

Addressing Climate Change (Carbon Neutrality)

In May 2021, the UBE Group declared its commitment to becoming carbon neutral by 2050. In April 2022, we embarked on a quest to halve our fiscal 2013 GHG emission levels by fiscal 2030. At the same time, we set the sales target of environmentally friendly products and technologies to account for at least 60% of consolidated net sales by fiscal 2030.

We will achieve these targets by accelerating business structure reforms to drive growth in specialty chemicals. At the same time, we will work hard to contribute to the realization of a sustainable society including helping materialize carbon neutrality, by capitalizing on opportunities to resolve environmental issues.

Futoshi Takase
Senior Executive Officer
with responsibility for Environment & Safety Dept.,
Quality Assurance Dept., Purchasing &
Logistics Dept. and Ube Corporate Service Dept.



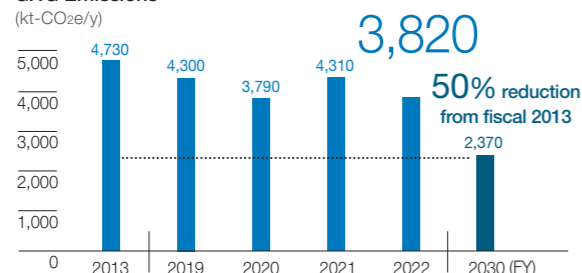
Fiscal 2030 Targets

GHG emissions reduction target: **50% reduction compared to FY2013**

Target percentage of consolidated net sales comprising environmentally friendly products and technologies: **60% or more**

Initiatives to Reduce GHG Emissions

Progress toward GHG Emissions Reduction Targets*
GHG Emissions
(kt-CO₂e/y)

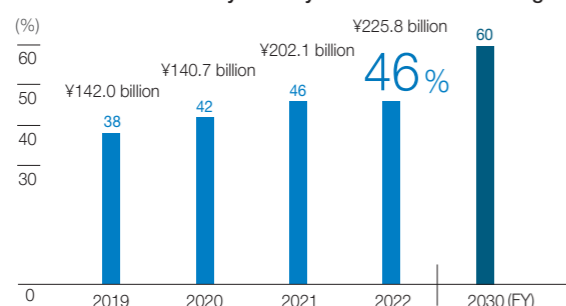


GHG Emissions in Fiscal 2022

Business sites	kt-CO ₂ e/y		
	Scope 1	Scope 2	Total
Chemicals business	3,230	400	3,630
Japan	2,360	110	2,470
Thailand	600	280	880
Spain	270	10*2	280
UBE Machinery Group	170	20	190
Total	3,400	420	3,820

Note: Numbers may not add up due to rounding.

Sales of Environmentally Friendly Products and Technologies*1



*1 Excluding cement-related business transferred to Mitsubishi UBE Cement Corporation.

*2 Electricity purchased from external sources was renewables based.

Roadmap for Carbon Neutrality

GHG Emissions Reduction Targets

We will continuously promote energy conservation and improve processes in our production activities, and promote the maximization of the use of renewable energy and the minimization of the use of fossil resources. Furthermore, since innovative technological development is essential to achieve carbon neutrality by 2050, we will work on research and development and practical application of non-fossilization of raw materials and CO₂ utilization technologies, including collaboration with other companies, from a medium- to long-term perspective.

Environmentally Friendly Products and Technologies

By promoting the development of environmentally friendly products and technologies and providing them to more customers, we aim to contribute to carbon neutrality for the UBE Group and society as a whole.

