














Environment

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Top Message

Promote decarbonization and close the resource loop, develop environmental technologies, and provide products and services that reduce environmental impacts.

Accelerating the Circular Economy

Epson has cited achieving sustainability in a circular economy as a materiality (priority issue). Economic systems that continue to consume more resources and generate waste have dire consequences for the environment and society. The Earth is a closed and finite environment, so we must transition to economic activities within a circular economy to make society sustainable. There are still some unknowns about the concrete shape a circular economy will take and how to achieve it, but there is no doubt that decarbonization and a closed resource loop will be essential components. In addition to closing the loop in our own business activities, we will review the state of the economy together with various stakeholders through collaboration and open innovation in the supply chain. The latest IPCC report released in August 2021 declared that human activity is responsible for global warming. Taking this crucial science-based finding seriously, Epson will accelerate its actions toward the realization of a circular economy.



Kazuhiro Ichikawa

Executive Officer
General Administrative Manager,
Technology Development Division/
Global Environmental Strategy Promotion
Office

Vision

Environmental Vision 2050

Epson aspires to achieve sustainability and enrich communities. Achieving this aspirational goal will require addressing societal issues and driving transformative change in the way things are done.

Environmental Vision 2050 was conceived not from a perspective of what we can or cannot achieve but from a mindset of what we must achieve as a product creator and manufacturer.

Epson will become carbon negative and underground resource¹ free by 2050 to achieve sustainability and enrich communities

Goals

- 2030: Reduce total emissions in line with the 1.5°C scenario²
- 2050: Carbon negative and underground resource free

Actions

- Reduce the environmental impacts of products and services and in supply chains
- Achieve sustainability in a circular economy and advance the frontiers of industry through creative, open innovation
- Contribute to international environmental initiatives

¹ Non-renewable resources such as oil and metals

² Target for reducing greenhouse gas emissions aligned with the criteria under the Science Based Targets initiative (SBTi)

In 2008, Epson established Environmental Vision 2050, a statement of our environmental goals out to the year 2050. The world has since changed. Global efforts to achieve social sustainability are accelerating, with the United Nations adopting Sustainable Development Goals (SDGs)³ and the Paris Agreement⁴ charting a course toward decarbonization. In light of these changes, Epson revised the environmental vision in 2018 and specified three actions that the company should take.

In March 2021, Epson further revised the vision, setting specific goals that reflect Epson's strong commitment to addressing major societal issues such as decarbonization and resource recycling.

³ International goals for social sustainability adopted at the U.N. Sustainable Development Summit in September 2015, aimed at addressing global issues such as climate change, poverty, and human rights. There are 17 sustainable development goals with 169 targets.

⁴ A legally binding international treaty on climate change. The aim of the agreement is to keep a rise in global average temperature to well below 2 degrees Celsius above pre-industrial levels.

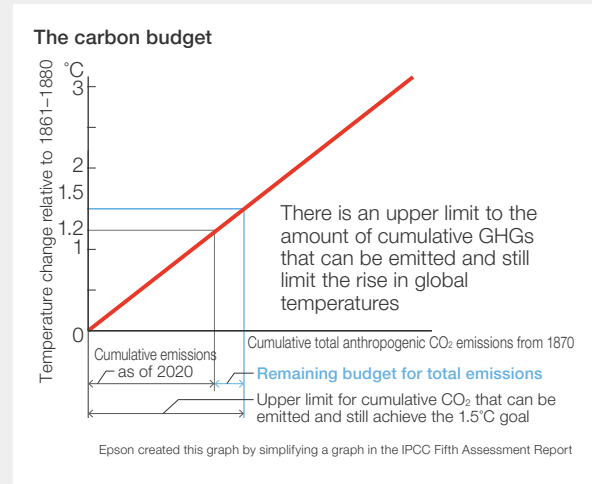
TOPICS

Carbon Budget

The IPCC⁵ Fifth Assessment Report reaffirms that there is a near-linear relationship between cumulative anthropogenic greenhouse gas (GHG) emissions and the global warming they cause. This relationship indicates that there is an upper limit to the cumulative GHGs emissions (the sum of past and future emissions) that can be released into the atmosphere if we are to keep the rise in temperature to a certain level. This upper limit is the carbon budget.

According to the latest IPCC Report (AR6 SYR, released in March 2023), the carbon budget remains 500 GtCO₂ for a 50% likelihood of limiting global warming to 1.5°C. At the current pace of global emissions, the carbon budget will run out in 10 years. The UN's Decade of Action is of the utmost importance for containing global warming and meeting the SDGs.

