



Q4

What actions are you taking for carbon neutrality?

A Rather than trying to commercialize through our independent efforts, we will consider a variety of options, including open innovation, alliances, and licensing out in order to provide the best solutions for carbon neutrality as quickly as possible.

48 Green Transformation (GX)

Green Transformation (GX)

Message from the Head of
the Sustainability Strategy Planning
Department

“To contribute to life and living for people around the world,
we are taking on the challenge of Green Transformation (GX)”



Tatsuhiko
Tokunaga
Executive Officer
Senior General Manager,
Sustainability Strategy
Planning Department

GX means contributing to life and living for people

In April 2024, the European Court of Human Rights ruled that the Swiss government’s failure to respond appropriately to the climate crisis constituted a violation of human rights. As symbolized by this ruling, people around the world are directly or indirectly affected by climate change and abnormal weather such as record heat waves, heavy rains, and droughts. For Asahi Kasei, having a Group Mission of contributing to life and living for people around the world, GX is an important issue that must be tackled head-on.

Our diverse technologies and businesses offer a wide range of possibilities for contributing to GX. We will pursue our own growth while providing those

possibilities to the world. As we organize and disclose the impact of climate change on the running of our business within the TCFD framework, the “10 Growth Gears” (GG10) businesses set out in our medium-term management plan (MTP) will work to create opportunities for adapting to and mitigating climate change. Notably, we will pursue business opportunities in the Material sector and the Homes sector. Meanwhile, in research and development, we have adopted transitioning to carbon neutrality and a circular economy as critical subjects, and we aim to create innovative technologies and solutions.

Combining diverse technologies and human resources to create new value

We are working to reduce our own GHG emissions (Scope 1 and Scope 2), with the aim of achieving carbon neutrality by 2050. At the same time, by leveraging a variety of technologies and businesses, we aim to reduce GHG emissions, including Scope 3, throughout our entire value chain, thereby contributing to the reduction of GHG emissions in society. So far, we have internally certified more than 20 products and services as Environmental Contribution Products that contribute to the reduction of society’s GHG emissions, which is a clear example of what makes us unique as Asahi Kasei. While there are many different perspectives to our various contributions, we are constantly working to maximize the value we can achieve by exploring what we can do to help people live better lives from an environmental perspective. I feel that there is a lot that Asahi Kasei can do to achieve GX.

Nevertheless, there are difficulties in the further advancement of GX given that each business has been optimized under former value conditions, and that the value chain involves capital-intensive businesses that are intertwined with other companies. Overcoming these difficulties and making changes to contribute to the transition to a sustainable society is a major issue. In some of our businesses, we are moving away from our traditional focus on selling products and toward

transitioning to a circular economy. Further, in May 2024, we announced that Asahi Kasei had begun discussions with two integrated chemical companies on a collaboration to achieve carbon neutrality for ethylene production facilities, which are essentially the starting point for organic chemical products. However, GX will not progress through reforms in our surrounding businesses alone. The entire value chain, including from upstream to downstream, and society as a whole need to share the value of GX and undergo reforms. None of these goals can be achieved overnight, but we will work swiftly to implement a variety of initiatives toward the achievement of a sustainable society.

Asahi Kasei has a culture of acceptance for taking on new challenges and change, which I attribute to its history of business portfolio transformation through the pursuit of new challenges while addressing societal issues. We will demonstrate the diversity and flexibility that is characteristic of Asahi Kasei, combine knowledge both inside and outside the company to create new value, and strive to realize two mutually reinforcing aspects of sustainability—contributing to a sustainable society and achieving sustainable growth of corporate value.

Toward a carbon neutral and sustainable world

Asahi Kasei has been working to address societal issues while expanding its business portfolio for over 100 years. Having a wide range of technologies and businesses that can contribute to the transition to carbon neutrality and a circular economy, we will provide value across various value chains, including Energy Storage, Hydrogen-Related, CO₂ Chemistry, and other GG10 businesses we are focusing on.

Becoming a key player in the hydrogen supply chain with large-scale alkaline water electrolysis systems

Since the time of Asahi Kasei's founding, we have had pioneering technology for green hydrogen production. We produced hydrogen using electricity generated at our own hydroelectric power plants and used this hydrogen in our products. We have designated Hydrogen-Related as one of our GG10 businesses, and aim to contribute to reducing global GHG emissions by supplying low-cost green hydrogen through the early commercialization of alkaline water electrolysis systems, which are considered suitable for large-scale operation.

