Dynabook Environmental Report 2024

Dynabook Inc.

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Contents

1. About Dynabook Environmental Report 2024

Approach to Information Disclosure

Dynabook uses the "Dynabook Environmental Report2024" as a tool to disclose information about our environmental initiatives.

Reporting Period

From April 2023 to March 2024

Scope of Reporting

Two sites of Dynabook Inc. in Japan and manufacturing site in China.

*Referenced guideline

"Environmental Reporting Guidelines 2018"-Ministry of the Environment

Schedule for Next Issue

September 2025

Contact

Environmental Promotion:
Env_Gr@list.dynabook.com

Dynabook Inc. Corporate Information
https://dynabook.com/global/en/index.html

Company Profile	Company Outline	https://dynabook.com/global/en/about-us/outline.html
	Top message	https://dynabook.com/global/en/about-us/message.html
	Business Philosophy	https://dynabook.com/global/en/about-us/philosophy.html
Sustainability	Policy	https://dynabook.com/global/en/csr/csr.html
	Procurement	https://dynabook.com/global/en/csr/purchasing.html
	Quality	https://dynabook.com/global/en/csr/quality.html
	Environment	https://dynabook.com/global/en/csr/eco.html ■ Policy, Main Initiatives, Environmental Report https://dynabook.com/pc/env/eng/index.html ■ Environmental Activity ・ Environmental management ・ Environmental efforts in the products ・ Environmental efforts in the factories ・ Green procurement
	Governance	https://dynabook.com/global/en/csr/governance.html

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2. President's message

In 1985 Dynabook Inc. launched the T1100, the world's first laptop computer. This was followed by the release of the world's first[*1] notebook PC, the DynaBook J-3100 SS001, in 1989. These two products represent the origin of the modern-day notebook computer. Dynabook has continued to develop products and services that reflect people's needs, offering enhanced functionality supported by our technological expertise and commitment to quality and outstanding products. As a member of the Sharp Group, Dynabook will continue to provide value through "evolution," "integration," and "proposals." Starting from January 1, 2019, we are embarking on a new journey under the name Dynabook Inc., reflecting our past achievements while exploring future possibilities.

Dynabook not only has a new name but a new vision under the banner (dynabook as a Computing × dynabook as a Service). Our focus will be "The fusion of hardware (dynabook as a Computing) and services (dynabook as a Service)" together with "True computing that reflects real needs and that supports communities" and "New added value and services developed from the user's standpoint" as a new strategy underpinning further technological enhancement and the global development of the business. With this new commitment, Dynabook Inc. will contribute to the realization of a sustainable society by offering proposals for a comfortable society and lifestyle.

*1 An A4-sized notebook PC based on Dynabook research

In the midst of a mountain of issues that the international community must unite to solve, such as global warming and resource depletion, we have prioritized addressing these environmental issues as a key management focus. We are actively exploring ways to achieve net-zero greenhouse gas emissions from our operations and contribute to the realization of a resource-recycling society.

Through our business activities, we aim to contribute to the overall continuous development of society by addressing various issues including global environment concerns, respect for human rights, employee health and well-being, fair treatment of employees, fair and ethical dealings with business partners, and risk management in response to natural disasters.

We recognize that sustainability issues are not only risk reduction but also present opportunities for profit. Therefore, we are committed to addressing these issues to increase our corporate value in the medium to long term.

The 35th anniversary of the world's first notebook PC released in 1989. As people's lifestyles have changed drastically, Dynabook has evolved with the support of many customers.

We will continue to provide true personal computers and services based on the technical capabilities, quality and product performance that we have cultivated for 35 years. We look forward to and appreciate your continued support.

Kiyofumi Kakudo,
Representative Director,
President & CEO

3. Philosophy and Policies

3-1. Dynabook Business Philosophy

◆ Business Philosophy

With "Sincerity and Creativity", we offer enhanced value,
and contribute to the development of society

◆ Vision

Changing the world through computing and services

Contribute to society and the quality of life by delivering
"True computing that supports communities"
and by creating "new added value that reflects real customer needs"

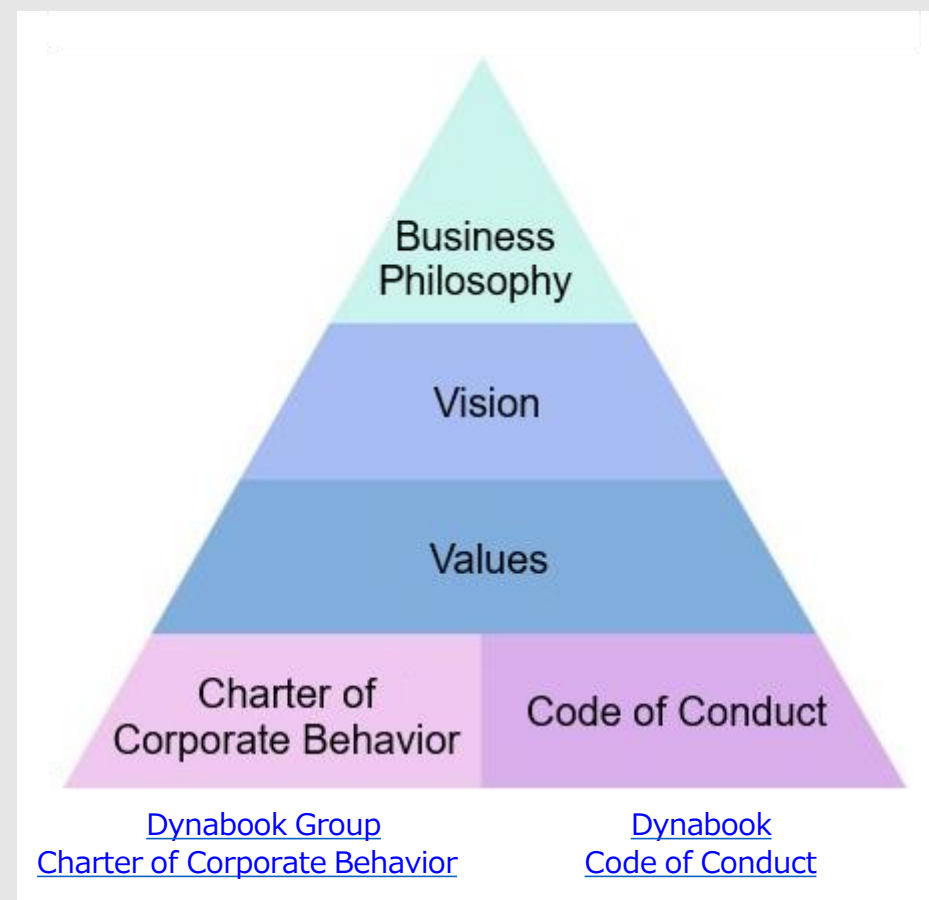### ◆ Values

We, with all members of Dynabook, are commit to:
   Explore   : give shape to thoughts and ideas
   Create   : realize those ideas
   Collaborate: listen to and work continuously working
               with our customers
   Transform : look ahead to the future

Pyramid diagram: Business Philosophy / Vision / Values / Charter of Corporate Behavior | Code of Conduct

Dynabook Group
Charter of Corporate Behavior

Dynabook
Code of Conduct

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3-2. Dynabook Inc. Basic Environmental Policy

Dynabook Inc. considers the environment as one of the most important management issues and has established a basic environment policy.

