

# Climate Change

## Zero-Carbon Society

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### Our Basic Approach and Strategy

Unicharm recognizes that climate change is an issue that must be addressed with a matter of urgency. Therefore, in order to contribute to achieving the 2°C target\* in the Paris Agreement, we received certification in June 2018 under the Science Based Targets initiative (SBTi) for our CO<sub>2</sub> reduction plans up to 2045. We also endorsed the Task Force on Climate-related Financial Disclosures (TCFD) in May 2019 and continue to report in accordance with its framework. Furthermore, we are looking to adopt the more challenging 1.5°C target announced at the 26th UN Climate Change Conference of the Parties (COP26) in place of the current 2°C target. To realize the zero-carbon society set forth in our 2050 vision of Environmental Targets 2030, we will work together with the Japan Climate Initiative (JCI), which we have been a member of since its establishment in 2018, and the Japan Climate Leaders' Partnership, a group of companies

aiming to realize a sustainable, zero-carbon society, which we joined in 2020. At the same time, we will strive to reduce CO<sub>2</sub> emissions from our various business activities and continue to actively encourage all parties involved in our supply chains to reduce their emissions throughout the product life cycle.



\* Limit the increase in global average temperature to under 2°C above preindustrial levels in accordance with the Paris Agreement reached in December 2015

**P049** Disclosure Based on the TCFD Recommendations

### GHG Emissions Visualization Project

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In May 2022, we formulated our GHG Emissions Visualization Project with the aim of not only disclosing the GHG emissions from each Unicharm product but also providing a comprehensive visualization of our GHG emissions, including Scope 3 emissions, and strengthening the initiatives that were declared in response to climate change in Environmental Targets 2030 and Kyo-sei Life Vision 2030. For this project, we have teamed up with Wastebox, Inc., and obtained the support of Deloitte Tohmatsu Consulting LLC, a company with a wealth of knowledge and experience in providing comprehensive support for carbon neutrality. In 2022, we developed a data visualization platform for GHG emissions and collected data, serving as a benchmark for improving renewable energy efficiency and energy conservation. Under the slogan, "visualize, measure, and take action," we will begin making specific calculations, disclose GHG emissions for each Unicharm product, and promote measures aimed at reducing GHG emissions.

### ▶ Responding to Climate Change under Environmental Targets 2030

Implementation Items		Base Year	2021 Results	2022 Targets	2022 Results	2023 Targets	2030 Targets	2050 Vision
Reducing CO <sub>2</sub> emissions associated with raw materials procurement Scope 3, Category 1	Per unit of sales	2016	9.7% (Japan)	-3.4%	-12.6% (Japan)	-14.3% (Japan)	-17%	Realizing a society with net zero CO <sub>2</sub> emissions
Reducing CO <sub>2</sub> emissions in manufacturing Scope 1, Scope 2			-26.9%	-28.0%	-35.2%	-38.6%	-34%	
Reducing CO <sub>2</sub> emissions associated with the disposal of used products Scope 3, Category 12			23.7% (Japan)	-5.2%	-11.6% (Japan)	-14.2% (Japan)	-26%	

## Management Structure

P.050 Governance

## Initiatives and Results

### CO<sub>2</sub> Emissions throughout the Supply Chain (Overall Picture of Scopes 1 to 3)

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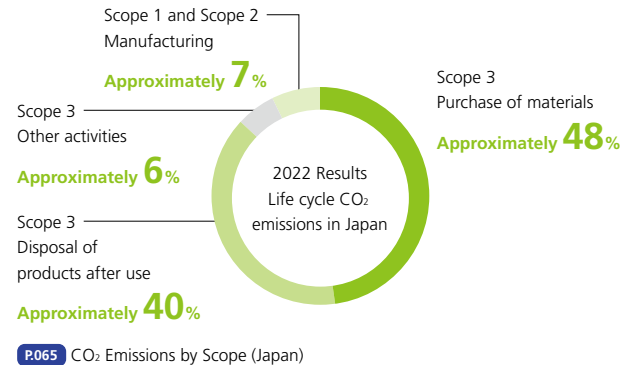
Unicharm calculates its CO<sub>2</sub> emissions according to the Greenhouse Gas Protocol,\* the standard for calculating greenhouse gas (GHG) emissions most widely used in the world today.