⁵ Intergovernmental Panel on Climate Change



Natural Capital

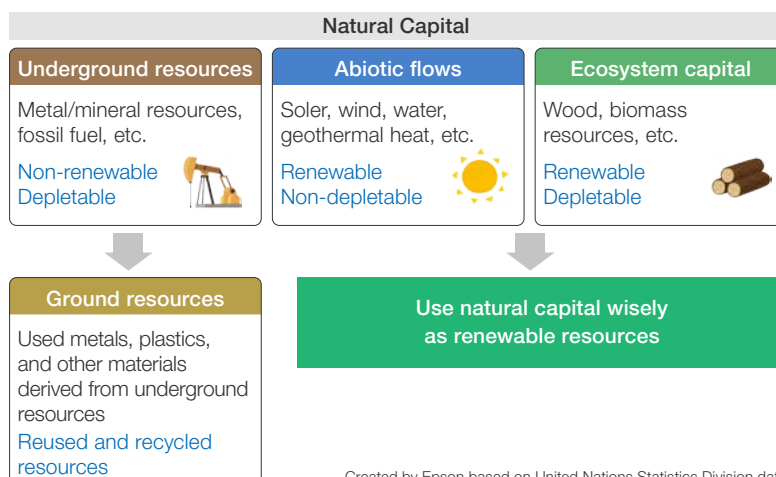
Business Activities Based on Natural Capital

The resources we use are called “natural capital” and include underground resources, abiotic flows, and ecosystem capital.

The mining of underground resources causes destruction of the biosphere. In addition, when mined resources are used as industrial products, they consume a great deal of energy and emit CO₂.

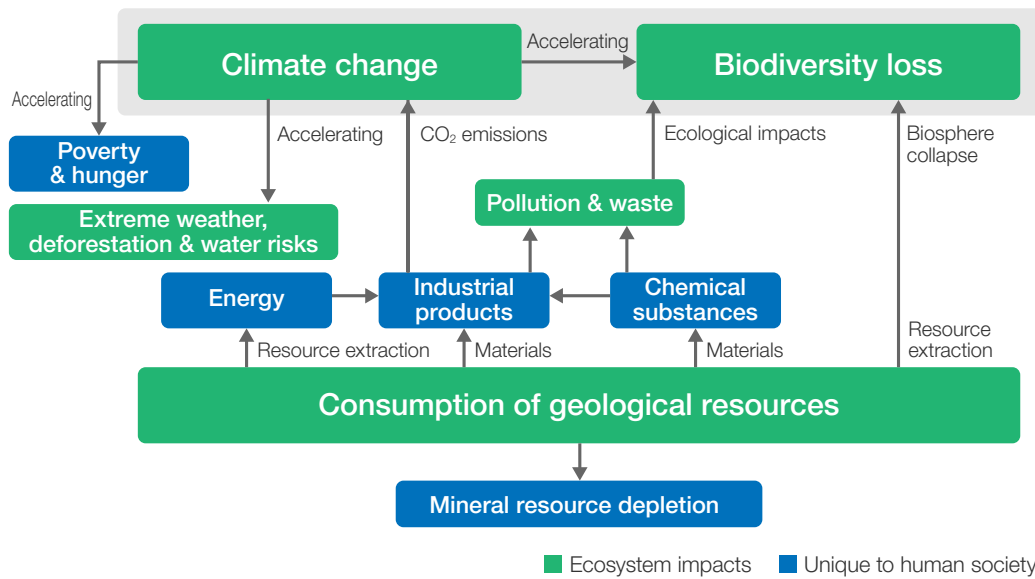
Epson will dramatically change the way natural capital is used. We will reduce the consumption of new underground resources by utilizing previous mined minerals as above-ground resources and will use abiotic flows as energy sources. Ecosystem capital is renewable and non-depletable if used wisely.

In the natural world, solar energy is the only energy source used, and all matter circulates without producing waste. We look to learn from nature, avoid producing waste, and repeatedly reuse resources in our business activities.