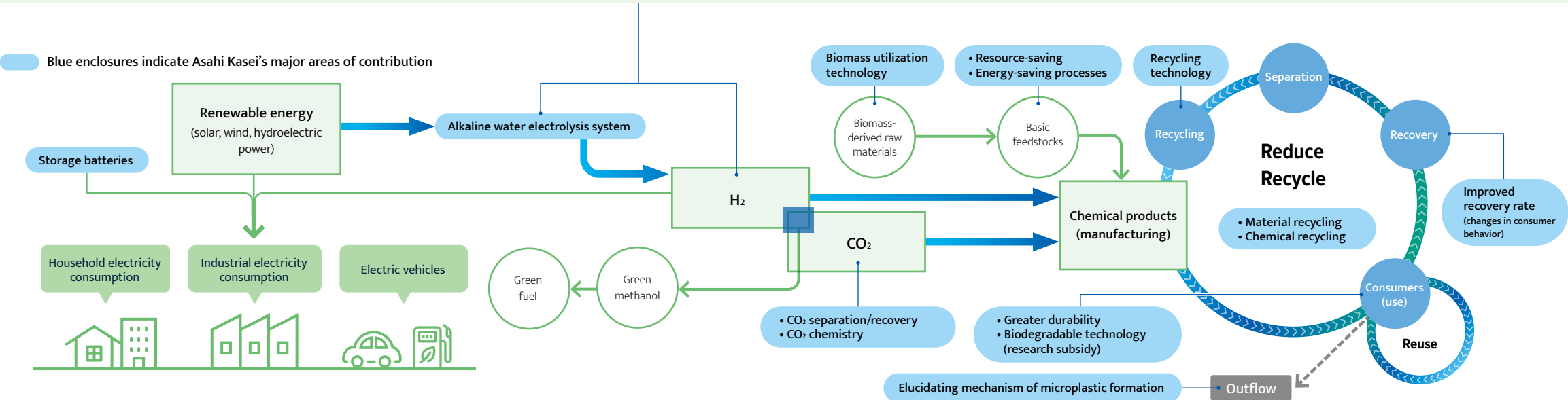


In Japan, we have been conducting trial operation of a 10 megawatt-class alkaline water electrolysis system at the Fukushima Hydrogen Energy Field of NEDO¹ since 2020, and we lead the world in long-term operation of large-scale systems. Overseas, in addition to conducting demonstration trials in Europe, we plan to construct a 60 megawatt-class alkaline water electrolyzer system in Malaysia together with Gentari and JGC Holdings Corporation to produce 8,000 tons of green hydrogen annually as part of a NEDO Green Innovation Fund

project.² The three companies signed a memorandum of understanding for the basic engineering design of the hydrogen production plant in September 2023 and aim to commence trial operation in 2027.

We have received numerous inquiries from around the world for our alkaline water electrolysis system, which we plan to commercialize in fiscal 2025, targeting sales of ¥100 billion by around 2030. We aim to play a leading role in building the hydrogen supply chain and thereby become a key player. In addition, by accumulating experience in operations and maintenance, we plan to expand beyond just selling equipment to offer solutions for highly economical operation and maintenance, including remote monitoring and predictive maintenance.

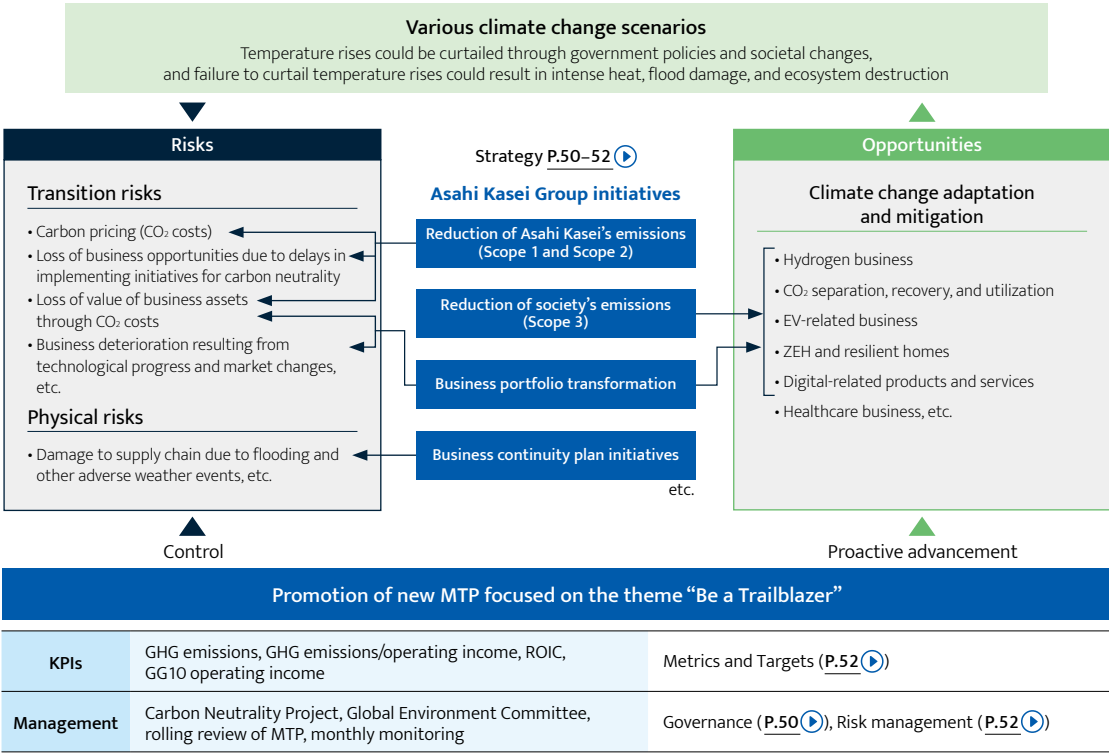
¹ New Energy and Industrial Technology Development Organization
² NEDO "Green Innovation Fund Project / Hydrogen production project by water electrolysis using electricity from renewable energy sources"



Initiatives for carbon neutrality

Climate change is a critical issue that will have a major impact on society, ecosystems, and businesses. Furthermore, actions and regulations to prevent climate change have the potential to impact the structure of society and corporate strategies. Asahi Kasei is working to transform its business portfolio and improve productivity while taking on the challenge of achieving a carbon neutral society and sustainable growth of corporate value.

Overview of the Asahi Kasei Group’s response to climate change



Climate change-related information disclosure (disclosure based on the TCFD¹ framework)

In the following sections, we describe Asahi Kasei’s climate change initiatives in accordance with the TCFD disclosure framework, covering governance, strategy, risk management, and metrics and targets.