Based on this standard, we estimated life cycle CO<sub>2</sub> emissions in Japan to be approximately 48% for Scope 3 purchased materials, 40% for disposal after use, 6% for others, and 7% for Scope 1 and Scope 2 manufacturing in 2022.

We are working to build a platform for visualizing GHG emissions, including CO<sub>2</sub>, through the GHG Emissions Visualization Project, launched in May 2022. By having suppliers of raw materials provide primary information on GHG emissions for each material, we are not only able to accurately determine GHG emissions that vary by material specification but also incorporate the measures taken by suppliers to address climate change and improve productivity into the calculations. In this way, we aim to appropriately calculate GHG emissions, which vary depending on the materials used, the production method, and other factors, for each Unicharm product.

\* In 1998, the Greenhouse Gas Protocol was established to develop standards for calculating and reporting GHG emissions, led primarily by the World Resources Institute (WRI), an environmental NGO based in the United States, and the World Business Council for Sustainable Development (WBCSD), which comprises over 200 multinational corporations. In 2001, the first edition of the GHG Protocol Corporate Standard was established and, since then, this approach to calculating GHG emissions has become a global standard.

P.045 GHG Emissions Visualization Project

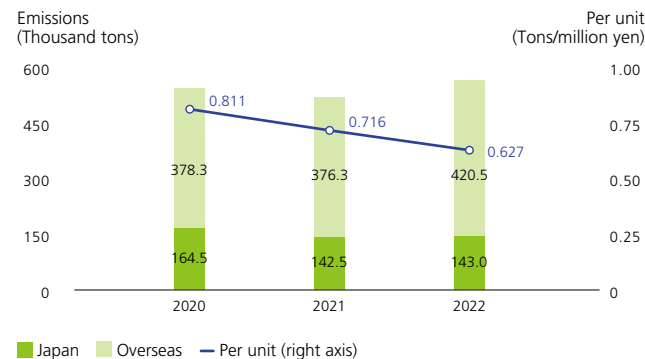


### CO<sub>2</sub> Emissions from Business Activities (Scope 1 and Scope 2)

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For Scope 1 and Scope 2, we work collectively as a Group to reduce CO<sub>2</sub> emissions by conducting energy conservation activities four times a year with the persons in charge of promoting environmental activities at each business site to monitor the progress of annual plans. In 2022, CO<sub>2</sub> emissions (Scope 1 and Scope 2) amounted to 563,500 tons, which, in terms of per unit of sales, was a 12.4% decline from 2021 standards. We will continue to play an active role in reducing CO<sub>2</sub> emissions across the globe going forward.

#### Progress on CO<sub>2</sub> Emissions (Scope 1 and Scope 2)



P.066 Scope 1 and Scope 2 CO<sub>2</sub> Emissions

### Reducing CO<sub>2</sub> Emissions Associated with Raw Materials Procurement (Scope 3, Category 1)

The R&D Division and the ESG Division are discussing measures to reduce CO<sub>2</sub> emissions from raw materials procurement, which accounts for approximately 48% of all CO<sub>2</sub> emissions from the entire life cycle in Japan. In 2022, CO<sub>2</sub> emissions from raw materials procurement (Scope 3, Category 1) decreased by 12.6% (per unit of sales) compared with our base year of 2016, by promoting the development of lighter, slimmer products and thinner packaging.

#### Environmental Targets 2030: Reducing CO<sub>2</sub> emissions associated with raw materials procurement



P.065 CO<sub>2</sub> Emissions by Scope (Japan)

### Communicating the Importance of Climate Change Measures to Suppliers

Because CO<sub>2</sub> emissions from Scope 3 purchased materials and the disposal of products after use account for around 88% of total emissions from the entire product life cycle, it is essential that we promote measures together with suppliers. In October 2022, we held our medium- to long-term policy briefing session, where we shared our policy on climate change with suppliers and requested their cooperation in ensuring sustainable procurement of resources.