Created by Epson based on United Nations Statistics Division data

Relationship between climate change, biodiversity, and human society



Our Approach

Decarbonization Initiatives

The entry into force of the Paris Agreement in 2016 changed the situation in industrial, economic, and other markets, as the focus turned from a low-carbon to a decarbonization strategy. Unlike the earlier Kyoto Protocol, the Paris Agreement, adopted under the UN Framework Convention on Climate Change, set a goal of keeping the average global temperature rise to well below 2°C above pre-industrial levels. To achieve this, emissions must reach net-zero in the second half of the 21st century. Later, in 2018, the IPCC presented the Special Report on Global Warming of 1.5°C, which shows that there are clear benefits to keeping warming to 1.5°C rather than 2°C in terms of the impacts of extreme events such as heat waves and floods. The report brought the world’s attention to the need to reach the 1.5°C goal to overcome the climate crisis, prompting widespread global action.

The world needs to cooperate in transitioning societal systems toward net zero emissions by eliminating the consumption of fossil fuels and removing CO₂ from the atmosphere.

Climate Risks: 1.5°C vs 2°C Global Warming

	1.5°C	2°C
World population exposed to severe heatwaves (at least once every 5 years)	About 14%	About 37% (about 1.7 billion people increase)
World population at risk of flooding (relative to 1976-2005)	2 times	2.7 times
Global mean sea level rise (relative to 1986-2005)	26 - 77 cm	10 cm higher compared to 1.5°C Up to 10 million more people would be impacted
Species	6% of insects, 8% of plants and 4% of vertebrates will be affected	18% of insects, 16% of plants and 8% of vertebrates will be affected
Coral reefs	70 - 90% decline	99% decline
Ice-free summers in Arctic	At least once every 100 years	At least every ten years
Annual catch of marine fisheries	1.5 million tonnes decrease	3 million tonnes decrease

Source: WWF Japan documents based on IPCC SR1.5 SPM & Chapter 3

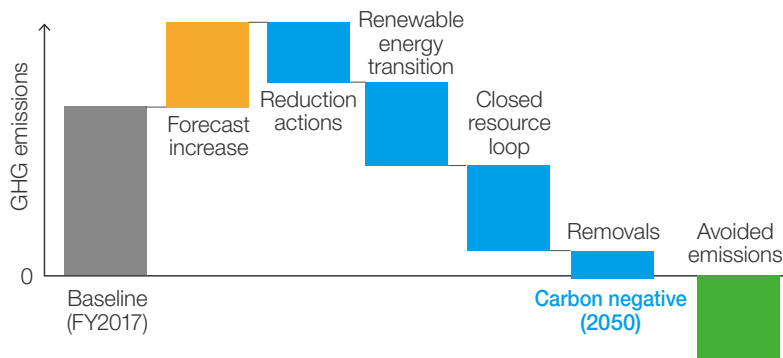
Decarbonization Goal: Carbon Negative

Epson aims to become carbon negative, which is defined as limiting emissions of all greenhouse gases (GHG scopes 1, 2, 3) from our business activities, removing from the atmosphere an amount of CO₂ corresponding to the remaining GHGs to reach essentially zero GHG emissions, and then removing even more carbon.

First, we will minimize energy-use associated with production and products and switch to renewable energy sources. Closing the resource loop is also effective in reducing GHG emissions, so, along with our goal of becoming underground resource-free, we will move toward GHG-free manufacturing.

Epson is reducing its customers' GHG emissions by providing products that have a smaller environmental footprint during use. We represent the amount of reduction as a measure of our environmental contribution and are creating and manufacturing products that will increase the contribution.

Conceptual Image of Emissions for the Carbon Negative



Closed Resource Loop Initiatives

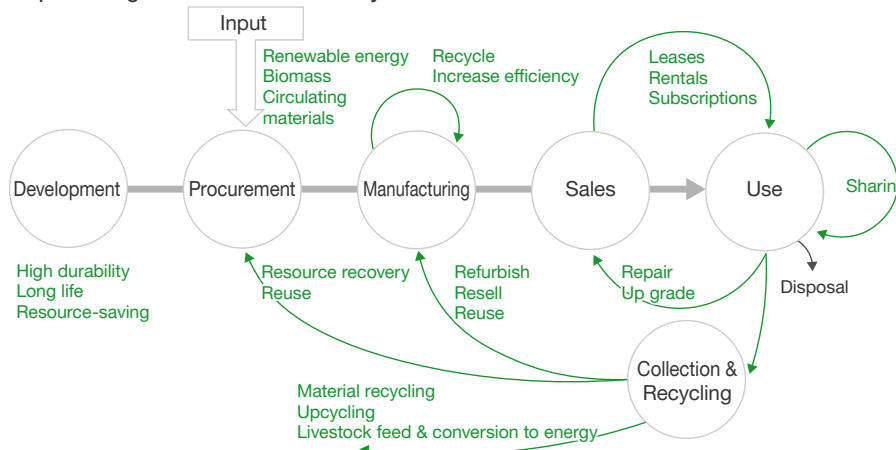
The idea of a circular economy is being advocated as a sustainable economic system to replace the current one-way linear economy of mass production, mass consumption, and mass disposal. In Europe, the European Commission has adopted the Circular Economy Package and has begun taking concrete steps toward transitioning to a circular economy that uses resources more sustainably.