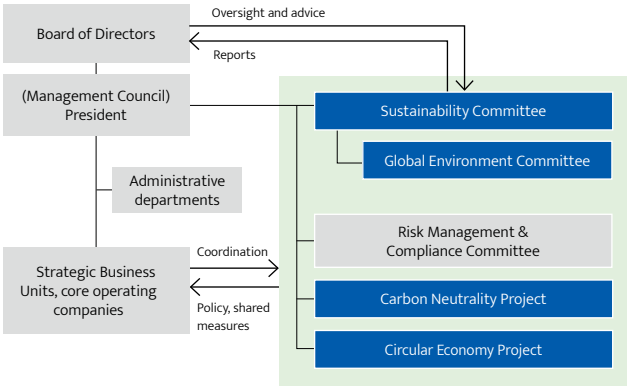
Governance

Asahi Kasei considers GX, which focuses on climate change initiatives, to be an important management issue and is working to address GX as one of the core themes of its management strategy.

Our climate change policy and priority concerns are deliberated and determined by the Board of Directors, while specific related matters are discussed and decided by business execution decision-making bodies such as the Management Council. To promote the implementation of decisions of the Board of Directors and the Management Council at the business level, we have established the Sustainability Committee, chaired by the President of Asahi Kasei, where persons responsible for the execution of each business share and discuss sustainability-related issues. The details of the discussions are reported to the Board of Directors, leading to further discussions from a company-wide perspective.

Under the direction of the Executive Officer for Green Transformation, the Carbon Neutrality Project examines scenarios and specific measures to achieve GHG emission reduction targets. The President and the Executive Officer for Strategy regularly review the course of the project and guide its further advancement.

In addition, to accelerate the transition to a circular economy, which is closely related to action on climate change, we launched the Circular Economy Project in April 2024. The project studies Asahi Kasei’s policies and path for transitioning to a circular economy.



Strategy

Based on awareness and analysis of the significant opportunities and risks associated with various climate change scenarios, Asahi Kasei is working to actively seize such opportunities in accordance with its MTP while controlling risks.

Basis of analysis

We studied the opportunities and risks associated with Asahi Kasei’s business based on two scenarios: a +1.5°C scenario in which GHG emissions are significantly curbed to rein in temperature rises (WEO, Net Zero Emissions by 2050 Scenario [NZE]²) and a +4°C scenario in which global warming countermeasures do not progress adequately (IPCC, SSP3-7.0³).

Note: Our analysis is based on a variety of assumptions. Changes to these assumptions may result in actual risks and opportunities differing significantly from the analysis.

¹ Task Force on Climate-related Financial Disclosures. The TCFD was established and its recommendations were officially announced by the Financial Services Board in 2017. It was dissolved in October 2023 and succeeded by the IFRS Sustainability Disclosure Standards.
² One of the scenarios in World Energy Outlook (WEO) 2022, prepared by the International Energy Agency (IEA). NZE is a scenario for achieving global net-zero emissions by 2050 in order to limit temperature rises to 1.5°C by 2100.
³ A scenario outlined in the IPCC Sixth Assessment Report. The Shared Socio-economic Pathway (SSP) 3-7.0 assumes a scenario whereby measures to address climate change are not adopted and temperatures rise 4°C in 2100 under development marked by regional rivalries.

Green Transformation (GX)

► Opportunities

Asahi Kasei works to contribute to life and living for people around the world. Through its various products and services, Asahi Kasei is able to create business opportunities by addressing the societal challenge of adapting to and mitigating climate change.

Asahi Kasei is promoting the transformation of its business portfolio to provide value in line with the shift toward a carbon neutral society and other such megatrends. Each of the GG10 businesses to drive future growth has opportunities related to climate change, and under our MTP we plan to adopt decisions on approximately ¥700 billion of investment in GG10 businesses

over the three years through fiscal 2024. In particular, we are focusing management resources on Energy Storage and Hydrogen-Related businesses, and anticipate investment of up to ¥300 billion over the three-year period of the MTP. Additionally, we plan to invest approximately ¥60 billion in decarbonization over the three years through fiscal 2024.

Furthermore, with the aim of engaging and collaborating on new technologies for addressing climate change and other challenges, we established the “Care for Earth” investment framework, allocating US\$100 million over the five-year period through fiscal 2027 to our corporate capital venture (CVC) activities for investment in environmental startup companies.

	Important changes	Main opportunities	Major initiatives
+ 1.5°C scenario	Transition to a carbon neutral society	<ul style="list-style-type: none">• Promotion of the spread of ZEH and ZEH-M through government policies• Expansion of demand for renewable energy• Increase in need for energy saving• Expansion in demand for carbon-free products	<ul style="list-style-type: none">• Decarbonization of homes and urban environments through the expansion of ZEH-compliant Hebel Haus™ and Hebel Maison™• Transition to carbon neutral energy• Energy saving and process innovation• Expanded use of biomass-based raw materials• Chemicals made with CO₂ as material• Expansion of Environmental Contribution Products• Promotion of carbon neutrality and improvement of product competitiveness through measurement of carbon footprints*
	Spread of electric vehicles (EVs)	<ul style="list-style-type: none">• Increase in EV-related demand (battery components, materials for reducing vehicle weight)	<ul style="list-style-type: none">• Development of materials for next-generation mobility• Strengthening of collaboration with automobile and battery manufacturers
	Advent of a hydrogen society	<ul style="list-style-type: none">• Increase in demand for water electrolysis using renewable energy	<ul style="list-style-type: none">• Development of system to manufacture green hydrogen and promotion of its commercialization
	Transition to a circular economy	<ul style="list-style-type: none">• Expansion in demand for materials and infrastructure compatible with a circular economy	<ul style="list-style-type: none">• Development of material and chemical recycling technologies and promotion of their practical application• Adoption of biomass feedstock• Provision of long-life homes
	Expansion of the digital market	<ul style="list-style-type: none">• Growth in demand for decarbonization-related digital solutions (industry and society)	<ul style="list-style-type: none">• Promotion of electronic components, such as current sensors and CO₂ sensors, and semiconductor- and substrate-related electronic materials businesses
+4°C scenario	Serious storm and flood damage	<ul style="list-style-type: none">• Increase in need for disaster-resilient housing	<ul style="list-style-type: none">• Greater emphasis on resilience in home construction and urban development, such as expansion of Hebel Haus™ and Hebel Maison™
	Rise in temperature	<ul style="list-style-type: none">• Increase in need for insulation performance	<ul style="list-style-type: none">• Provision of insulation material and homes with superior insulation performance
	Higher incidence of heatstroke and infectious diseases	<ul style="list-style-type: none">• Increased demand for existing and new pharmaceuticals and medical devices	<ul style="list-style-type: none">• Provision of Pharmaceuticals & Medical and Acute Critical Care products

