Contribution to a Sustainable Global Environment

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that in line with global warming, weather and climate extreme events, such as heatwaves, heavy precipitation, droughts, and tropical cyclones, are increasing in every region across the globe and are likely to continue increasing. The global average temperature has already risen more than 1°C above pre-industrial levels and, with the aim of keeping the temperature increase below 2°C, further mitigation efforts by countries are required. At the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), the focus was on strengthening measures to limit the global temperature increase to 1.5°C. Concrete plans are being formulated and climate change initiatives are intensifying worldwide. Furthermore, in consideration of the sustainability of life on Earth, the conservation of biodiversity is also positioned as an urgent international issue.

We have signed the United Nations Global Compact and our initiatives are in accordance with the principles for environmental action advocated by the UN. Moreover, we endorse the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and disclose information on the impact of climate change on our business. Furthermore, we have been responding to a survey conducted by CDP, an international NGO. We are striving to enhance our commitment and information disclosure.

WE SUPPORT UN GLOBAL COMPACT

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

CDP DISCLOSER 2023

Aiming to be a company that continues to contribute to the future of people and the planet, ULVAC is responding to the above-mentioned changing external environment by conducting various activities in accordance with the Environmental Philosophy, Environmental Policy, and the Environmental Targets described below.

Environmental Philosophy

The ULVAC Group understands that the conservation of the global environment is one of the most important issues facing humanity. While effectively utilizing resources in all aspects of our operations, we take into consideration biodiversity so as to contribute to bringing about a better living environment and a more prosperous society.

Environmental Policy

- Reducing greenhouse gas emissions
  We reduce greenhouse gas emissions, a main cause of climate change, through all of our activities.
  We are committed to developing products that conserve energy and reduce our environmental footprint.
- Preventing environmental contamination
  In conducting business, we comply with environmental laws and regulations.
  We manage hazardous chemical substances appropriately in our manufacturing processes to prevent environmental contamination and health hazards.
- Environmental targets and continuous improvement
  We establish environmental targets and strive to improve our environmental performance by reviewing these targets.
  In addition, we continuously improve our environmental management system through routine review.
- Environmental education and information disclosure
  Through environmental education, we raise the awareness of each individual and appropriately disclose environmental information.

Environmental Targets

❶ Greenhouse gas emission reduction targets

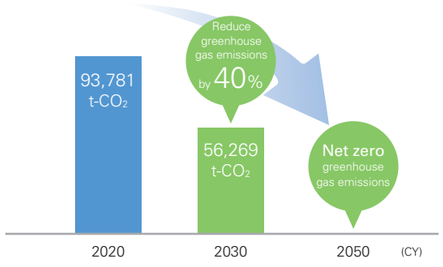
- Reduce greenhouse gas emissions in 2030 by 40% as compared with 2020 (Scope 1 and 2)
- Achieve net zero greenhouse gas emissions by 2050

❷ Water consumption reduction target

- Reduce unit water consumption* to the level in 2020 or less

*Water withdrawal/Net sales (consolidated)

❸ Eliminate environmental accidents



Environmental Activities in FY 2022

In growth fields such as semiconductors and electronic devices, we are actively investing in regions across the world, with a particular focus on China and South Korea, which are positioned as strategically important regions, and we are promoting capital investment. Regarding the material balance, electricity consumption increased in these strategic regions. To save energy, having set a target of a 1% reduction in greenhouse gas (GHG) emissions compared with the result for the previous year (ULVAC standard), we promoted installation of renewable energy facilities such as solar power generation facilities and vigorous procurement of renewable energy. As a result, GHG emissions decreased by 10% from the base year (2020). As for waste, both the total amount of waste recycled and the amount of landfill increased owing to increased production overseas, and the final landfill disposal rate also increased by 0.2%.

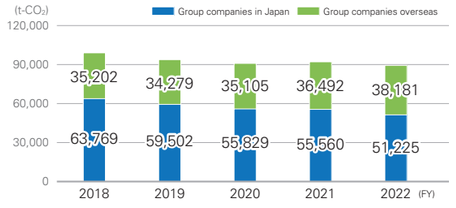
Total water consumption increased following the start of full-scale operation of ULVAC Coating Technology (HEFEI) Co., Ltd., which is engaged in the deposition and coating business that uses large amounts of water. Meanwhile, ULVAC has set a new target for efficient use of water resources. Going forward, we will promote water management with the aim of reducing water-related impact in all regions.