Estimated Contributions to GHG Emissions Reductions of Environmentally Friendly Products and Technologies
Fiscal 2021: Approx. 11,800 kt-CO₂e/y

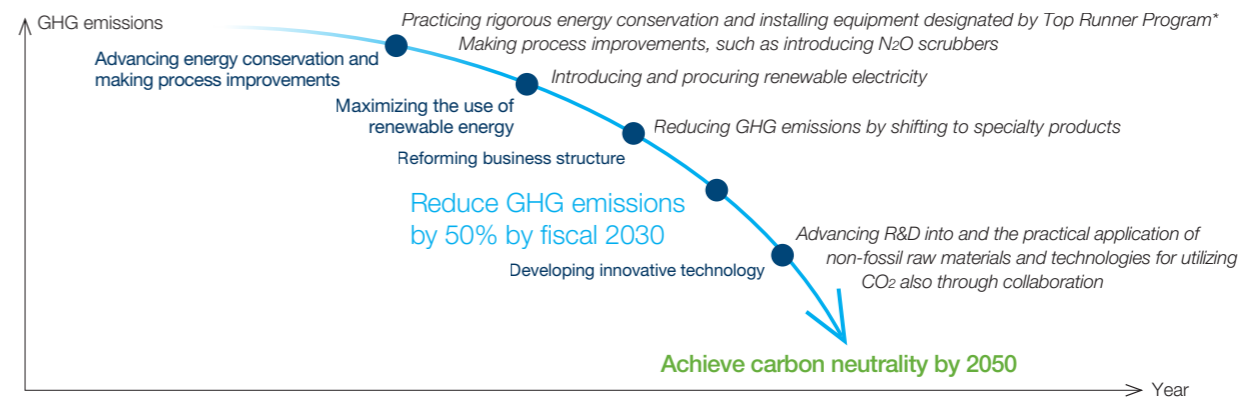
Note: Calculations based on the UBE Group's market shares and sales volumes of environmentally friendly products based on CO₂ reductions in usage stages compared with conventional counterparts for end products incorporating UBE Group environmentally friendly products (based on CO₂ reductions for one year of use based on volumes of end products used during fiscal 2021).

We formulated guidelines based on ISO 14001: 2015 to define environmentally friendly products and technologies.

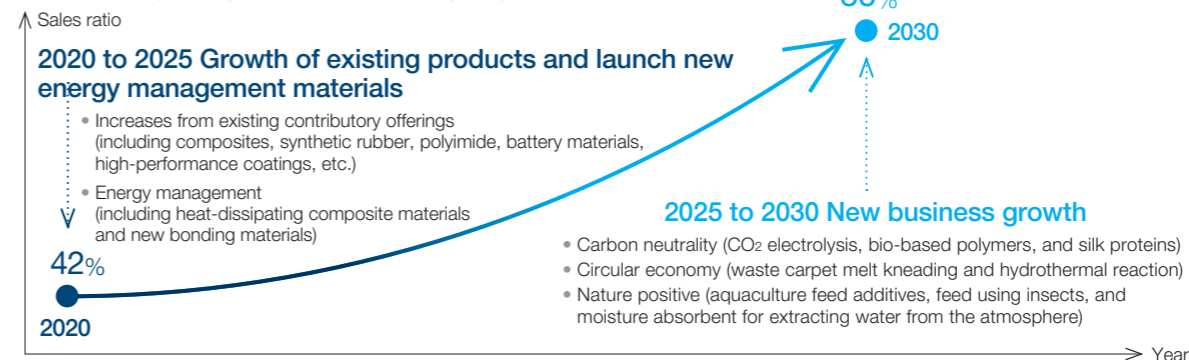
Business Restructuring

Shifting to specialty chemicals should lower GHG emissions by minimizing fossil resource usage and creating a business structure that is significantly less vulnerable to market conditions, including for raw materials and fuels. We aim to establish a business structure that minimally affects the environment, focused on specialty chemicals, from profitability and growth potential perspectives. We will also add value to basic chemicals products and restructure these businesses.

Roadmap for carbon neutrality



Timeline for generating more than 60% of consolidated net sales from environmentally friendly products and technologies by fiscal 2030



We aim to halt domestic ammonia production by 2030, whose processes generate high GHG emissions. We also look to shut down key manufacturing lines for caprolactam production in Japan by fiscal 2024 in view of the high energy consumption in processes and poor prospects for improving profitability in the medium through long terms.

Such business structure reforms should enable us to reach our goal of cutting GHG emissions by 50% by 2030.