Basic Environment Policy

Dynabook Inc. uses advanced digital technology to establish a leading and trusted position with future generations. We treat development, design, production and sales of notebook PCs, Tablets and System Solution Business as critical stages in delivering products that are remarkable for innovation and contribute to a more productive lifestyle for our customers. We deliver these cutting-edge products and services with a strong concern for environmental stewardship by balancing new rich values delivered by our products with environmental impacts. By promoting product and service planning in different parts of the world, we make the best use of the characteristic in each region. And based firmly on the recognition that it is our responsibility to maintain the health of the planet as an irreplaceable asset for future generations, we contribute to the development of a sustainable society by promoting activities designed to realize a world that is low in carbon emissions, recycling based, cautious in use of chemical substances, conservative in use of resources and environmentally harmonious.

Promotion of Environmental Management

1. We consider environmental stewardship to be one of management's primary responsibilities, promoting environmental activities in harmony with economic activities.

2. We have a global environmental management system covering all regions where we carry out business activities, and we provide direction and support to domestic and overseas group companies: We promote environmental management throughout Dynabook Inc. group.

3. We comply with all applicable laws and regulations, industry guidelines that we have endorsed, and our own standards concerning the environment.

4. We assess the impacts of our business operations, products and services on the environment, including impact to biodiversity, and we specify objectives and targets with respect to the reduction of environmental impacts, including the prevention of pollution.

5. We strive to continuously improve environmental management through internal audits and reviews of activities.

6. We enhance the environmental awareness of all our business associates and employees through environmental activities and their participation in environmental training and educational activities.

Providing environmentally conscious products and services and reducing their environmental impact through business activities

1. We consider environmental stewardship to be one of management's primary responsibilities, promoting environmental activities in harmony with economic activities.
2. We have a global environmental management system covering all regions where we carry out business activities, and we provide direction and support to domestic and overseas group companies: We promote environmental management throughout Dynabook Inc. group.
3. We comply with all applicable laws and regulations, industry guidelines that we have endorsed, and our own standards concerning the environment.

**As a corporate citizen of planet Earth**

1. We contribute to society through our environmental activities, which include the development and provision of excellent, environmentally conscious technologies, processes and products in cooperation with society at large and with our local communities.
2. To facilitate mutual understanding with stakeholders, we deliver our environmental messages and disclose our information by environmental publications, promotional or advertising activities and through environmental events and volunteer activities.

4 . Environmental Governance
4-1. Promotion of Environmental Management

Dynabook Inc. addresses various environmental issues and promotes the dissemination and sharing of environmental information through an environmental management promotion system. This system consists of an environmental management officer (President) and an environmental promotion officer (General Manager of the General Affairs Department). In the event of significant risk events, important policies and decisions are reported to the Company's Corporate Strategy Committee and the Board of Directors in cooperation with the Business Risk Management Committee (BRM) and other relevant internal committees.

We will continue to strengthen our environmental management promotion system and contribute to the realization of a sustainable society.
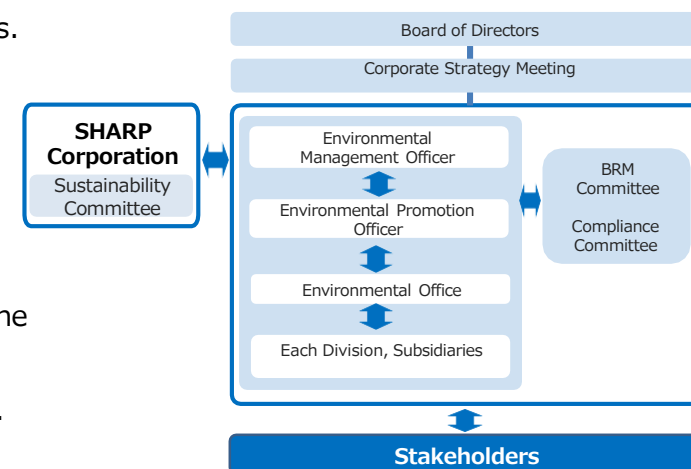
Environmental Management Promotion Organization

![dynabook]

4-2. Environmental Management System

To promote environmental management, we have established an environmental management system in accordance with ISO 14001. Through continuous improvement, we are striving to enhance our environmental performance and reduce our environmental impact.

Dynabook Inc.
ISO14001 Certificate
※ Scope of Certification: Development, design, and sales of PC and System Solution.

Dynabook Technology
(Hangzhou) Inc.
ISO14001 Certificate

5. Stakeholder Engagement

We appropriately disclose information to our various stakeholders, including customers, suppliers, employees, and local communities. Through various communication channels, we incorporate their perspectives into our operations and product development.

Customers
- Product information
- Customer service center
- Customer surveys
- Aftercare services
- etc.

Suppliers
- Procurement activities
- Development and communication of basic purchasing policies
- Implementation of supply chain CSR
- CSR surveys
- Chemical substance content surveys
- etc.

Glob. Environ.
- Compliance with environmental laws and regulations in procurement activities
- Promotion of environmentally conscious design
- Biodiversity promotion
- etc.

Employees
- Intranet, and hotline
- President's message
- In-house training
- Labor-management comm.
- Safety and Health comm.
- Workplace activation survey
- etc.

Local Communities
- Dialogue with local communities
- Cleaning and greening of neighborhoods
- etc.

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6．Sustainable Development Goals （SDGs）

Dynabook plans, develops, manufactures, sells, supports, and services personal computers and system solutions. We are pursuing the fusion of hardware ("dynabook as a Computing") and services ("dynabook as a Service") and strengthening the technology that supports this endeavor.

Activity Status

Since developing the world's first laptop computer in 1985, Dynabook has leveraged its innovative technologies and expertise to plan, develop, manufacture, and sell PCs that people turn to in their everyday lives and to provide after-sales support. In recent years, we have worked actively in building the foundation for industrial and technological innovation to realize a sustainable society. Efforts include manufacturing PCs that accommodate today's diversifying work styles and providing solutions that help resolve labor shortages and streamline work at manufacturing plants.

Specifically, Dynabook is applying its proprietary "empower" technology to work towards SDGs 8 (decent work and economic growth) and 9 (industry, innovation and infrastructure) by offering mobile notebook PCs that deliver high performance.

We are also contributing to SDGs 12 (responsible consumption and production) and 13 (climate action) by, for example, achieving year-on-year reductions in greenhouse gas emissions during the manufacturing process, lowering the amount of waste from factories sent to landfills, increasing use of recycled materials, and reducing use of plastic materials.

In its solutions business, Dynabook proposes AI solutions, an area in which it has extensive experience at its own computer manufacturing plants, to bring the digital transformation (DX) to manufacturing with a focus on AI technology and edge computing devices. In addition, its life cycle management (LCM) service is contributing to SDGs 7 (affordable and clean energy) and 12 (responsible consumption and production) by, for example, proposing an economical, effective approach to computer management.

In the area of culture and education, we help with the development of, and services for, ICT-driven school education environments, thereby working toward SDG 4 (quality education).

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Major SDGs Contribution Examples

- **Contributing to reducing business downtime by launching a PC with "Self-replacement battery"**

When the battery reaches the end of its useful life, a "Self-replacement battery"[*2] allows for easy replacement, reducing "downtime in business" and repair costs.

[* 2] "Self-replacement battery (L)" of options (sold separately) is required
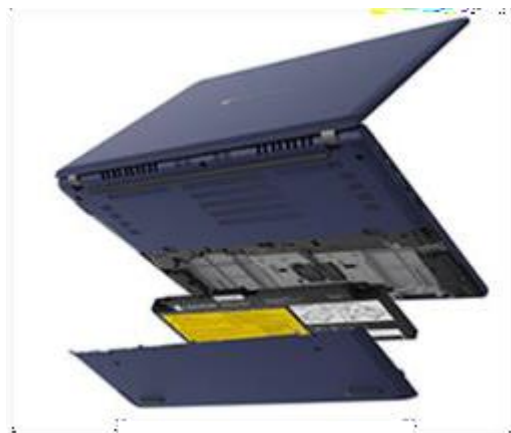

"Self -replacement battery" mechanism
Premium mobile notebook PC
"Dynabook X83 (CHANGER)"

- **Contributing to CO_2 emission reduction and green power supply by installing solar power generation equipment**

Using about 10,000 m² of the roof and parking lot of Dynabook Technology (Hangzhou) Inc. in China, solar power generation equipment (multi-crystalline silicon solar panel, string-type inverter, etc.) has been installed.