* GHG emissions of a product from material extraction to production

► Risks

Under the +1.5°C scenario, we anticipate risks such as stricter regulations through carbon pricing and other central government policies, a shift in demand to products and services that are compatible with carbon neutrality, an accelerating transition to a circular economy, and changes in market structure due to the emergence of innovative technologies aimed at achieving carbon neutrality. Related risks include the potential selection of certain companies over others and damage to our reputation in society if expectations of investors or customers regarding carbon neutrality exceed our level of commitment.


Under the +4°C scenario, we primarily anticipate physical risks such as extreme heat, heavy rain, and flooding. In particular, we are aware of the risk of damage to our major manufacturing sites both in Japan and overseas due to intensifying wind and flood damage, and the associated damage costs.

We recognize that these are all risks that may emerge as climate change progresses, and we will continue to take steps to mitigate them.

Green Transformation (GX)

	Important changes	Main opportunities	Major initiatives
+1.5°C scenario	Transition to a carbon neutral society	<ul style="list-style-type: none">• Rise in costs due to stricter regulations (manufacturing and raw material costs) Estimate: Current GHG emissions (Scope 1 and Scope 2) × Carbon costs = Increase of approx. ¥48 billion per year*• Changes in materials needs (decarbonization requirements, necessary specifications)• Potential for investors and customers to choose certain companies over others, and damage to reputation, based on corporate efforts for carbon neutrality	<ul style="list-style-type: none">• Expansion in utilization of renewable energy, etc.• More efficient energy use; development and commercialization of industrial processes for decarbonization• Expanded use of biomass raw materials• Acceleration of product decarbonization by ascertaining carbon footprint• Revision of management resource allocation (including business portfolio transformation)
	Changes in market structure	<ul style="list-style-type: none">• Contraction of existing markets due to the transition to a circular economy• Contraction of existing markets due to the advance of replacement technologies	<ul style="list-style-type: none">• Development of material and chemical recycling technologies and promotion of their practical application• Adoption of biomass feedstock• Revision of management resource allocation (including business portfolio transformation)
+4°C scenario	Serious storm and flood damage	<ul style="list-style-type: none">• “Physical” production risks• Impact on production from damage to plants or suppliers	<ul style="list-style-type: none">• Continuous revision of BCP and reinforcement of preemptive response (review of inventory levels, study of multiple suppliers/sites, etc.)
	Rise in temperature	<ul style="list-style-type: none">• “Human” production risks• Deterioration of working environment and productivity at construction sites	<ul style="list-style-type: none">• Promotion of heatstroke countermeasures at construction sites• Promotion of industrialization and utilization of IT in housing construction

* In fiscal 2023, the Asahi Kasei Group's GHG emissions (Scope 1 and Scope 2) totaled 3.18 million t-CO₂e (preliminary figure). Our internal carbon pricing is set at ¥15,000/t-CO₂e emissions, based on the CO₂ price level in 2030 in WEO2023's NZE scenario.

For more detailed information, please see [Climate Change Initiatives \(Disclosure based on the TCFD Recommendations\)](#)

Risk management

The Asahi Kasei Group prioritizes the management of climate change risks, which it positions as one of its Significant Group Risks.

▶ Monitoring GHG emissions

Asahi Kasei obtains reliable performance data for Scope 1, Scope 2, and Scope 3 (major categories) every year with third-party assurance. Progress made toward achieving emission reduction targets is shared with the Sustainability Committee and its sub-committee, the Global Environment Committee, and future initiatives are discussed and confirmed.

When formulating or reviewing business plans, we check the status of GHG emission reduction efforts and link them to business strategies and measures. We also ascertain the relevant situation on a monthly basis and share that information with management.

▶ Internal carbon pricing (ICP)

To promote actions toward carbon neutrality, we use ICP to evaluate the profitability of capital investments and apply it in investment decisions. ICP is set taking into consideration carbon price forecasts of the International Energy Agency (IEA), market prices, and our own cost forecasts for advancing carbon neutrality.

Metrics and targets

The Asahi Kasei Group has positioned the following metrics as being relevant to climate change risks and opportunities.