Fiscal 2022 Initiatives

Commitment Letter Submitted to Science Based Targets Initiative

In March 2023, the UBE Group submitted a commitment letter to the Science Based Targets initiative. We made this move to secure certification from that body for our targets for reducing GHG emissions across our supply chain over the next five to 10 years in keeping with the criteria of the Paris Agreement, an international treaty on climate change. We made this move in view of growing interest in environmental protection and sustainability in recent years. Our efforts to reduce our environmental impact extend beyond in-house operations to encompass our whole supply chain, from raw materials procurement through product use and disposal.

Glossary

* Under the Energy Conservation Act, Japan deployed the Top Runner Program designating equipment and facilities that deliver outstanding energy efficiency.

Deploying System to Calculate Product GHG Emissions Data

UBE and NTT DATA Japan Corporation jointly created a system to calculate product GHG emissions. In January 2023, we began providing data from that system to customers. This information makes it easy for customers to assess GHG emissions across their supply and value chains and contribute to efficiently implement measures to reduce these emissions.

We are using this system for some Ube Chemical Factory offerings, and look to extend its product and plant coverage.

Participating in GX League's Emissions Trading Scheme

In October 2022, we announced our endorsement of the GX (for green transformation) League. Japan's Ministry of Economy, Trade and Industry leads that initiative, which aims to reach the nation's GHG emissions goals by 2030 and achieve carbon neutrality by 2050. We also announced our participation in the league's voluntary emissions trading schemes, which will be fully operational from 2026. We consider our involvement in the league an opportunity to grow sustainably by reducing our GHG emissions while becoming more competitive.

Disclosure Based on TCFD Recommendations

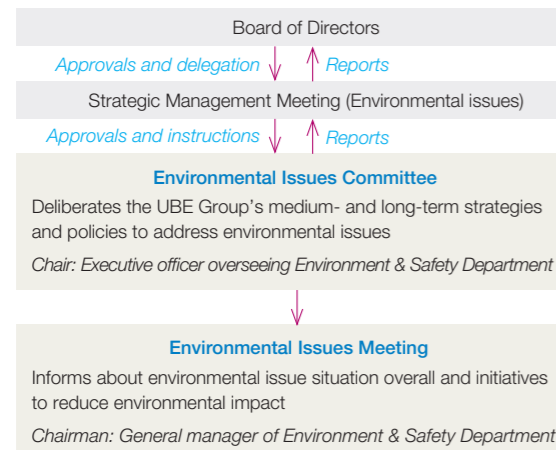
We endorse the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We established a governance structure, and are evaluating the risks and opportunities of climate change on our operations. We are reflecting this information in our business strategies and disclosing it externally.



Governance Structure

The UBE Group established the Environmental Issues Committee to identify and act on problems in that regard. The President and CEO chairs the

Environmental Issues Governance Structure



Strategic Management Meeting, which receives deliberation reports from the Environmental Issues Committee, provides instructions as needed, and constantly monitors countermeasures progress. A report on important matters goes to the Board of Directors once annually.

Strategies

In view of efforts to tackle climate change and transition to a low-carbon, decarbonized economy, management assessed a range of scenarios for 2030 and beyond, analyzed risks and opportunities for the UBE Group under each scenario, and formulated the required strategies. The scenarios covered all business units, including for the cement-related business, although the assessment findings stated below exclude information relating to the cement-related business.

For each scenario, we confirmed that while the impacts of risks are unavoidable, we can sustainably enhance corporate value by capitalizing on the opportunities that stem from risks materializing.

● Analysis Assumptions, Details for Scenarios and Assessment Steps

Detailed information is available in the Support for TCFD Recommendations section of the UBE Group's website: <https://www.ube.co.jp/ube/en/sustainability/csr/initiatives/tcfid.html>

Risk Management

We maintain a risk management system, for which the Risk Management Department serves as the secretariat, to register and centrally oversee risks. We identify pertinent risks for each division and business unit, classifying them as major, medium, and minor in line with their risk impacts. We define major risks as having financial impacts of at least ¥1 billion. The Strategic Management Meeting discusses major business risks, reflecting them in specific strategies and measures.