The total equipment capacity is about 1,600 kW, which consumes electricity and external power external power. In addition, by developing a smart energy management system in-house, we have visualized energy consumption and real-time monitoring.

Dynabook Technology (Hangzhou) Inc.
Solar power generation equipment

Smart energy management system

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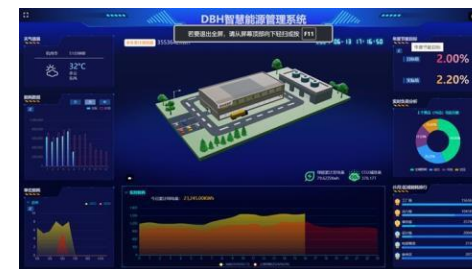
7. Policy for Environmental Initiatives and Environmental Indicators

We have established targets in three crucial areas: addressing climate change, promoting resource recycling, and managing chemical substances effectively to minimize our environmental footprint.

Climate Change

The Paris Agreement, adopted in 2015 to address the global issue of climate change, calls for efforts to keep the average temperature increase to below 2℃ above pre-industrial levels, with a long-term goal of limiting the increase to 1.5℃. Recognizing climate change mitigation as a critical management issue, we are studying ways to achieve net-zero greenhouse gas (GHG) emissions from our operations.

Resource Recycling

Natural resources are limited, and there is growing concern about resource depletion. Furthermore, issues such as waste, the rise in marine plastics and garbage, have become significant environmental concerns. To tackle these resource-related challenges, it is crucial to establish a recycling-based society that promotes the efficient use of resources.

We are actively working to understand the environmental impact of waste and water use, and exploring methods to realize a resource-recycling society.

Chemical Substance Management

Various regulations worldwide govern the use, management, reporting, and disclosure of chemical substances that can impact human health and the environment. Our products utilize various chemical substances in their components and materials, and we ensure compliance with these regulations. In addition to complying with regulations, we strive to reduce our environmental footprint by identifying and reducing substances of concern that may have an impact on human health and the Earth's environment.

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● <u>Key Environmental Assessment Indicators</u>

Indicators		Unit	FY2023			FY2024
			Target	Result	Assessment	Target[*4]
Climate Change	Total GHG emission at sites (Scope1,2) [*5]	t-CO$_{2eq}$	7,200	7,130	Achieved	7,745
	Per-unit GHG emissions from product transportation[*6]	kg-CO$_2$eq／t-km	0.60	0.65	Not-Achieved[*8]	
	Total GHG emissions from product transportation[*7]	t-CO$_{2eq}$				9,200
Resource Recycling	Total amount of waste generated	t	1,167	1,288	Not-Achieved[*8]	1,937
	Water receiving	m^3	52,404	57,221	Not-Achieved[*8]	57,004
Chemical Substance Management	Chemical substance emissions	kg	110	98	Achieved	120

*4 Target value based on this year's production plan (approx. 150% compared to last year)
*5 Does not include GHG emissions from the use of company cars. GHG emissions from the use of company cars are managed in p.12 "8-1. Greenhouse gas emissions".
*6 Destinations for GHG calculations from product logistics are the U.S.A., Canada, and Japan.
*7 The indicator for greenhouse gas emissions from product transportation will be changed to emissions from fiscal 2024.
*8 The reasons for not achieving the targets for each item are explained in p.16 "Identify GHG emissions from product transportation", p.20 "9-1. Waste", and p.21 "9-2. Water use".

8. Climate Change

The Paris Agreement, adopted in 2015 to address the global issue of climate change, calls for efforts to keep the average temperature increase to below 2℃ above pre-industrial levels, with a long-term goal of limiting the increase to 1.5℃. Recognizing climate change mitigation as a critical management issue, we are studying ways to achieve net-zero greenhouse gas (GHG) emissions from our operations.

8-1. Greenhouse Gas (GHG) Emissions

Since FY2020, we have been monitoring our Scope 1-3 GHG emissions in accordance with the GHG Protocol*9 and striving to comprehend and manage our emissions.

Emissions data for FY2020 through FY2023 are shown below.

*9 The GHG Protocol is an international standard established by WRI (World Resources Institute) and WBCSD (World Business Council for Sustainable Development) to calculate an organization's GHG emissions across its entire supply chain

Category		Emissions (t-CO$_2$eq)				Notes
		FY2020	FY2021	FY2022	FY2023	
Scope 1 (Direct GHG emissions from business activities)		151	147	141	140	Direct emissions from the use of fuel and other resources at the facility (including company vehicles)
Scope 2 (Indirect GHG emissions from energy use in business activities)		9,570	9,076	8,072	7,143	Emissions from generating electricity and other energy used at the facility
Scope 1 + 2 total		9,721	9,223	8,213	7,283	
Scope 3 (Indirect GHG emissions beyond scope of business activities)	Category1 Purchased goods and services	665,952	770,621	704,278	820,733	Emissions from the manufacture of materials procured for the main products[10] that are sold in the reporting year
	Category2 Capital goods	31,444	23,992	28,124	20,261	Emissions from the construction, manufacture, and transportation
	Category3 Fuel-and energy-related activities (not included in Scope 1 or 2)	1,242	1,192	1,088	1,105	Emissions from fuel procurement (including natural resource extraction, manufacturing, and transportation) for generating electricity and heat obtained from other firms.
	Category4 Upstream transportation and distribution	14,489	17,728	9,131	6,916	Emissions generated by transporting parts, materials, and manufactured main products[10]
	Category5 Waste generated in operations	-	-	-	-	Not applicable
	Category6 Business travel	664	632	803	922	Emissions from business travel by all employees
	Category7 Employee commuting	482	558	568	550	Emissions from commuting by all employees
	Category8 Upstream leased assets	1,564	1,447	1,488	1,514	Emissions linked to leased asset operation (e.g. offices, warehouses, etc.)
	Category9 Downstream transportation and distribution	-	-	-	-	Not applicable
	Category10 Processing of sold products	-	-	-	-	Not applicable
	Category11 Use of sold products	168,860	121,770	90,274	94,549	Emissions from the use of the main products[10] sold in the reporting year
	Category12 End-of-life treatment of sold products	950	685	508	532	Emissions from recycling main products[10] sold in the reporting year
	Category13 Downstream leased assets	-	-	-	-	Not applicable
	Category14 Franchises	-	-	-	-	Not applicable
	Category15 Investments	-	-	-	-	Not applicable
Scope 3 total		885,647	938,625	828,192	947,082	
Scope 1 + 2 + 3 total		895,368	947,848	844,475	954,365	