	Targets and results	Significance of metric
GHG emissions	Target By 2030: Reduce by 30% or more (compared with fiscal 2013) By 2050: Achieve carbon neutrality Result Fiscal 2023: 3.18 million t-CO ₂ e (preliminary figure)	Indicates reduction status of Scope 1 and Scope 2
GHG emissions/ operating income	Result Fiscal 2023: 2,300 t-CO ₂ e /¥100 million	Decline signifies reduction of carbon tax risk
ROIC	Target Around 2030: Achieve ROIC of 10% or more Result Fiscal 2023: 5.9%	Increase indicates progress toward becoming high earnings enterprise capable of adapting to change
GG10 operating income (ratio)	Target Around 2030: 70% or more Result Fiscal 2021: 35%	Signifies growth of related businesses capable of contributing to addressing climate change
ICP	Make investment decisions based on ¥15,000/t-CO ₂ e and utilize in awards program	
Reflection of climate change issues in executive remuneration	Reflect the level of achievement of sustainability promotion, including initiatives related to climate change, in performance-linked remuneration	

In addition, we have set the goals of increasing the portion of sales of Environmental Contribution Products, which are products and services that contribute to reducing society's GHG emissions from the perspective of the entire value chain, and of more than doubling our contribution to GHG emission reduction by Environmental Contribution Products by 2030 compared with fiscal 2020.

Green Transformation (GX)

Contributing to reductions in society’s GHG emissions

Our diverse technologies and businesses have wide-ranging potential for contributing to the reduction of society’s GHG emissions. We are committed to creating technologies and developing products that contribute to GHG emission reduction throughout the entire value chain, thereby providing new value to society.

Targets

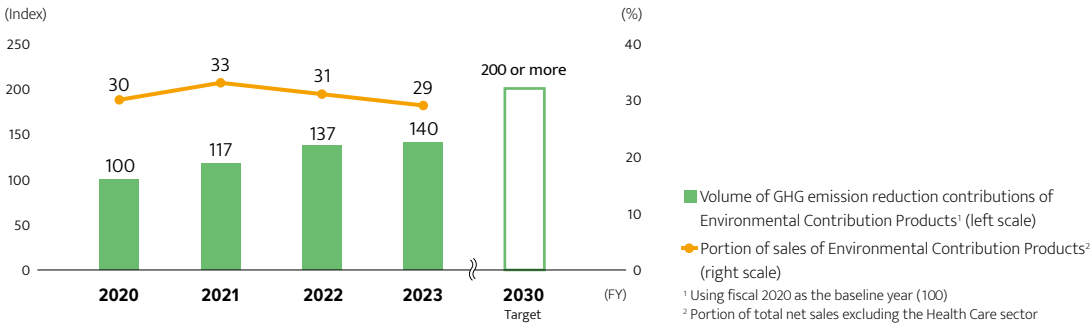
We have two targets for achieving both environmental contribution and sustainable business growth. The first is to more than double the volume of GHG emission reduction contribution by Environmental Contribution Products by 2030 compared with fiscal 2020, and the second is to increase the portion of sales of Environmental Contribution Products. We quantitatively ascertain the progress towards our targets and are advancing with initiatives.

Results and initiatives

To date, a total of 25 products and technologies have been certified as Environmental Contribution Products. Their contribution to reduced GHG emissions has risen to 1.4 times the fiscal 2020 level, and their sales have reached 29% of total sales. We will continue to further expand environmental contributions through our business, including by placing even greater emphasis on environmental contribution in our research and development.

Targets and results

GHG emission reduction contributions through Environmental Contribution Products

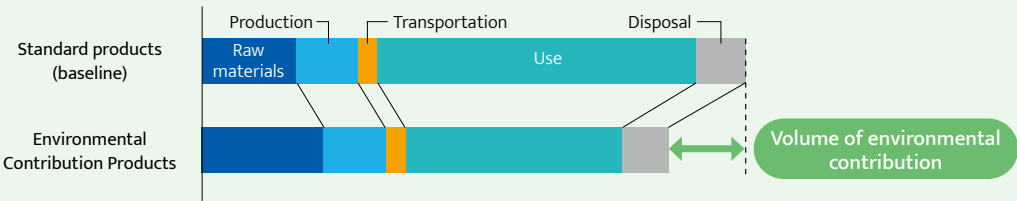


Note:
GHG emission reduction contribution in fiscal 2023 was approximately 18 million tons.
Baseline setting and methodology for contribution rates included in calculations for individual products are considered to be appropriate for each individual product. Therefore, a simple aggregate of each product's total contribution or a comparison between companies may not necessarily be the most reasonable means of calculation.

About Environmental Contribution Products

Environmental Contribution Products are products and technologies that have been internally certified as contributing to environmental improvement and reducing environmental impact throughout their entire life cycle. When conducting the certification process, we receive advice from external experts on the validity of our calculation methods for, and definitions of, environmental contributions and confirm their rationality.

Conceptual diagram of Environmental Contribution Products and the volume of their environmental contribution



Volume of environmental contribution

Our calculation and certification of the volume of environmental contribution from our Environmental Contribution Products is based on our own original guidelines which take into consideration guidelines such as those published by the Institute of Life Cycle Assessment, the Japan Chemical Industry Association, the Ministry of Economy, Trade and Industry, and the World Business Council for Sustainable Development (WBCSD). We ensure the rationality of our definitions of the environmental contribution of individual products by having them reviewed by external experts. Further, reviews from academic perspectives have led to improvements in employee knowledge regarding environmental contributions and employee understanding of the promotion of environmental contribution businesses.

Asahi Kasei recognizes reduced environmental impact value and is actively participating in the GX League³ initiative to establish related standards. We participated as one of the founding companies in the Green Product Value-Added Study Working Group, which published “Proposal on Adding Value to Green Products.”