According to an OECD¹ report², global resource consumption is predicted to increase to 167 gigatons in 2060, which is more than double the 79 gigatons consumed in 2011, due to population growth and GDP growth.

¹ Organisation for Economic Co-operation and Development. A European-led international organization to which 35 developed countries, including Japan and the United States, are members.

² Global Material Resources Outlook to 2060

Conceptual image of the circular economy



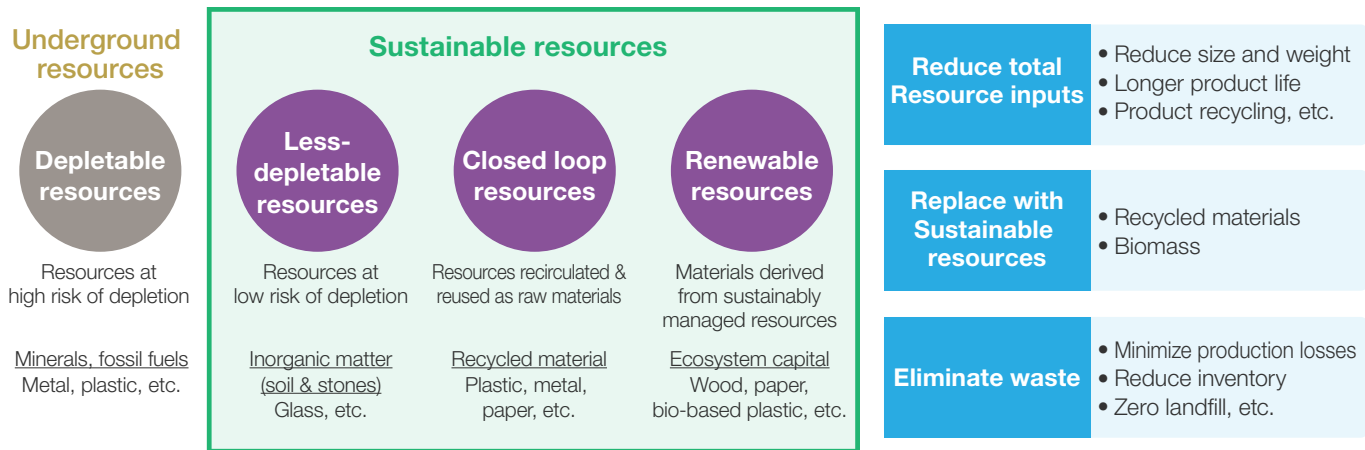
The Closed Resource Loop Goal: Becoming Underground Resource Free

Epson will utilize previously mined underground resources as existing above-ground resources to reduce consumption of new underground resources and become underground resource free by 2050.

