Tackling Environmental Issues

Basic Guidelines for Addressing Global Environmental Issues

The UBE Group focuses on responding to climate change (carbon neutrality), and on contributing to a circular economy and nature conservation and restoration (nature positive). We are helping resolve environmental issues by steadily implementing strategic measures. These include reducing GHG emissions across the value chain, providing environmentally friendly products, technologies, and services, and engaging with stakeholders.

Purpose

Leveraging the manufacturing technologies the UBE Group has cultivated throughout its long history, create the value required by society, in the safe and environmentally friendly manner demanded by society, and deliver that value to the people. And by doing so, help to solve global environmental issues, which have become a common issue for all humankind, and contribute to people's lives and health, and an enriched future society

1. Addressing climate change (carbon neutrality)
2. Contributing to a circular society (circular economy)
   — Including the issue of marine plastic waste
3. Contribute to nature conservation and restoration (nature positive)
   — Including biodiversity conservation and water resource conservation

Exploring and implementing measures across supply chain in three themes

Basic Activities Policy on Environmental Issues

To realize "Addressing climate change (carbon neutrality)," "Contributing to a circular society (circular economy)," and "Contributing to nature conservation and restoration (nature positive)," we have formulated the following strategies and KPIs and are steadily implementing them.

- Ensuring that the management cycle works properly by analyzing materiality, identifying risks and opportunities, formulating strategies and KPIs, and disclosing information
- Minimizing the impacts of internal operations
- Continuing to engage
  - Reach out to entire value chain (suppliers, employees, customers, investors, and communities) to resolve issues in everything from product and services purchases to in-house manufacturing and product processing, usage, and disposal
  - Disclose information appropriately to all stakeholders and encourage collaboration to resolve environmental issues

1 Addressing climate change (carbon neutrality)

Strategy

Reduce internal GHG emissions.

Keep developing and providing environmentally friendly products and technologies that help cut GHG emissions.

Targets and Business Plan

We have formulated a business plan that encompasses overhauling our business structure reforms and deploying measures to conserve energy so we can reach our fiscal 2030 target of halving GHG emissions from fiscal 2013 levels to aim for becoming carbon neutral by 2050.

Significance

- The increase of GHG emissions into the atmosphere due to human activities is causing global warming and major changes in the climate.
- This could transform the natural environment and degrade ecosystem services. Rapid climate change could profoundly affect lives and businesses. It is our social responsibility and mission to tackle these changes as swiftly as possible.

Initiatives

Please see Addressing Climate Change (Carbon Neutrality) on pages 54–55.

2 Contributing to a circular society (circular economy)

Strategy

We will tap discarded and other resources effectively and recycle them. We will develop and provide circular materials, products, and technologies.

Targets and Business Plan

Our goal is to increase the sales ratio of environmentally friendly products and technologies, including products that contribute to the realization of a circular economy, to 60% by 2030. In addition, we aim to effectively utilize and reduce waste such as plastics generated by our own operations.

Significance

- Population growth and economic development have raised concerns about depleting resources and destabilizing resource supplies. Circulating limited resources will help ensure stability.
- Achieving a circular economy will suppress the deterioration of circulation caused by linear material flows, such as the accumulation of large amounts of plastic waste in the ocean.
- Achieving a circular economy entails transforming linear materials flow into circular ones to establish an economic structure that produces value by reusing waste and used products.

Initiatives

About UBECycle Recycled Multilayer Film

Contemporary social demands and regulations are driving the use of raw materials derived from recycled materials across the industry landscape. Prime examples are the packaging, automotive, electrical, electronics, construction, and other sectors. It is against this backdrop that the UBE Group seeks to recycle offerings incorporating its nylon while drawing on its end-product expertise, partner company network, and technical prowess.

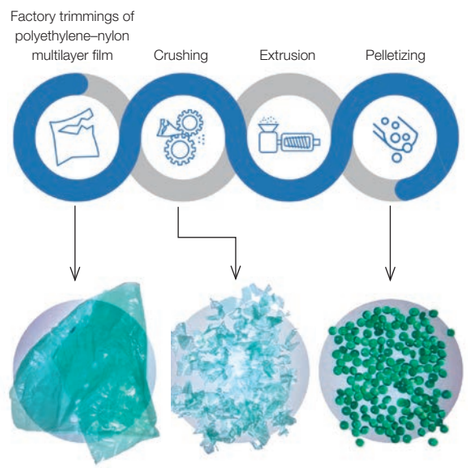
A good example of Group endeavors was UBE Corporation Europe, S.A. Unipersonal (UCE)'s launch of UBECycle. This product is recycled from multilayer film waste. UCE will collect the factory trimmings of the film from film manufacturers to recycle (crush, extrude, and pelletize) them. The UBE Group plans to upcycle materials, including this nylon, for in-house production and commercialization.

UCE has earned certification of this innovative polyethylene–nylon multilayer film from recycling bodies such as RecyClass*1 and APR*2.