³ GX League is a framework that brings together companies taking on the challenge of economic and societal reform to achieve carbon neutrality by 2050 to lead GX through dialogue and the formulation of rules.

Green Transformation (GX)

Environmental Contribution Products and key points of their environmental contribution

	Environmental Contribution Products	Key points of environmental contribution
Production processes	Acrylonitrile production process	High yield (catalyst)
	Cyclohexanol production process	High yield
	Adipic acid production process	High efficiency in N ₂ O decomposition
	Polycarbonate production process	Use of CO ₂ as raw material
	Dimethyl carbonate production process	
Weight reduction	Xyron™ modified-polyphenylene ether (mPPE) resin for battery components	Lightweight battery case for HEVs
Longer service life	Elastomer for asphalt modification	Improved road durability
	Hebel Haus™ unit homes Hebel Maison™ apartment buildings	Usable for 60 to 100 years / ZEH, energy-saving
Energy-saving	Ion-exchange membrane process for chlor-alkali electrolysis	Low power consumption in electrolysis
	CO ₂ sensors	Reduction of unnecessary ventilation
	Hipore™ and Celgard™ lithium-ion battery separators	Essential for electric vehicle lithium-ion batteries
	Solution-polymerized styrene-butadiene rubber (S-SBR) for fuel-efficient tire tread	Improved tire rolling performance
	UVC LED for water sterilization	Energy-saving (mercury free processes)
	Hall elements and Hall ICs (for residential air conditioners)	Energy-saving through conversion to inverter motors
	Current sensors (for commercial air conditioners)	
Resource-saving	Temperature compensated crystal oscillator (TCXO) ICs for telecom base stations	Reduced power consumption via non-use of heaters
	Neoma Foam™ insulation panel	Fewer resources required for equivalent insulation performance
	Asaclean™ purging compound for molding machines	Resource saving in purging of molding machines
	Microza™ hollow-fiber filtration membranes	Resource-saving high membrane durability
	Xyron™ modified-polyphenylene ether (mPPE) resin solar cell connector material	Reduction in number of modules and amount of resin used by withstanding high voltage
	AWP™ photosensitive resin for flexographic printing plates	Highest printing quality and productivity, zero use of solvents
	Dinamica™ artificial suede	Increased use of recycled PET and reduced use of solvents (dimethylformamide)
	Duranol™ polycarbonatediol for soft-feel coatings	Reduction in solvent (butyl acetate) usage
	Low-viscosity grade Duranate™ curing agent for polyurethane coatings	Reduction in solvent usage by paint manufacturers
	Ecoloop™ OPS film	Higher rate of recycled material usage

Example of calculation of GHG emission reduction contribution

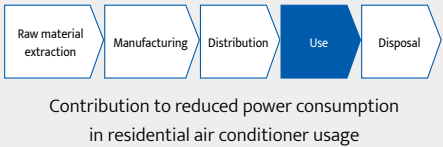
Hall elements and Hall ICs for air conditioners

About Hall elements and Hall ICs

Hall elements and Hall ICs are sensors that detect magnetism using the principle known as the Hall effect.* Although extremely small, the components are characterized by the precision with which they are able to detect magnetic fields, and they are used in everyday products such as air conditioners, washing machines, and smartphones.

* The Hall effect is a conduction phenomenon which occurs when a magnetic field is applied perpendicular to the electric current of a material (such as a semiconductor) and an electromotive force emerges in a direction perpendicular to both the current and the magnetic field.

Stage of contribution during the product life cycle

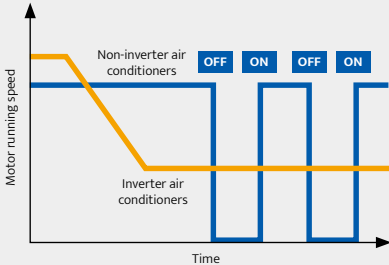


Uses and reasons for contribution

Energy-saving residential air conditioners

Hall elements and Hall ICs are essential for controlling brushless DC motors and inverters (for energy-saving operation) in air conditioners, and contribute to higher efficiency, improved control, and reduced size.

Brushless DC motors are free from the wear and friction noise that are drawbacks of conventional brushed DC motors. Also, they are quieter and have a longer service life. Air conditioners that are capable of motor inverter control run the motor at high speed until the set temperature is reached and then adjust the motor to a lower speed. This significantly reduces power consumption compared to non-inverter air conditioners, which maintain the set temperature by simply turning the motor on and off.



Calculation method

Annual operating time
(hours/year)

×

Amount of power consumption reduction per hour
(power consumption of control group – power consumption of assessment group)

×

Electricity CO₂ emission factor

×

Contribution rate of Hall elements and Hall ICs

×

Air conditioner sales volume

×

Years of use

=

Approximately 500,000 t-CO₂

Assumptions
Control Group: Non-inverter induction motor air conditioner
Contribution rate: Percentage of Hall elements and Hall ICs in cost of major components in residential air conditioners
Sales volume: Estimate based on sales volume of Asahi Kasei products
Years of use: Number of years of use of air conditioners (13.7 years: Cabinet Office Consumer Confidence Survey Results [2022])

Green Transformation (GX)