P.037 Medium- to Long-Term Policy Briefing Session for Suppliers

## Reducing CO<sub>2</sub> Emissions in Manufacturing (Scope 1, Scope 2)

Through the transition to renewable electricity and other measures, in 2022 CO<sub>2</sub> emissions from manufacturing declined by 35.2% (per unit of sales) compared with our base year of 2016.

### ► Environmental Targets 2030: Reducing CO<sub>2</sub> emissions in manufacturing



### Transition to Renewable Electricity

In 2022, we reduced CO<sub>2</sub> emissions by roughly 30,000 tons, as renewable electricity accounted for 11.0% of the Group's energy source. Five factories in Japan, the Saitama Factory in March 2022, the Mie Factory in April 2022, and three Peparlet factories in Shizuoka Prefecture essentially switched to renewable electricity for their entire energy use. This conversion will contribute to reductions of approximately 9,500 tons of CO<sub>2</sub> emissions per year.

In April 2022, we began using solar power at our Tianjin and Jiangsu factories in China, where renewable electricity now accounts for roughly 25% of their annual energy use. In the process, we aim to achieve around 9,300 tons in CO<sub>2</sub> reductions on an annual basis.



Meanwhile, in Indonesia, we commenced solar power generation at Karawang Factory No. 1 in July 2022 and transitioned to renewable electricity for around 11% of its annual energy use. Through this conversion, we aim to cut CO<sub>2</sub> emissions by roughly 7,200 tons per year.



### ► Status of the Transition to Renewable Electricity

Commencement of Operations	Factory Name	Percentage of Renewable Electricity Used	Amount of Electricity for 2022 (Million kWh/Year)
January 2017	Brazil (Jaguariúna Factory)	100%	13.23
September 2020	Japan (Kyushu Factory)	100%	11.89
October 2020	Thailand (Wellgrow Factory)	Approx. 10%	8.20
December 2020	Vietnam (Bắc Ninh Factory)	Approx. 14%	5.15
February 2021	Japan (Itami Factory)	Approx. 4%	0.30
April 2021	Japan (Toyohama Works, Shikoku Factory)	100%	4.58
July 2021	Thailand (DSG Factory #2)	Approx. 21%	2.48
December 2021	United States (Hartz Pleasant Plain Factory)	100%	6.19
March 2022	Japan (Saitama Factory)	100%	4.22
April 2022	Japan (Mie Factory)	100%	6.89
April 2022	Japan (Peparlet's three factories)	100%	11.11
April 2022	China (Tianjin Factory)	Approx. 25%	5.06
April 2022	China (Jiangsu Factory)	Approx. 25%	4.41
July 2022	Indonesia (Karawang Factory No. 1)	Approx. 11%	0.93

## Reducing CO<sub>2</sub> Emissions from the Transportation Process

Unicharm has been working with business partners to improve transportation efficiency, promote modal shift, and enhance cargo loading efficiency by making corrugated cardboard smaller and streamlining pallet modules. These are some of the measures actively being pursued toward the reduction of environmental impact and the development of a sustainable logistics structure. The aforementioned initiatives not only enhance efficiency throughout the entire supply chain but also reduced CO<sub>2</sub> emissions from the transportation process by approximately 3% (per unit of sales) in 2022 compared with the previous year.

### Joint Transportation via Rail Freight Container

In 2021, Unicharm Products and Suntory Logistics, Ltd., a logistics subsidiary of Suntory Holdings Limited, began joint transportation via rail freight container over the route between Shizuoka Prefecture and Fukuoka Prefecture.

By combining Suntory beverages, which are heavy goods, and our products, which are light goods, we maximize container loading efficiency. With this joint transportation system in place once a week, we have reduced CO<sub>2</sub> emissions by a joint total of approximately two tons a year.



### Acquiring Eco Rail Mark Certification

Unicharm is promoting a modal shift as an initiative to reduce CO<sub>2</sub> emissions and became an Eco Rail Mark-certified company in 2019. We are expanding the use of environmentally friendly rail transportation, primarily for long-distance transport between Fukushima and Shikoku.