[10] notebook PC, desktop PC, tablet

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The GHG emissions for FY2023 are displayed on the previous page. Our business activities contributed 7,283t-CO2eq to Scope 1 + 2 emissions. Additionally, Scope 3 GHG emissions totaled 947,082t-CO2eq, resulting in a total GHG emissions of 954,365t-CO2eq. "Emissions from activities leading up to the manufacture of purchased parts and materials, etc. (Scope 3, Category 1)" accounts for the largest proportion at approximately 86.0% of the total, followed by "emissions from the use of our products (Scope 3, Category 11)" at approximately 9.9% of the total, and these two types of emissions account for more than 90% of our total emissions. To promote the reduction of GHG emissions related to our company, we believe that it is necessary not only to address the GHG emissions associated with our own business activities but also to decrease the environmental impact of our products throughout their life cycles.
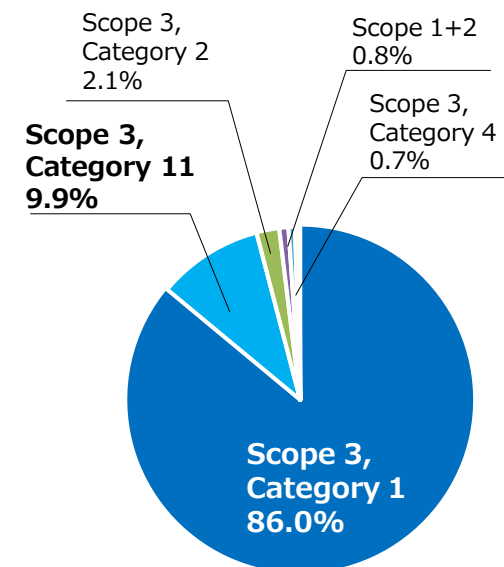
Category	Note
Scope 3, Category 1	Purchased goods and services
Scope 3, Category 11	Use of sold products
Scope 3, Category 2	Capital goods
Sccope 1+2	Business activities
Scope 3, Category 4	Upstream transportation and distribution

GHG emissions by Scope/Category

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● Reduction of GHG emissions at site

In response to climate change, we are actively identifying and reducing GHG emissions from our operations. Scope 1 and 2 GHG emissions at our sites from 2020 onwards are shown in the table below.

Scope 1 and 2 GHG emissions from our business activities (unit: t-CO_2eq)

	FY2020	FY2021	FY2022	FY2023
Scope1	151	147	141	140
Scope2	9,570	9,076	8,072	7,143
Total	9,721	9,223	8,213	7,283

As shown in the chart below, which illustrates Scope 1+2 GHG emissions from our operations by fuel type, electricity represents over 80% of these emissions. At our manufacturing site in China, which accounts for the majority of our emissions, we installed solar power generation equipment in November last year, using approximately 10,000m2 of the roof and parking lot. The capacity of the equipment is approximately 1,600kW, and we use a system in which we consume the electricity we generate ourselves and supply any surplus electricity to the power grid, making large-scale use of renewable energy.
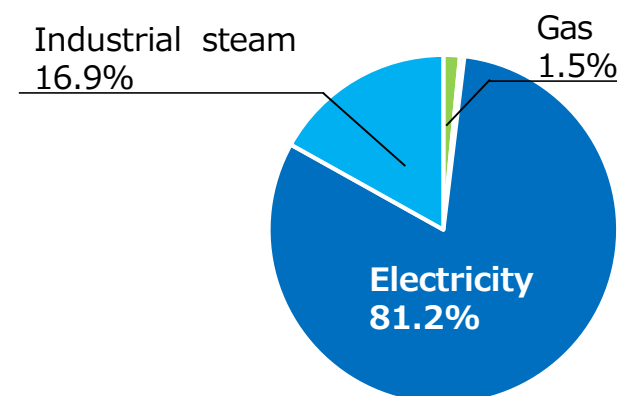
GHG percentage (by energy source)

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In addition, our manufacturing site in China, Dynabook Technology (Hangzhou) Inc., has obtained ISO 50001 certification for its energy management system, aiming to enhance energy performance.

ISO50001 Energy Management System Certificate

- **Identify GHG emissions from product transportation**

To understand the environmental impact of product transportation, we calculate and undergo third-party verification of GHG emissions from product transportation using the Global Logistics Emissions Council (GLEC) Framework, which provides a standardized approach for calculating and reporting logistics emissions. Due to downsizing, product shipments to Europe decreased, reducing GHG emissions. The result was 125.0% of the 2023 target, which is a miss of the target.

	GHG emissions from product transportation (t-CO_2eq)			
	FY2020	FY2021	FY2022	FY2023
To U.S.A.(t-CO2)	7,180	6,522	1,434	2,772
To Canada(t-CO2)	1,499	639	657	861
To Europe(t-CO2)	6,025	6,183	3,124	–[*12]
To Japan(t-CO2)	–[*11]	–[*11]	1,929	3,074
To Australia and New Zealand (t-CO2)[*3]				210
Total(t-CO2)	14,704	13,344	7,144	6.916
Environmental Indicators: Target (kg-CO2/t-km)	–[*13]	0.61	0.61	0.60
Environmental Indicators: Actual (kg-CO2/t-km)	0.62	0.58	0.61	0.75
Goal Achieved Rate	–[*13]	93.9%	99.8%	125.0%

[*11] GHG emissions from shipping to Japan have not been calculated for FY2020 and 2021.
[*12] The European facility was closed at the end of March 2023, so it is not included in the calculation for FY2023.
[*13] Targets for FY2021 and beyond have been set based on FY2020 results, so targets for FY2020 have not been set.
[*3] Added to the tally from FY2023

● Product Life Cycle Assessment (LCA)

To efficiently reduce the environmental impact of our products throughout their life cycles and develop environmentally conscious products, we have implemented life cycle assessment (LCA) and product carbon footprint (PCF)[14] methodologies to visualize the environmental impact.

We conduct LCA assessments on representative products every three years and PCF assessments on major products annually. The findings of these assessments are disclose on our environmental website.

・dynabook X83/LW
・Portégé X30L-K (PCR4)
・dynabook B75/LW

Link to LCA/PCF report website

https://dynabook.com/pc/env/eng/products/pc/product_environmental_reports.html

[14] LCA/PCF is a method to quantitatively calculate the environmental impact of a product throughout its entire life cycle, from the procurement of raw materials to disposal and recycling.
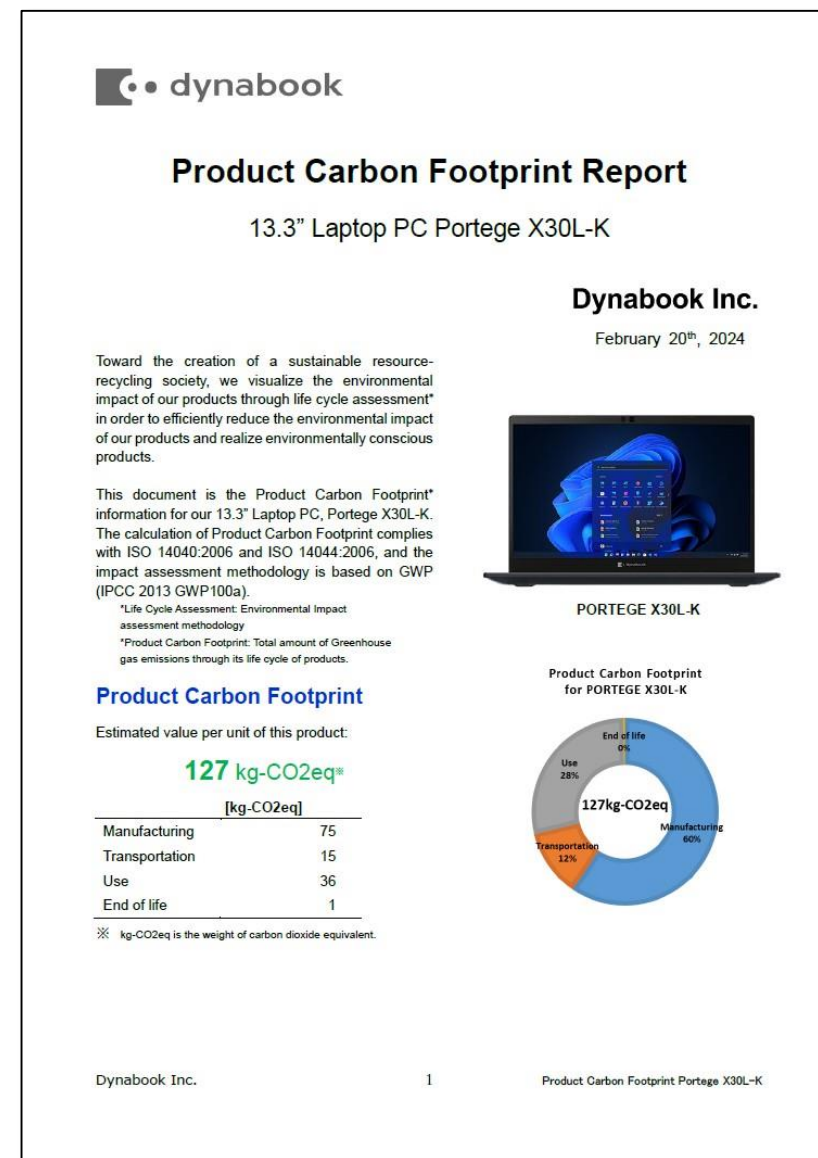
PCF report of Portégé X30L-K (excerpt)

