp is engaged in measures related to climate change to achieve our new medium-term environmental targets<sup>\*2</sup> by the year 2035.

To enhance resilience for an uncertain future related to climate change, we identified climate-related risks and opportunities based on multiple scenarios, including the SSP1-1.9 scenario<sup>\*3</sup> and the SSP5-8.5 scenario<sup>\*4</sup> of the IPCC 6<sup>th</sup> Assessment Report. The details of each risk and opportunity, as well as measures to address them, are summarized on the following page.

### 3. Risk management

Based on the Business Risk Management Guidelines which defines the basic concept of business risk management, Sharp manages and assesses risks, including climate-related risks, in an integrated manner. We identify high-probability climate risks by analyzing projected future climate scenarios. We report the details of analysis to the Internal Control Planning Division (secretariat of the Risk Management Office) and senior management as necessary. Measures for improvement are discussed among the related departments.

### 4. Indicators/targets

Sharp has set corporate targets for fiscal 2031 in order to promote the reductions of CO<sub>2</sub> emissions throughout the supply chain. In January 2020, the Science Based Targets (SBT) Initiatives certified our targets as science-based and in compliance with the Paris Agreement. We aim to reduce both CO<sub>2</sub> emissions from business activities (Scope 1 and 2) and indirect CO<sub>2</sub> emissions from non-business activities (Scope 3) by 33% compared with fiscal 2018.

In June 2022, we announced our target to reduce CO<sub>2</sub> emissions by 60%<sup>\*5</sup> by 2035. This target is in compliance with the SBT 1.5°C target and reflects a 4.2% per year reduction in CO<sub>2</sub> emissions. We have also set an intermediate target of a 16.8% reduction<sup>\*5</sup> by the year 2025.

\*1 See P.9.

\*2 See P.3, Contribute to carbon neutrality.

\*3 Scenario by which temperature increase remains below 1.5°C under sustainable development

\*4 Maximum emissions under fossil fuel dependent development with no climate policy

\*5 Compared with fiscal 2021. Includes post-2021 emissions of Sakai Display Products Corporation (SDP), which became a wholly owned subsidiary in June 2022.

### SBT Progress (FY2021 Results)

Category	Base year (FY2018 results)	FY2031 targets (33% reduction over FY2018)	FY2021 results	Vs. base year
Scope 1+2	1,077 thousand tons CO <sub>2</sub>	722 thousand tons CO <sub>2</sub>	985 thousand tons CO <sub>2</sub>	9% reduction
Scope 3 (Category 11)	27,489 thousand tons CO <sub>2</sub>	18,418 thousand tons CO <sub>2</sub>	28,010 thousand tons CO <sub>2</sub>	2% increase

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## Disclosure of Information Regarding Climate Change

### Sharp Risks and Opportunities

	1.5°C scenario SSP1-1.9						4°C scenario SSP5-8.5		
Analysis results	A large number of countries, whether advanced, emerging, or developing, are introducing more ambitious emission control regulations, which significantly restrict production methods, etc. Prices for conventional electricity, including thermal energy, etc., will skyrocket. At the same time, renewable energy will begin to be less expensive than conventional sources due to policy incentives.						Global efforts to decarbonize are progressing slowly in advanced countries, and the same can be said for developing countries. Extreme weather events will occur more frequently around the world. Global average sea levels are expected to rise by more than 1 meter, and urban infrastructure and logistics systems will be significantly less efficient as a result of environmental changes.		
Climate change related drivers	The introduction of carbon pricing and other policies to curb greenhouse gas emissions	Renewable energy becoming the main source of power	Shifts in consumer purchasing behavior toward socially and environmentally conscious products	Demands from the supply chain to reduce greenhouse gas emissions	Increased energy costs	Accelerated adoption of and stricter energy-saving regulations for products in many countries	A decrease in water consumption due to melting glaciers, etc., as well as frequent flooding	Increased frequency of heat stroke due to extreme weather in many regions, resulting in death and illness	Infrastructure damage due to rising sea levels, which will destabilize logistics networks
Business risks	<b>Transition risk (Policy)</b> Burden of new carbon taxes based on greenhouse gas emissions	<b>Transition risk (Technology)</b> Increased costs of renewable energy installations	<b>Transition risk (Reputation)</b> Increased capital investment and research costs to respond to greenhouse gas reduction demands from customers	<b>Transition risk (Market)</b> Increased costs due to environmental response demands from climate change-conscious customers	<b>Transition risk (Market)</b> Increased production and operating costs when using conventional energy	<b>Transition risk (Regulatory)</b> Low achievement of standards will result in sales stoppages and no or reduced sales growth for products and services	<b>Physical risk (Acute)</b> Shutdown of production plants due to drought or flooding	<b>Physical risk (Acute and chronic)</b> Suspension of production plant operations due to impact on employee health	<b>Physical risk (Chronic)</b> Disruption of parts supply from suppliers, resulting in increased costs of doing business in connection with recovery costs and delivery delays
Time horizon	Short to Long Term	Short to Medium Term	Medium to Long Term	Short to Medium Term	Short to Long Term	Short to Long Term	Medium to Long Term	Short to Medium Term	Medium to Long Term
Business opportunities	<b>Resource efficiency</b> Gain a competitive advantage by reducing tax expenditures through carbon tax savings	<b>Products/services</b> Expand sales of solar power generation systems to companies seeking to switch energy sources	<b>Products/services</b> Increase customer base by offering environmentally friendly products	<b>Markets</b> Gain competitive advantage by responding quickly to customer requests	<b>Energy</b> Expand sales of solar power generation systems to companies seeking to switch energy sources	<b>Resilience</b> Increased sales opportunities for products that contribute to decarbonized societies (energy-saving products)	<b>Products/services</b> Increased sales opportunities for products with water-saving functions	<b>Products/services</b> Increased demand for air conditioning equipment due to global warming	<b>Resilience</b> Securing competitive advantage by strengthening the supply chain
Main measures to address risks and opportunities	Systematic reduction of greenhouse gas emissions through science-based reduction targets	Continued long-term investment in solar power generation technologies and consideration of expanded use of solar energy in electric vehicles and other applications	Require and support greenhouse gas reductions upstream in the supply chain	Reinforce greenhouse gas emission reduction systems across the organization	Pursue investments in environmental facilities by adopting a carbon pricing system; actively purchase and use advanced power generation equipment produced in-house	Standardize environmentally friendly product design through a team dedicated to understanding changes in environmental regulations in each country	Introduce water recycling systems at production plants and develop products with water-saving functions	Implement measures in accordance with business risk management rules	Plan, maintain, and improve the Sharp Group Business Continuity Plan