Reducing our own GHG emissions

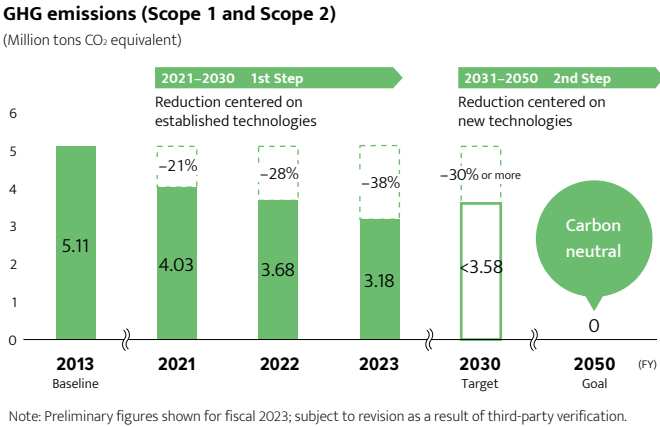
As part of our effort to become carbon neutral, we are working to reduce GHG emissions in our business activities. For the period up to 2030, which we have positioned as the first step, we are focusing on reducing emissions using established technologies. This initiative involves two approaches: reductions across the entire Asahi Kasei Group and reductions on a product-by-product basis through carbon footprint of products (CFP) calculations, and other such means.

Targets

Targeting Scope 1 (direct GHG emissions by the company) and Scope 2 (indirect GHG emissions associated with the use of electricity, heat, and steam supplied by other companies), we have adopted the goals of reducing emissions by more than 30% compared with fiscal 2013 by 2030 and achieving carbon neutrality (net zero emissions) by 2050. In addition, for fiscal 2023, we decided on new domestic GHG emission reduction targets in accordance with the GX League framework and new targets for the non-fossil ratio of electricity under the Revised Energy Conservation Act of Japan.

Results and initiatives

In fiscal 2023, Asahi Kasei reduced GHG emissions by 38% compared with fiscal 2013 thanks to progress in various energy-related measures, fluctuations in production volumes, and other factors. The Executive Officer for Green Transformation and the Carbon Neutrality Project are overseeing efforts of the entire Asahi Kasei Group and are studying specific measures to reduce GHG emissions as well as scenarios for achieving our 2030 and 2050 targets.

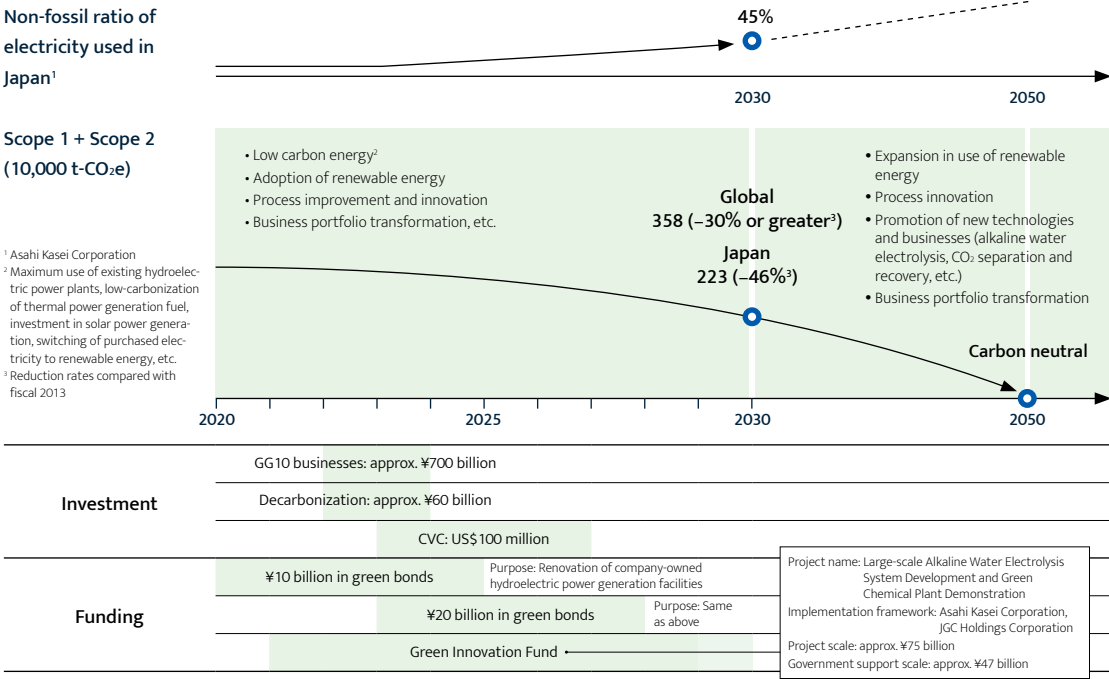


Activities for achieving carbon neutrality

The achievement of carbon neutrality by 2050 is a major challenge for Asahi Kasei. In this endeavor, we recognize the essential need not only for steady energy conservation activities and ongoing efforts to reduce GHG emissions but also for fundamental technological innovation and changes in business models.

In fiscal 2024, we will continue to look into every possible GHG emission reduction measure and study specific measures and reduction scenarios from various perspectives, including low-carbon and decarbonized energy as well as efficiency gains and innovation in production processes. With regard to our petrochemical chain-related businesses, we will work with other companies to study options such as raw material conversion as a means toward achieving future decarbonization.

Roadmap to achieving carbon neutrality



Utilization of renewable energy

Asahi Kasei owns nine hydroelectric power plants, mainly in Miyazaki Prefecture, which cover a portion of our electricity consumption. Using green bond financing, we are gradually proceeding with construction to upgrade and raise the efficiency of our hydroelectric power generation facilities for long-term use.

Asahi Kasei Homes installs and leases solar power generation equipment on the roofs of its Hebel Maison™ apartment buildings, and the electricity generated and purchased from customers is used at manufacturing plants, Asahi Kasei Corporation headquarters, and other facilities. At our plants both in Japan and overseas, we are also working to reduce GHG emissions by utilizing certificates and credits for purchased electricity.