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8-2. Effective use of energy

● Examples in Products

By reducing the average power consumption of our flagship product, the 13" mobile notebook PC, we are promoting energy conservation in our products and curbing greenhouse gas emissions associated with product use.

For FY2023, we set a target of reducing the average power consumption of 13" mobile notebook PCs by 3.3% or more (average 19.9 kWh in FY2022), and our actual result for FY2023 was an average of 18.8 kWh, a reduction of 5.5%, thus achieving our target.

Example of a flagship product: dynabook G83 (2023 model)

Our products are equipped with an "eco utility" that comprehensively supports the PC's contribution to power saving. The "eco utility" has three functions: "eco mode", "eco charge mode", and "Peak Shift".

- **eco mode**

"eco mode" is designed to reduce power consumption during product use by switching to an optimized power-saving mode. It automatically adjusts power plans, display brightness, and other settings to reduce power consumption.

- **eco charge mode**

"eco charge mode" provides charging options from Auto/80%/70% to extend the battery pack life.

- **Peak Shift**

To effectively utilize electricity, the battery power is utilized during the day, when energy demand is high, and the PC is charged during the night, when demand is relatively low. This approach helps achieve an averaged power demand.

● **Example at our Site**

At our manufacturing site in China, we cooperated with an investment company to install solar panels for renewable energy sources[15] and reduce GHG emissions. This project was completed in November 2023. It has a total installed capacity of approximately 1,600 kW. The company will use the electricity it generates and supply any extra through a power supply network.

We have also developed our own smart energy management system to show energy use and monitor it in real time.

For other initiatives at our manufacturing sites in China, please refer to the CSR Report below.

https://dynabook.com/pc/env/eng/management/csr_reports.html

[15] Renewable energy is energy obtained from natural sources such as hydroelectric power, wind power, and solar power.
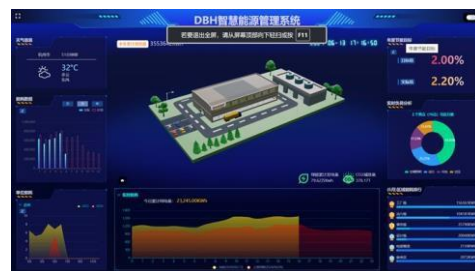
Smart energy management system

Solar power generation equipment

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![dynabook logo]

9. Resource Recycling

Natural resources are limited, and there is growing concern about resource depletion. Simultaneously, issues related to waste, such as the rise in marine plastics and garbage, are recognized as significant environmental issues. To address these resource-related problems, it is crucial to establish a resource-recycling society that includes the efficient use of resources.

To realize a resource-recycling society, our company is actively striving to reduce waste emissions, assess environmental impacts with regard to water resource efficiency, and promote the use of recycled materials.

9-1. Waste

Our company tracks two things: the total amount of waste at our major sites[16] and the final disposal rate at our manufacturing sites. Waste depends on the number of units manufactured. In FY2023, production increased by 117% and the total amount of waste generated was 1,288t, 110% of the target. We didn't reach the target. We define zero emissions as less than 0.5%. The final disposal rate in fiscal 2023 was 0.06%, which was below the standard value. In FY2024, production is also on the rise, and we expect waste to increase. We will work to keep the final disposal rate below the standard value.

[16] The major sites are Dynabook Technology (Hangzhou) Inc., Toyosu office, and Tachikawa office from FY2020 to FY2022, and Dynabook Technology (Hangzhou) Inc., Toyosu office, and Kemigawa office from FY2023 (Tachikawa office was closed at the end of March, 2023).
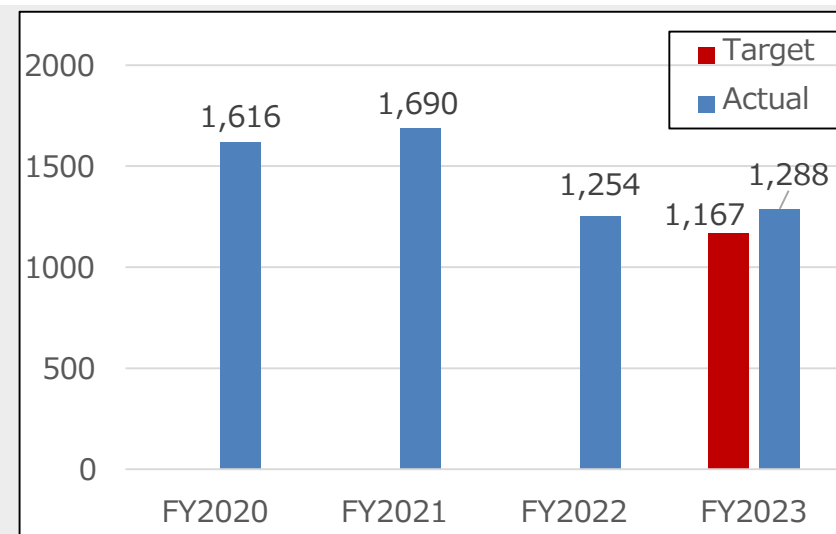
Trends in total waste generation at major sites[16] (unit: t)
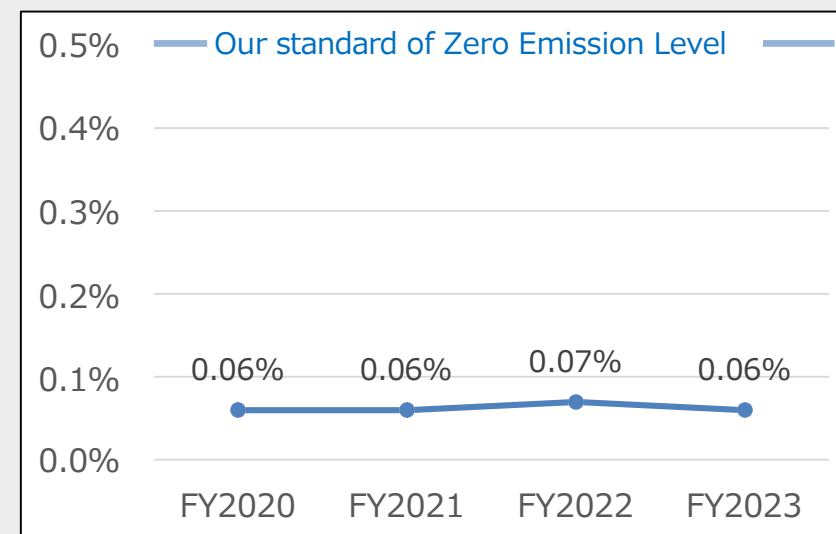
Trends in final waste disposal rate at manufacturing bases

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9-2. Water use

Water resource problems are arising on a worldwide scale with the increase in the world's population, the economic growth of developing countries, climate change, and other factors.