The amount of solar power generated increased as a result of the installation of 370-kW-capacity solar power generation equipment at ULVAC KIKO, Inc. New installations are also planned in China and Taiwan. We will continue to promote environmental management activities throughout the Group.

Material balance (Source: Aggregate data for FY 2022)

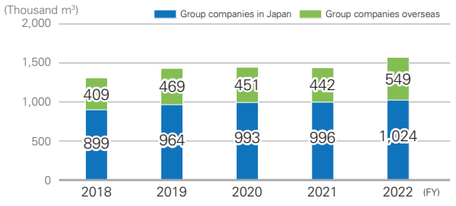
INPUT		OUTPUT	
Electricity consumption	167,040 thousand kWh	CO_2 emissions	84,906 t (Emissions due to consumption of electricity, gas, and fuels)
Gas consumption	LPG: 243 t LNG: 658 t City gas: 1,402 thousand m^3	Total waste emissions	6,223 t Total amount of waste recycled: 4,817 t Amount of landfill: 101 t
Fuel consumption	Heavy oil: 6 kL Kerosene oil: 14 kL Diesel oil: 140 kL	Final landfill disposal rate	1.6%
Water consumption	1,573 thousand m^3		
Packaging materials	1,523 t		

Energy-derived CO_2 emissions

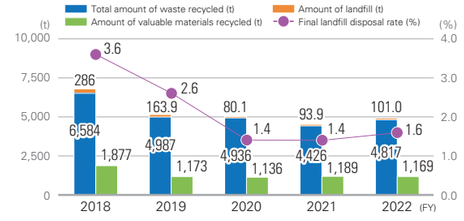


* For the emission factors, the Emissions Factors 2021 edition published by the International Energy Agency (IEA) is used.

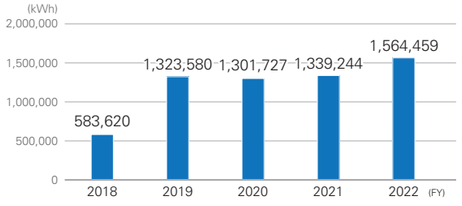
Water consumption



Waste emissions



Amount of solar power generated



Contribution to a Sustainable Global Environment

Response to the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and Climate Change Initiatives

ULVAC positions climate change initiatives as one of its key management issues. The ULVAC Group has set medium- to long-term greenhouse gas emission targets, namely, a 40% reduction in 2030 (compared with 2020) and effectively zero in 2050. We will take action to mitigate climate change by endeavoring to curb greenhouse gas emissions throughout our activities, such as by doing our utmost to conserve energy in Japan and overseas, introducing renewable energy with low greenhouse gas emissions, and developing environmentally friendly products. We endorse the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and strive to disclose relevant information. Furthermore, ULVAC has been responding to a survey conducted by CDP*, an international NGO.

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

*CDP: A non-governmental organization (NGO) managed by a British charity. CDP sends questionnaires on climate change and other issues to companies and local governments and assesses and discloses the impact of their activities on the environment. When deciding which companies to invest in, CDP scores are considered important criteria.

Governance

Under the supervision of the Board of Directors, the Executive Officers in charge of sustainability and the environment monitor progress toward targets.

- Meetings of the Sustainability Promotion Committee attended by the internal directors, executive officers, and department heads are held twice each year to acknowledge social trends and the Company's current condition, and discuss measures to address any issues. If significant issues related to management arise, the Management Council and the Board of Directors deliberate and make management decisions as needed.
- Meetings of the Global Environmental Management Committee chaired by the Executive Officer in charge of the environment and attended by environmental managers of Group companies are held twice each year. The committee monitors the setting of targets of each Group company and the progress, checks the status of the initiatives for achievement of the targets, discusses measures corresponding to the issues, and reports to the Management Council. The statuses of these initiatives are monitored by the Sustainability Promotion Committee and reported to the Board of Directors by the Executive Officer in charge of sustainability.

Strategy

Under the scenarios announced by the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), and others, that "the global average temperature will rise by 4°C or more" and "the global average temperature rise will be kept below 2°C (partly up to 1.5°C) as agreed by the Paris Agreement," we identified business risks and opportunities in the medium to long term that will be brought about by climate change. Of these, we analyzed risks and opportunities with respect to "carbon pricing," "business continuity risk due to the occurrence of disasters caused by typhoons, torrential rain, and other extreme weather events," and "expansion of market opportunities for power devices" and evaluated quantitative impacts on our business. Going forward, we will expand the scope of quantification of impacts on business and further consider specific measures.