Implementation of CFP calculations

Asahi Kasei is implementing carbon footprint of products (CFP) calculations with the aim of achieving carbon neutrality and meeting the requirements of our business counterparties. We conduct calculations in each business unit in the Material sector, and we are introducing a newly developed group-standard CFP calculation system to improve the efficiency of those calculations. Going forward, we plan to utilize data obtained through this new system when studying measures to reduce group-wide GHG emissions, with a view to linking the new CFP calculation system with our core systems.

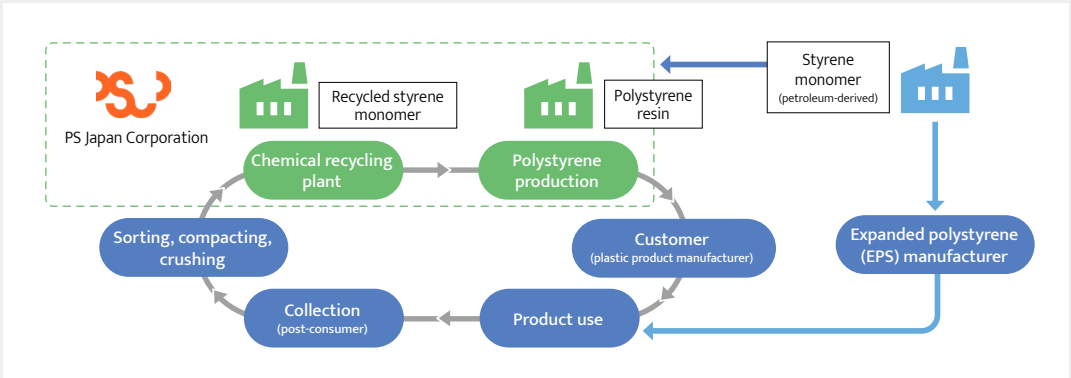
Initiatives for transitioning to a circular economy

Transitioning to a circular economy is essential to the achievement of a sustainable society. A circular economy, which makes sustainable use of limited resources, is also important because it leads to reduced GHG emissions. Asahi Kasei is working on projects such as recycling used plastics, using biomass raw materials, and improving the service life and recyclability of products.

Example initiatives

Verification trials for chemical recycling of polystyrene

Polystyrene is used in food trays and other such products and is one of the most widely used plastics the world over. PS Japan, a polystyrene manufacturer and a subsidiary of Asahi Kasei, commenced operations in 2023 at a chemical recycling demonstration facility to convert used polystyrene back into styrene monomer. The recycled polystyrene can even be used in food contact applications, which have strict product safety requirements, thus making a significant contribution to the promotion of recycling. We plan to move from verification trials at the facility to practical application, thereby achieving waste reduction and effective use of resources.



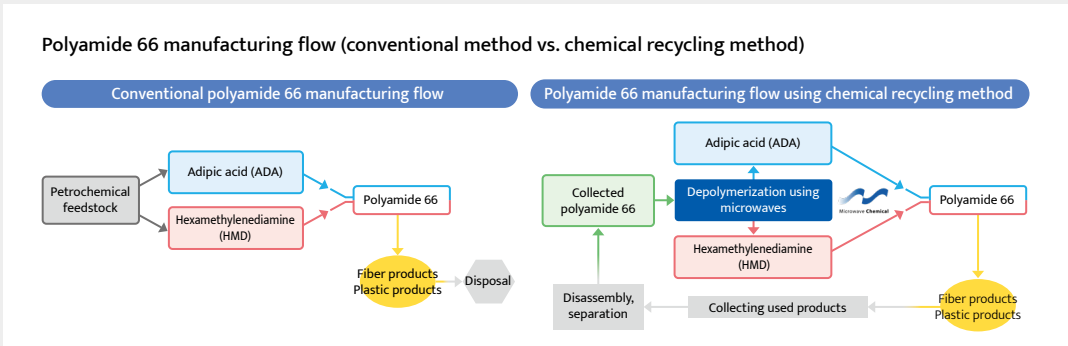
Challenges and future initiatives

Asahi Kasei has long been committed to undertaking environmentally conscious manufacturing. However, as society increasingly expects a shift toward the realization of a circular economy, as illustrated by the European Union's Green Deal policy, we view this as a challenge that we must address and we are more proactive than ever before in our efforts to advance the circular economy.

In April 2024, we launched the new company-wide Circular Economy Project. This project oversees the individual projects being undertaken in each business as well as technological developments, working to raise the level of efforts group-wide toward the transition to a circular economy.

Verification trials for chemical recycling of polyamide 66 from scrapped vehicles

In July 2023, the European Commission announced a new regulation for end-of-life vehicles (ELVs), which would require that at least 25% of plastic used to produce a new vehicle to be recycled, of which 25% must come from ELVs. These new requirements are symbolic of the growing need for automobiles that have a low environmental impact, from design and production to disposal and recovery, and that are highly recyclable. In light of this, Asahi Kasei, in collaboration with Microwave Chemical Co., Ltd., has begun verification trials toward the practical application of a chemical recycling process that uses microwave technology to depolymerize post-use waste material of polyamide 66 for airbags and automobile parts. This technology has the potential to achieve polymer monomerization using less energy, as well as potential as a recycling technology that reduces GHG emissions.



Note: Chemical recycling is the process of chemical decomposition of waste plastic (polymers) to turning it back into substances (monomers) that can be used as raw materials to produce new plastic. Chemical recycling allows the consumption of limited resources to be reduced.