We have been studying the efficient use of water resources by monitoring their consumption at our major sites[*16]. The graph below shows the actual amount of water received.

Our manufacturing sites in China uses water for air conditioning and daily life. In FY2023, more water was needed for solar cell installation, and we failed to meet our target by 109%. We're still getting more water because we're continuing solar cell installation, and our target for FY2024 is 57km^3.
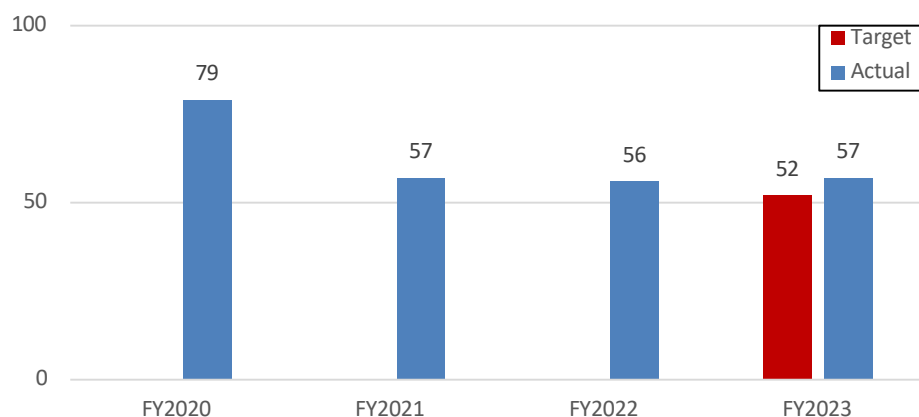
Water received trends at our major sites[*16] (unit: Thousands m^3)

*16 The major sites are Dynabook Technology (Hangzhou) Inc., Toyosu office, and Tachikawa office from FY2020 to FY2022, and Dynabook Technology (Hangzhou) Inc., Toyosu office, and Kemigawa office from FY2023 (Tachikawa office was closed at the end of March, 2023).

9-3. Products recycling

We promote the recycling of used products in accordance with the laws of each respective destination country. In addition to waste reduction through product recycling, we strive to conserve limited resources and reduce environmental impact by using recycled materials produced through product recycling. To encourage product recycling, we prioritize designs that facilitate recycling in product design. This includes reducing the number of parts, selecting easily recyclable materials, clearly indicating resin materials, and incorporating recycled materials.

Information on product recycling initiatives at each destination is available on the website below.

Japan: https://dynabook.com/pc/env/products/recycle.html
U.S.A: https://support.dynabook.com/support/navShell?cf=su_epeat
Canada: https://ca.dynabook.com/DBC/company/environmental-commitment

9-4. Utilize Sustainable Materials

We promote the use of sustainable materials, including recycled content and plant-based plastics, in both our products and packaging.

● Examples of sustainable materials in product

Our products incorporate plastics that contain recycled materials for the plastic housing of PCs, AC Adaptors, and other components. Additionally, we utilize plant-based plastic for the rubber feet of PCs and caution label which contains recycled materials for some models.

Where sustainable materials are used	usage conditions
Plastic chassis	Contains up to 30% recycled material
Magnesium Chassis	Contains 70% pre-consumer recycled materials
Chassis of AC adapter	Contains up to 30% recycled material
Internal plastic parts for metal chassis models	Contains up to 30% recycled material
Rubber feet of products(*)	Biomass plastic containing 38% plant-derived materials used in some models
Double sided tape for fixing LCD display for some product(*)	Contains up to 46% plant-based plastic
Caution label(*)	Contains 25% or more recycled material from post-consumer PET bottles

Note: Recycled content is expressed as a percentage by weight.
(*) Applied to some models.

Rubber feet of products

Caution labels containing recycled materials

⚠ CAUTION
PC BASE CAN BECOME HOT!
AVOID PROLONGED CONTACT
TO PREVENT HEAT INJURY TO SKIN.
⚠ ATTENTION
LA BASE DU PC PEUT S'ÉCHAUFFER.
ÉVITER LE CONTACT PROLONGÉ
AVEC LA PEAU POUR PRÉVENIR
LES RISQUES DE BRÛLURES.

![dynabook logo]

● Examples of sustainable materials in Packing

We actively employ recycled materials for packing, such as cardboard for boxes, cushioning materials, and plastic bags.

Cardboard
(Contains 90~100% recycled material)

PE bag
(Contains 35% recycled material)

Cushioning material
(Contains 50% recycled material)
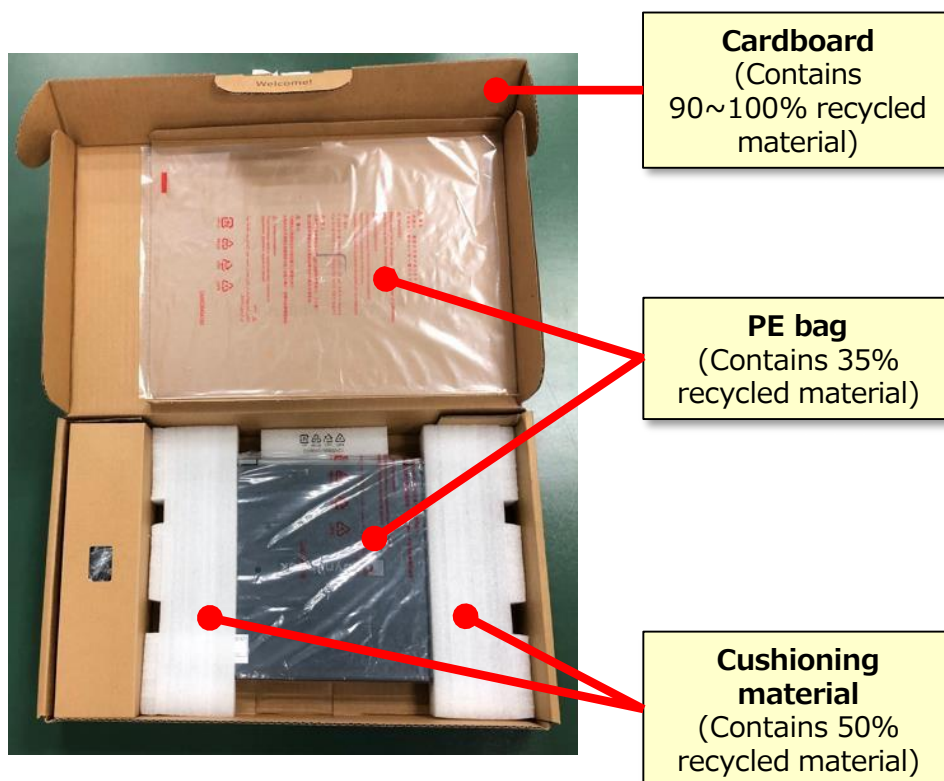
Sustainable materials in packing
(Recycled content is expressed as a percentage by weight)

● Examples of using environmentally friendly materials in promotional POP labels (in Japan)

Some of POP labels use base films with reduced plastic usage and water-based adhesives with reduced VOCs

POP label example in Japan

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![dynabook]

10. Management of chemical substances

Chemical substances that may affect the human body and the global environment are subject to various regulations around the world, including restrictions on use, management of content information, and reporting and disclosure of content status.