Major risks

Category	Elements	Measures
Market	Increase in business costs due to changes in customer behavior	Introduction of renewable energy and ensuring the implementation of energy-saving measures in business activities
Policies and legal	Carbon pricing	
Engineering	Replacement of existing products and services with those with lower emissions	Research and development of products and services such as manufacturing equipment that contributes to technological innovation in various fields, and promotion of low-power consumption of products
Acute/chronic	Business continuity risk due to extreme weather events such as typhoons and torrential rain	Formulation of business continuity plan for natural disasters and implementation of countermeasures

Major opportunities

Category	Elements	Measures
Products and services	Heightened expectations for equipment and technology contributing to low-power consumption devices, power devices and lithium-ion batteries, and increased needs for low-power-consumption products	Research and development of products and services such as manufacturing equipment that contributes to technological innovation in various fields, and promotion of low power consumption of products

Risk Management

- The Management Planning Department is designated as the department in charge of all risks that may cause serious damage to management. The Management Planning Department instructs the relevant internal divisions and departments and Group companies to identify such risks and formulate countermeasures. In this way, risks are identified, Group-wide responses are promoted, and the results are reported to the Risk Management Committee. The Risk Management Committee conducts detailed identification or identification of these risks and considers business reporting and remedial measures, strives for early detection through monitoring, conducts reporting, and implements remedial measures. Moreover, the Sustainable Management Department is designated as the department in charge of medium- to long-term sustainability risks. The Sustainable Management Department instructs the relevant internal divisions and departments and Group companies to identify sustainability-related risks and reports the results to the Sustainability Promotion Committee. The Sustainability Promotion Committee manages the progress of initiatives for medium- and long-term risks. Finally, the Board of Directors receives reports from these committees and oversees the status of risk management. Through these structures, the Group aims to achieve management stability and sustainable growth.
- We have major development and manufacturing sites in Japan, which account for 60% of the Group's total GHG emissions in Scope 1 and 2. In addition, sites in South Korea account for 17% of the Group's total GHG emissions in Scope 1 and 2, making that country second only to Japan, and they are key sites for the Group's semiconductor business to which great importance is attached from the viewpoint of management strategy. Therefore, future introduction of carbon taxes and tightening of emissions trading regulations in Japan and South Korea would have significant impacts on costs. Thus, based on the ULVAC Group's GHG emissions in Japan and South Korea, we estimated and confirmed the amounts of impacts in 2030 under the Announced Pledges Scenario (APS), which is one of the scenarios presented in the IEA's World Energy Outlook 2021 and is a scenario that reflects volunteer countries' ambitious pledges. Reductions of GHG emissions at these sites are important for achieving the Group's goal of carbon neutrality. Therefore, a committee headed by the Executive Officer in charge of the environment and related divisions will monitor the risk of energy cost increases and continue to assess this and other risks, for which purpose it will monitor trends. In addition, we will promote initiatives for further energy saving and introduction of renewable energy.
- For Scope 3, environmental impacts in the value chain are significant upstream in procurement from suppliers and downstream in the use of products by customers. Therefore, mindful of the importance of providing environmentally friendly products, we are promoting initiatives to reflect environmental considerations from the development stage onward.
- In formulating a business continuity plan, we assumed the occurrence of disasters caused by typhoons, torrential rain, and other extreme weather events, and are implementing measures to ensure continuing operation of our business.

Metrics and Targets

In order to actively address climate issues as a responsible member of society, the ULVAC Group has set medium- to long-term targets for GHG emissions from its business activities, namely, a 40% reduction in 2030 (compared with 2020) and effectively zero in 2050. We will take action to mitigate climate change by endeavoring to curb GHG emissions throughout our activities, such as by doing our utmost to conserve energy in Japan and overseas, installing solar power generation facilities, introducing renewable energy, and developing environmentally friendly products.

Reduce greenhouse gas emissions in **2030** by **40%** as compared with 2020

Achieve **net zero** greenhouse gas emissions by **2050**

Contribution to a Sustainable Global Environment

Efficient Use of Water

There are concerns worldwide about water risks, such as heavy rainfall, flooding, and water shortages, due to ongoing climate change.

We assess and confirm the impact of water risks on our business.

We identify sites exposed to water risks by using the WRI Aqueduct, a water risk assessment tool, focusing on the sites with high environmental impact as defined by the Company. We define sites with extremely high or high baseline water stress as water-stressed areas. The sites exposed to water risks are located in parts of China, South Korea, and Thailand, and account for 3% of the ULVAC Group on a consolidated basis. None of them are classified as sites with high environmental impact as defined by the Company.