*1 https://recyclass.eu/wp-content/uploads/2021/09/2020-PO-011-UBE-technology-approval-letter.pdf

*2 https://ube.es/association-of-plastics-recyclers-apr-acknowledges-recyclability-of-pe-based-film-with-ubes-pa6-66-based-on-critical-guidance-recognition/

UBECycle Material Recycling Flowchart



Developing Upcycling Technology for Composite Plastics

As most waste plastics are composites, they cannot be reused in regular recycling processes, so they are mostly incinerated. UBE is developing upcycling technologies for composites, adding new features to aluminum and plastic of pharmaceutical press-through-pack sheets. We are collaborating with aluminum manufacturers and recyclers to create an efficient system to collect these sheets. We are employing proprietary upcycling technology to cultivate applications for the collected sheets.

In coming years, we look to refine our composites upcycling technologies. We will endeavor to grow as a chemicals manufacturer that helps resolve environmental issues, such as by cutting CO_2 emissions by reducing the use of petroleum-derived raw materials and tackling marine plastic waste.

3
Contribute to nature conservation and restoration (nature positive)

Strategy

We will identify the impacts and dependencies of our business activities on nature, identify risks and opportunities, and contribute to the conservation and restoration of the natural environment and the sustainable use of ecosystem services. We also provide products, technologies, and services that help realize nature positive.

Targets and Business Plan

- **Water sources:**
  We analyze water stress trends based on the water conditions (context) and water supply and demand scenario at each site.
  At sites where water stress is expected to rise, we will reduce water withdrawal and improve water recycling rates by formulating water use strategies and monitoring KPIs.
- **Environmental impacts of our operations, including from air, water, and soil pollution:**
  We monitor and reduce pollutant emissions to eliminate environmental incidents.
- **Engagement:**
  We will work with the supply chain (environmental impact assessment), employees (education), customers (provision of environmentally friendly products and technologies), investors (provision of information and exchange of opinions), and local communities (environmental improvement activities).
  We will verify adverse effects (trade-offs) on the natural environment and minimize negative impacts.

Significance

A lot of the products, services, and energy supporting our lives are the fruits of nature. Protecting the environment, restoring nature, and preserving ecosystem services will help safeguard our living environment and livelihoods. Nature conservation and restoration can reduce weather-related disasters while protecting cultures and traditions, landscapes, and our diets.

Initiatives

To respond to the conservation of the natural environment (biodiversity) and water resources, we conduct risk analysis at each business site.

Water Risk Assessment Results

We maintain five water risk levels for our key business sites. We take into account information we secure from the World Resources Institute's Aqueduct water risk atlas and other external sources, as well as by our sites.

Water Risks	Business Sites	Key Risk Factors
High	Not applicable	
High to moderate	Not applicable	
Moderate	Key sites in Thailand	Constraints on water supply and demand and droughts
Low to moderate	Key sites in Spain Key sites in Japan	Flooding
Low	Not applicable	

Key business sites in Thailand and Spain formulated the following KPIs, and are addressing projected increases in water stress from 2030.

Business Sites	KPIs
Key sites in Thailand	Reduction in water consumption per unit of production By 2024, down 5% from the 2021 level Water recycling rate As of 2024, 26%
Key sites in Spain	Reduction in water consumption per unit of production By 2030, down 10% from the 2022 level Water recycling rate As of 2030, 10%

We draw on the Integrated Biodiversity Assessment Tool and local information to check the proximity of key business sites to nature conservation areas and locations that are important for conserving biodiversity and constantly check potential impacts and extents.

- Not near Ramsar Sites
- The sea level near the Ube area is in the International Union for Conservation of Nature's management category VI for protected areas.
- The Ube-Fujimagari area borders key biodiversity areas (Suonada and the Koto River estuary).
- The national government regulates the seawater area bordering the Ube area, fishing rights there.

Fiscal 2022 Initiatives

Ube Chemical Factory

Marine Plastic Waste

- Participated in year-end street cleanup that an Ube City volunteer group organizes
- Patrolled waste storage sites every quarter
- Recycled waste plastic

Biodiversity Conservation

- Participated in Mine Agriculture, Forestry and Fisheries Office's forestation initiatives to protect water
- Helped exterminate Argentine ants by contributing to administrative reports and exterminated nests to prevent infestations from spreading beyond business sites

Employees participating in the 15th Forest Creation Experiential Activity for Water Conservation

Sakai Factory

Marine Plastic Waste

- Undertook joint cleanups with neighboring companies

Biodiversity Conservation

- Took part in forestation initiative on January 14, 2023
- Attended Osaka metropolitan government and Sakai City government seminars

Water Resource Conservation

- Implemented measures to conserve water, including by installing sensors on office washing basin faucets

UBE Machinery Group

Marine Plastic Waste

- Separately disposed of plastic bottle caps

Water Resource Conservation

- Upgraded waterworks facilities and stepped up wastewater management