To properly manage these substances, we strive to reduce our environmental impact through management in compliance with laws and regulations and by identifying and reducing substances that may have an impact on the human body and the global environment.

10-1. Chemical substance management at manufacturing site

We are working to identify and reduce the amount of chemical substances used at our manufacturing sites. The graph below shows the trends in the amount of chemical substances handled and emitted at our manufacturing sites. We use chemical emissions as an environmental indicator. In FY2023, we achieved a target of 110kg with 98kg. In FY2023, we handled 492kg, down from 649kg in FY2022. This was due to an increase in production volume. In FY2021, we reduced the amount handled by replacing cleaning alcohol with water-based cleaning agents. We will continue to reduce the amount of chemical substances handled.
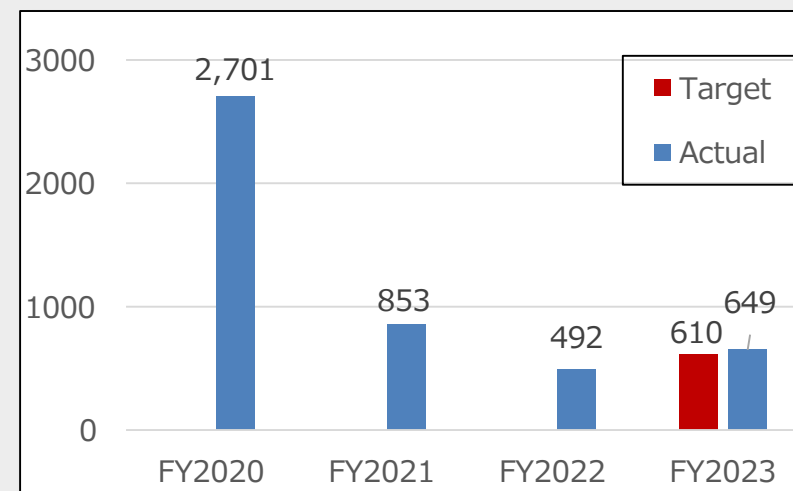
Amount of chemical substances handled at manufacturing site (unit: kg)
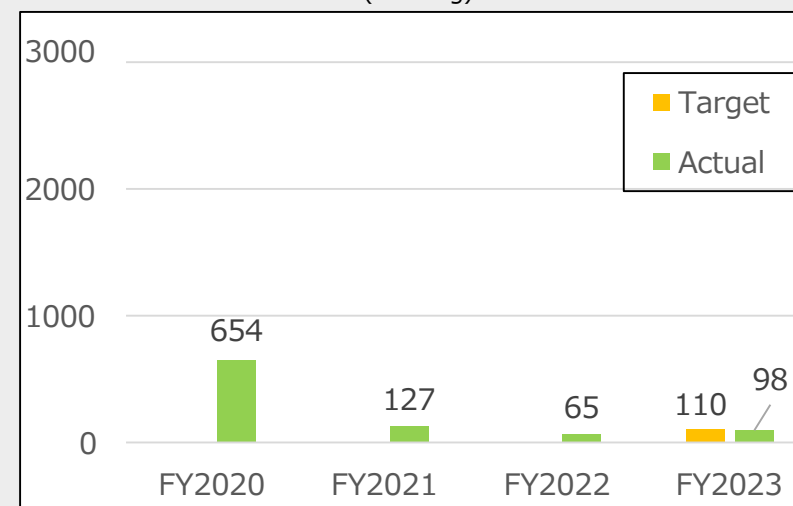
Chemical substance emissions at manufacturing site (unit: kg)

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10-2. Management chemical substance contained in products

To reduce the environmental impact of our products and ensure compliance with global chemical substance regulations, we have established and published our Green Procurement Guidelines. These guidelines outline the chemical substances that need to be controlled, including those prohibited in our products and substances that should be reduced and monitored. We consider existing laws, regulations, voluntary industry standards, and the possibility of future regulations when formulating these guidelines. When adopting procured parts and materials, we utilize the "Declaration of Non-Use of Hazardous Substances" to assess the presence of prohibited substances in our products. Specifically, we conduct sampling analysis to ensure compliance management for substances such as DEHP, BBP, DBP, and DIBP. Furthermore, we regularly conduct "green audits" of our suppliers to assess their chemical management practices and encourage improvements. Additionally, we conduct surveys to understand the chemical substances contained in our products. This includes surveys on Substances of Very High Concern (SVHC), as defined by the EU REACH Regulation, which are substances suspected of adversely affecting human health and the environment. We also conduct surveys on chemical substances contained in the parts used in our products, known as the Chemical Substance Inventory Survey.

Guidelines for Green Procurement
https://dynabook.com/pc/env/eng/green/index.html

11. Biodiversity conservation

We are actively engaged in promoting biodiversity conservation initiatives at our manufacturing sites with high environment impact.

Biodiversity Conservation Activities at Manufacturing Sites in China
[Bird conservation]
The Hangzhou Eastern Wetland Park serves as a habitat for wetlands and unique aquatic life, playing a crucial role as a stopover for migratory birds from East Asia to Australia. Our manufacturing site in China is located a mere 3.8 km from the Eastern Hangzhou Wetland Park, we are actively developing it to serve as a green corridor for migratory birds.

[Eradication of invasive species and protect biodiversity]
To reduce the damage caused by invasive species, we eradicate goldenrod every year in the wetlands along the Qiantang River, and to conserve biodiversity, we use natural materials to create artificial shrubs and mounds, providing shelter and habitat for small mammals and other wildlife.

Eradication of invasive species

Hideaway made of natural materials

12. EPEAT

EPEAT stands for Electronic Product Environmental Assessment Tool. It is a comprehensive labeling system operated by the Global Electronics Council in the United States, which evaluates electronic products based on their environmental considerations. EPEAT provides a third-party verification process that covers a wide range of evaluation criteria, including "product design," "recycling system," and "corporate social responsibility." The certification is registered in three levels: Bronze, Silver, and Gold, based on the level of compliance with optional criteria. We actively strive to obtain EPEAT certification.

URL: https://epeat.net/

Section No.	Criterion
4.1	Substance Management
4.2	Materials Selection
4.3	Design for end of life
4.4	Product longevity/life-cycle extension
4.5	Energy conservation
4.6	End-of-life management
4.7	Packaging
4.8	Life cycle assessment and carbon footprint
4.9	Corporate environmental performance
4.10	Corporate social responsibility

● **dynabook products listed on EPEAT (Silver and above)**

PORTEGE X30L-K	PORTEGE X30W-J/K
PORTEGE X40-K	PORTEGE X40L-M
PORTEGE X40-M	SATELLITE PRO A40-J/K
SATELLITE PRO A50-J/K	SATELLITE PRO R40-K
SATELLITE PRO R50-K	TECRA A40-J
TECRA A40-K/M	TECRA A50-J/K
TECRA A60-M	

dynabook E10-S	Satellite C40-G
dynabook E11-A	SATELLITE C40-K
dynabook E11W-A	Satellite C50-G
dynabook E40-K	SATELLITE C50-K
PORTEGE X30L-J	SATELLITE PRO C30-K
PORTEGE X30W-J	SATELLITE PRO C40-J/K
PORTEGE X40-J	Satellite Pro C50-G
PORTEGE X40L-K	SATELLITE PRO C50-J/K
SATELLITE C30-K	SATELLITE PRO E10-S

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13. Company Outline

13-1. Company Outline

Trade Name	Dynabook Inc.
Head Office	NBF Toyosu Garden Front Bldg. Toyosu 5-6-15, Koto-ku, Tokyo
Representatives	Kiyofumi Kakudo, Representative Director, President & CEO
Business Description	The development, manufacture, sales, support and servicing of personal computers and system solutions products in Japan and overseas
Established	September 9, 1954
Capital	8.55 billion yen
Annual sales	181 billion yen (as at fiscal 2023, consolidated base)
Number of employees	1,828 (as at April 1, 2024, consolidated base)

13-2. Third-Party Verification

To ensure the accuracy of our GHG emissions, we undergo third-party verification by THRIVE ESG.