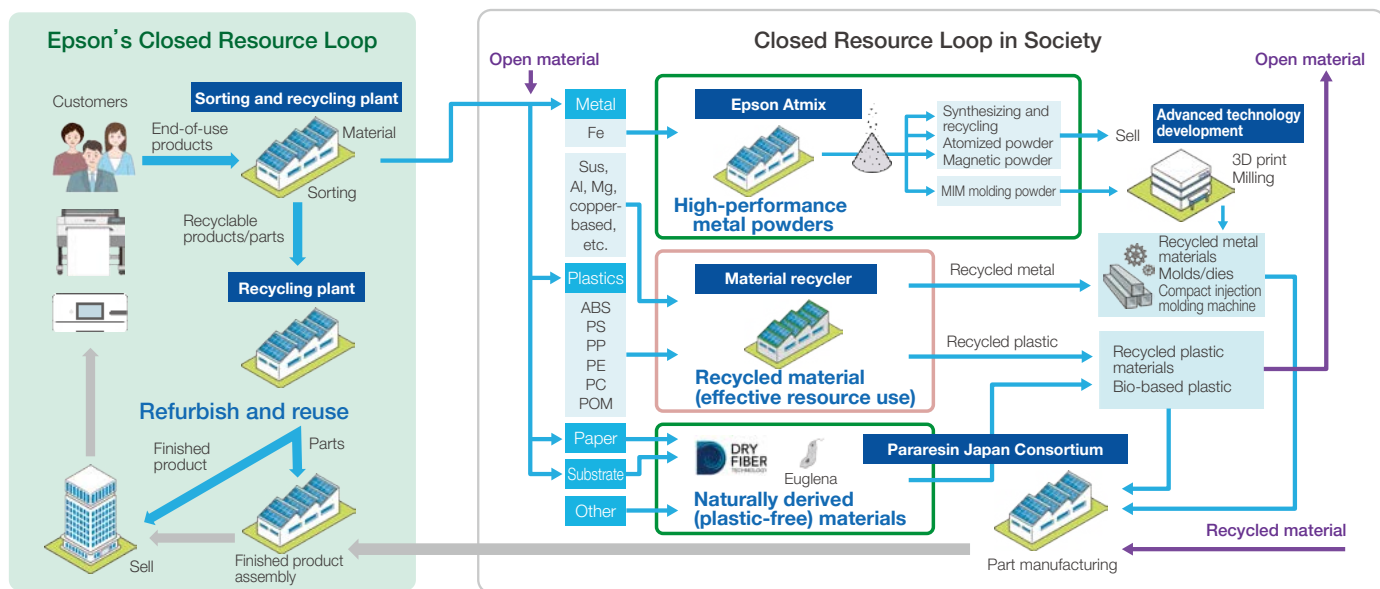
We will endeavor to reduce total resource inputs, eliminate waste/disposal, and reach a 100% sustainable resource rate¹ to achieve the goal of becoming underground resource free.

¹ Sustainable resource rate: The proportion of sustainable resources (renewable resources + closed loop resources + less-depletable resources) to raw materials

Resource Utilization Image Toward Underground Resource Free



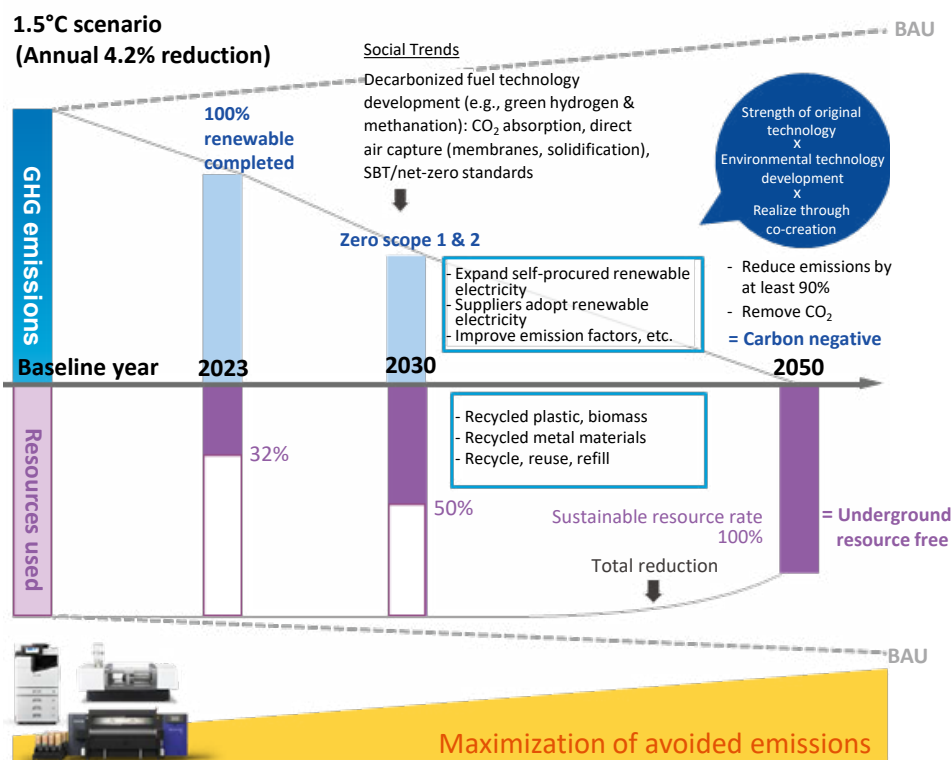
Conceptual Image of Closed Resource Loop in Epson and in the Entire Society (Above-Ground Resources)



Roadmap

Efforts are being made to achieve not only carbon neutrality by 2050, but also carbon negativity, while aiming for underground resources free. By backcasting¹ from these long-term goals, specific scenarios outlining how progress will be made in the mid-term have been developed, which are presented in the “Mid-Range Environmental Action Plan.” As business growth continues, GHG emissions and resource consumption throughout the supply chain are expected to increase. To address this, an “Environmental Value Creation Scenario” has been formulated that integrates both environmental and business strategies across all operations, laying out a roadmap to achieve the 2050 targets.