In FY 2023, we have set a new water consumption reduction target for effective use of water resources. In the future, we will set targets for individual companies and promote specific initiatives in the cleaning and the deposition and coating businesses, which also have high environmental impacts.

Management of Chemical Substances

Prior to the use of chemical substances in the manufacturing process, we conduct risk assessment, in which the amount of the substance to be used and the protective equipment necessary are confirmed, in an effort to ensure worker safety and minimize the environmental impact. Moreover, in order to ensure compliance with the environmental regulations of various countries concerning products, a cross-organizational team whose members are drawn from quality assurance, procurement, and environmental divisions is playing a central role in establishing a structure for management of chemical substances contained in products, thus ensuring provision of environmentally friendly products. Furthermore, we collect information in order to appropriately respond to environmental laws and regulations, which undergo frequent revisions, and conduct in-house education on chemical substances contained in products for which external lecturers are invited, thus supporting manufacturing in compliance with environmental regulations. This education is not limited to ULVAC's business divisions but also covers our business partners. We are promoting establishment of a management structure covering the entire supply chain.

Briefing on chemical substances contained in products by an external lecturer is held for each division

Participation in the Reforestation Partner System

Based on a strategy for sustainable business, ULVAC is vigorously promoting environmental initiatives. With an emphasis on harmony with the local community, we focus on protecting the ecosystem in the vicinity of our head office and factory located in Kanagawa Prefecture.

Specifically, for the past two years we have been actively participating in the "Reforestation Partner" system promoted by Kanagawa Prefecture to contribute to the protection of local water source forests. Through this partnership, we conduct forest conservation activities three times a year. In particular, in July, we conducted activities in the Yadoriki water source forest located in Ashigarakami-gun, Kanagawa Prefecture. Participants cleared undergrowth and learned about the environment through observation of aquatic life in a rich natural environment in the depths of the forest.

ULVAC's goal for 2050 is to be a company that continues to contribute to creation of a sustainable, environmentally friendly society. To realize this goal, we will promote management that takes the global environment into consideration, and furthermore, we will protect and nurture the ecosystems of local communities so as to fulfill our responsibility to pass on flourishing forests to future generations.

ULVAC's signboard has been installed nearby

"ULVAC Green Products" Certification Program for Environmentally Friendly Products

In recent years, climate change and other global issues have become starkly evident and are posing a risk to our lives, let alone business. For companies, it is becoming increasingly important to take environmental considerations into account in order to realize a sustainable society. We have established the ULVAC Green Products certification program to promote environmentally friendly products that make efficient use of resources and are environmentally conscious from every perspective, including the impact of each product life cycle. This program certifies products that satisfy one or more of the evaluation criteria concerning environmentally friendly design that we have independently established and that satisfy the applicable standards. We will continue to release ULVAC Green Products so that our products can contribute to bringing about a better living environment and a more prosperous society.

Evaluation Items

Environmental friendliness elements		Items
Resource conservation and recycling	REDUCE	Reduced parts count
		Space-saving, compact, lightweight, and simplified
		Selection of environmentally friendly materials
		Easy-to-assemble, easy-to-disassemble structure
		Reduced maintenance frequency
		Reduced packaging materials
		Reduced consumption of water resources, such as industrial water
		Longer service life
	REUSE	Active use of reused and recycled items
	RECYCLE	Design for recycling
		No use of hazardous chemicals
Climate action	Reduction of electricity consumption	Reduced electricity consumption
	Reduced consumption of energy other than electricity	Reduced consumption of cooling water, nitrogen, etc.
		Use of alternatives to greenhouse gases used in the process and reduced use of greenhouse gases
Other		Reduced noise

Example of Green Products

uGmni-200

Combined deposition and etch modules' system of cluster type for advanced electronics

Relevant items	▶ Space-saving, compact, lightweight, and simplified
	▶ Easy-to-assemble, easy-to-disassemble structure

uGmni-200 is a film deposition system combining several different process modules for sputtering, etching, ashing, and CVD on the same transfer core based on the concept of the use of common parts. As a result of improvement of assembly navigation and layout optimization, the time required for equipment assembly was reduced by over 10% compared with the case of conventional equipment. In future development, we aim to reduce both the footprint and the number of parts. In addition to environmental friendliness, we will promote value engineering (VE) to develop of high-value-added products that facilitate introduction by customers.