THRIVE ESG

Limited Assurance Verification Statement

This limited assurance verification was prepared for Dynabook on behalf of UL Japan Inc.

Company Name: Dynabook

Company Address: Toyosu 5-6-15, Koto-ku Tokyo, Japan (NBF Toyosu Garden Front Bldg. 8F)

This verification was performed in accordance with the specification and guidance of ISO 14064-3.

Introduction

The verification of Dynabook's corporate greenhouse gas (GHG) emissions was carried out by Thrive ESG, on behalf of UL Japan Inc., for Dynabook who holds corporate responsibility for Dynabook's GHG inventory and reporting and is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria. Thrive ESG is responsible for expressing an opinion on the GHG statement based on the verification.

Verification Scope and Objectives

The limited assurance verification was carried out on Dynabook's declared GHG inventory for the period April 2023 through March 2024. Activities within Dynabook's organizational boundaries is limited to facilities responsible for the design and manufacture of laptop computers and scope 3 activities related to the production of laptop computers to align with the requirements of the IEEE 1680.1 EPEAT standard. This includes two locations in Japan and one location in China where Dynabook has the management authority to introduce and implement directives and policies, including:

- Head office – Toyosu 5-6-15, Koto-ku Tokyo, Japan (NBF Toyosu Garden Front Bldg. 8F)
- Kemigawa office – 261-0011 Chiba, Mihama Ward, Masago, Japan
- Hangzhou – 2nd Floor, Building 2, No. 3 East Gate, Hangzhou, Zhejiang, China

The GHG inventory included scope 1 stationary sources (LNG, city gas, and petrol/gasoline), scope 2 grid-supplied electricity and industrial steam, and scope 3 purchased goods and services; capital goods; fuel- and energy-related activities not included in scope 1 or scope 2; upstream transportation and distribution; business travel; employee commuting; upstream leased assets; use of sold products; and end-of-life treatment of sold products.

The main objectives of the verification were as follows:

- To conduct limited assurance verification of Dynabook's scope 1, scope 2, and scope 3 GHG emission inventory estimates for the period April 2023 through March 2024, detailed above.
- To evaluate how the collation and management of the GHG inventory conforms to the criteria, principals, and requirements of the World Resources Institute and the World Business Council for Sustainable Development GHG Protocol, 2004 (hereafter "GHG Protocol") and International Standard for the Validation and Verification of Greenhouse Gas Assertions (ISO 14064-3).
- To use this verification process to support Dynabook's continuous improvement of voluntary GHG accounting data, procedures, and management.

The criteria for this verification are defined by the GHG Protocol and detailed in ISO 14064-3.

THRIVE ESG

Verification Process

Thrive ESG conducted the verification as follows:

- Reviewed Dynabook's GHG inventory approach in terms of boundary setting, calculation methods, and data collection;
- Developed a risk-based verification plan and evidence-gathering plan that focused on documentation of the source data, emission factors, and calculations to estimate GHGs;
- Confirm data management and control systems, and confirm quality control and quality assurance procedures; and
- Corresponded by e-mail, with UL Japan as liaison, with key stakeholders to review the information systems and controls in place and to assess the accuracy and robustness of the systems and to verify boundaries, documentation, and methods.

Verification Findings

The verification resulted in various observations. The following is a summary of our findings:

- Thrive ESG reviewed the emission factors, global warming potentials, and conversion factors used in the Dynabook inventory calculations. Dynabook used appropriate emission factors provided by the governments of Japan and China for scope 1-2, and published extended economic input/output factors for Scope 3, supplemented with data from more detailed product life cycle assessment and transport/logistics analysis for Scope 3 as applicable.
- Thrive ESG reviewed corporate documentation of scope 1 and scope 2 emission sources and did not find material or systematic errors.
- Thrive ESG reviewed corporate documentation supporting the reported activity amounts used to estimate scope 3 emissions. We did not find material or systematic errors in scope 3 emissions estimates.
- Dynabook reported that no refrigerant refills occurred during the reporting period. Upon further discussion, we recommended Dynabook standardize the tracking and reporting of fugitive refrigerant emissions in the future. Since these sources are only relevant to office areas and not manufacturing, it may not be a material source of emissions.
- Dynabook's largest source of reported emissions (86% from April 2023 – March 2024) is from purchased goods and services related to laptop computers. Actual spend amounts were used in combination with emission factors from environmentally extended input-output economic statistics of Japan to estimate these emissions. We did not find material or systematic errors in these calculations, though the uncertainty of such statistical emission factors may be higher than specific average factors.
- Dynabook's second largest source of reported emissions (10% from April 2023 – March 2024) is from the use of its sold laptop computer products. Though the use of the products is outside of Dynabook's operational control, reasonable assumptions were used to represent active use, inactive use, and product lifetime to estimate electricity consumption and resulting emissions. We did not find material or systematic errors in these calculations.
- Though enterprise GHG emissions footprints are commonly conducted for a whole enterprise, this calculation is limited to activities for laptop computer products, a subset of Dynabook products, to be consistent with EPEAT requirements. Organizations may set boundaries based

THRIVE ESG

on various factors. Dynabook should transparently communicate this as a subset of its complete enterprise emissions in any public or stakeholder communications.

Conclusion

The Dynabook GHG inventory was prepared according to the requirements defined by the GHG Protocol. Table 1 summarizes the Dynabook GHG inventories subject to this review.

Table 1. Summary of Dynabook GHG Inventory

Emission Scope	Emission Source	April 2023 – March 2024 Emissions (MT CO$_2$e)
Scope 1	Fuel in stationary equipment	111
Scope 1	Fuel in mobile equipment	29
Scope 2	Electricity	5,912
Scope 2	Industrial steam	1,231
Scope 3	Category 1: Purchased goods and services	820,733
Scope 3	Category 2: Capital goods	20,261
Scope 3	Category 3: Fuel- and energy-related activities not included in scope 1 or scope 2	1,105
Scope 3	Category 4: Upstream transportation and distribution	6,916
Scope 3	Category 6: Business travel	922
Scope 3	Category 7: Employee commuting	550
Scope 3	Category 8: Upstream leased assets	1,514
Scope 3	Category 11: Use of sold products	94,549
Scope 3	Category 12: End-of-life treatment of sold products	532

Based on the process and procedures conducted, there is no evidence that the Dynabook GHG statement for April 2023 through March 2024;

- is not materially correct and is not a fair representation of GHG data and information;
- has not been prepared in accordance with related International Standards on GHG quantification, monitoring and reporting, or to relevant national standards or practices.

Verifier: James Mellentine
Thrive ESG
Golden, Colorado, USA
E-mail: jim@thriveesg.com

Signature:

James R. Mellent

Completed: July 15, 2025

Summary of qualifications:

James has been developing and reviewing carbon footprints for fourteen years. He has completed dozens of carbon footprints for enterprises and products and has conducted independent critical reviews or verifications on dozens of carbon footprints developed by others.

GHG Emissions Verification Report

Revision History

00	September 2024	Initial issue
01	September 2025	Updated greenhouse gas emissions to third-party verified values (confirmed values)