## Joint Delivery of In-Store Promotional Materials

Unicharm has been working together with FineToday Co., Ltd., and Lion Corporation for the integration of logistics operations for promotional materials used at retail stores and on sales floors, conducting joint deliveries since 2019.

This collaborative effort enables the three companies to use the same packaging materials, bundle their deliveries, reduce the use of delivery trucks, conserve resources, and minimize environmental impact through reductions in CO<sub>2</sub> emissions. It also contributes to improvements in backyard operations by reducing the burden of receiving cargo and the storage space for promotional materials at retailers.

### Joint Receipt of Advanced Technology Award at the 23rd Logistics Environment Awards

Unicharm Products Co., Ltd., joined forces with Sumitomo Seika Chemicals Co., Ltd., Imoto Lines, Ltd., Hitachi Transport System, Ltd., and VANTEC CORPORATION to promote a modal shift from truck transportation to marine transportation and expand modes of logistics transportation. In July 2022, Unicharm Products and its four partner companies received the Advanced Technology Award at the 23rd Logistics Environment Awards\* in recognition of this effort and its contribution to sustainability going forward through reductions in CO<sub>2</sub> emissions and the work hours of truck drivers.

For our deliveries of disposable diaper materials from Hyogo Prefecture to Fukuoka Prefecture, we reduced CO<sub>2</sub> emissions by 61.8% (271 tons per year), driver operating hours by 59.0% (2,077 hours per year), and the time spent on loading and unloading export containers (875 hours per year) through a modal shift from truck transportation to marine transportation, the conversion of containers from their use in overseas exports to domestic material transportation, and the automated loading and unloading of overseas exports.

\* Organized by the Japan Association for Logistics and Transport to recognize organizations, companies, and individuals who contribute to the sound development of the logistics sector by promoting environmental conservation and raising environmental awareness. The Advanced Technology Award is given to businesses that play a key role in reducing environmental impact by utilizing advanced technology to address logistics needs for achieving better quality and efficiency and promoting digitalization.

## Reducing CO<sub>2</sub> Emissions from the Disposal of Used Products (Scope 3, Category 12)

We achieved an 11.6% reduction (per unit of sales) in CO<sub>2</sub> emissions from the disposal of used products compared with our base year of 2016, by promoting the development of lighter, slimmer products and thinner packaging.

### ► Environmental Targets 2030: Reducing CO<sub>2</sub> emissions associated with the disposal of used products



### Commendation of Initiatives Aimed at Establishing a Zero-Carbon Society

The Carbon-Free Challenge Cup, a program that Unicharm has sponsored for 13 consecutive years, commends the daily work of various organizations (including schools, corporations, local governments, and NPOs) toward preventing global warming and building a carbon-free society for the next generation.

In our role as a cosponsor of this program, we have established the Gentle Care for Life Award of Excellence.

In Carbon-Free Challenge Cup 2023, after judging presentations from 29 finalists, Hitachinaka City (Ibaraki Prefecture) Maewatari Elementary School's project, "School Garden 'Forest of Fireflies': Preserve Our Living Species through Decarbonization," was selected for the Gentle Care for Life Award of Excellence in the Junior and Kids category.



## Reducing CO<sub>2</sub> Emissions through the Recycling of Used Disposable Diapers

Unicharm's recycling system for used disposable diapers is one in which the collected used diapers are washed and separated and the extracted pulp undergoes a unique ozonation process to kill the bacteria contained in the excrement, ensuring that it is as equally safe and hygienic as virgin pulp. In June 2022, we began testing the use of *Lifree* disposable adult diapers, which use recycled materials for their absorbent paper layer, at certain nursing care facilities in Kagoshima Prefecture. Moreover, in contrast to incinerating used disposable diapers, recycling reduces CO<sub>2</sub> emissions by approximately 87%.

Unicharm endorses the GX League Basic Concept of the Ministry of Economy, Trade and Industry (METI) of Japan, which calls for companies to actively undertake green transformation (GX) by working toward carbon neutrality and transforming the overall economic and social system, aims for cooperation and discussions in the government, academic, and economic spheres, and acts as a forum for creating new markets.