We registered and manage our climate change countermeasures in our risk management system. The Environmental Issues Committee, whose chair is the executive officer in charge of the Environment & Safety Department, is a Companywide entity. The committee formulates and implements measures and policies to address climate change-related risks that it has identified for the UBE Group overall.

Detailed information is available in the Risk Management section of the UBE Group's website: https://www.ube.co.jp/ube/en/sustainability/risk-management/risk-management.html#person_in_charge

Benchmarks and Targets

In April 2022, we reviewed and formulated our fiscal 2030 targets for tackling environmental issues, as shown on the right.

GHG emissions: Reduce by 50% from fiscal 2013 level

Environmentally friendly products and technologies as a percentage of consolidated net sales: At least 60%

Data scope: Scope 1 and Scope 2 on a consolidated basis for designated energy management companies and key overseas businesses (in Thailand and Spain).

Detailed information is available in the Global Environmental Issues section of the UBE Group's website: <https://www.ube.co.jp/ube/en/sustainability/rc/environment/issues.html>

We look to reach these GHG emissions reduction goals by halting ammonia production in Japan by 2030 and by transitioning to specialty chemicals.

Our fiscal 2022 GHG emissions were 3.82 million tonnes. This was 19% below the level of fiscal 2013, and reflected energy-saving and other initiatives.

Sales related to environmentally friendly products and technologies rose in fiscal 2022. At the same time, overall sales increased on higher prices. These products and technologies thus again represented 46% of net sales.

Scenario Analysis

Risk categories	Business risks	Impacts	Potential impacts	Strategies and responses	Period of impact	Related pages		
Risks	Transition	Greater costs and impacts on product prices from adoption of carbon pricing	Operations	Major	<ul style="list-style-type: none"> Rigorously conserve energy and improve processes Maximize renewable energy usage Restructure businesses, including by shifting to specialty chemicals Innovate technologies 	Short to long terms	Pages 24–35 Growth Strategies Pages 36–39 R&D	
	Transition	Adverse situation for coal-fired private power generation	Operations	Major	<ul style="list-style-type: none"> Explore phased coal-fired private power shutdowns 	Medium to long terms		
	Transition	Requests to expand renewable energy deployments	Products	Major	<ul style="list-style-type: none"> Produce and procure renewable electricity 	Medium to long terms		
	Transition	Customers requesting disclosure of GHG emissions intensity by product and lower emissions	Products	Major	<ul style="list-style-type: none"> Rigorously conserve energy and improve processes Maximize renewable energy usage Use non-fossil-based fuels (including biomass and from recycled materials) 	Short to long terms		
	Transition	Product sales falling from shift to EVs and less coal-fired power production	Products	Major	<ul style="list-style-type: none"> Undertake in-house and collaborative R&D to create and commercialize offerings that match market needs 	Short to long terms	Pages 36–39 R&D	
	Physical	Shutdowns from more frequent and larger climate-related disasters	Operations	Major	<ul style="list-style-type: none"> Step up infrastructural and other disaster countermeasures 	Short to long terms		
	Opportunities	Transition	Boost sales of environmentally friendly products and technologies across the supply chain	Products	Major	<ul style="list-style-type: none"> Offer more environmentally friendly products, including composites, synthetic rubber, polyimide, battery materials, and high-performance coatings Launch energy management materials, including heat-dissipating composite and radiative cooling materials 	Short to long terms	Pages 24–35 Growth Strategies Pages 36–39 R&D
		Transition				<ul style="list-style-type: none"> Develop and commercially deploy carbon-neutral technologies (CO₂ electrolysis, bio-based polymers, and silk proteins), electrified and fuel cell vehicle-related materials, and high-speed, high-capacity information transmission materials 	Medium to long terms	Pages 36–39 R&D
Transition		New business growth and creation	Products	Major	<ul style="list-style-type: none"> Commercially deploy circular economy technologies (waste carpet melt kneading and hydrothermal reaction) Commercially deploy nature-positive technologies (aquaculture feed additives, feed using insects, and moisture absorbent for extracting water from the atmosphere) 	Medium to long terms	Pages 61–62 Tackling Environmental Issues Contributing to a Circular Economy	