¹ A planning technique in which a desired outcome is first envisioned and then the scenario for achieving the outcome is devised.



Targets and Main Strategic Actions by Category in the Mid-Range Environmental Action Plan

Decarbonization	2030 Targets <ul style="list-style-type: none"> • Zero Scope 1 & 2 emissions • 55% reduction in total Scope 1, 2, and 3 emissions (compared to FY2017 levels) • Main strategic actions • Scope 1 (fuels): Electrification & conversion to decarbonized fuels • Scope 2 (Electricity): Switch to renewable electricity & expand local and in-house power generation
Closed Resource Loop	2030 Target 50% sustainable resource rate Main strategic action Use sustainable resources for main materials (plastic & metal)
Multifaceted Actions	Main strategic actions <ul style="list-style-type: none"> • Reduce product size, weight & replacement parts • Reduce product energy use • Resell returned products, refurbish used products, refill • Establish long service life business model • Engage suppliers on renewable electricity & recycled materials • Minimize production losses, reduce GHGs
Customer Environmental Impact Mitigation	Main strategic action Expand products & services that have a lower environmental impact

Environmental Vision 2050 and Corporate Vision

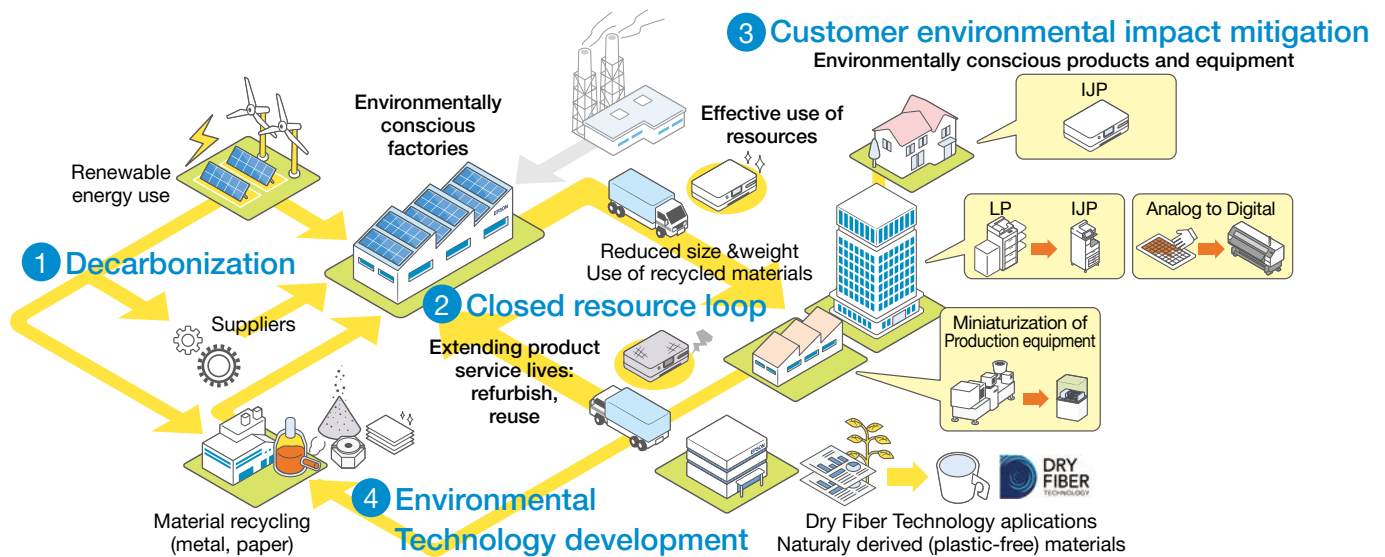
Global action is needed to achieve social sustainability, as the contribution that any one company can make by reducing the environmental impacts of its business activities is limited. Environmental Vision 2050 articulates actions for creating synergies with business partners based on our technologies, products, and services and for allowing us to play a part in creating a better world.

In March 2021, Epson announced a revised corporate vision, Epson 25 Renewed. Epson 25 Renewed describes the company's aspirations for addressing societal issues and achieving sustainable and enriched communities by working with customers and partners.

The efficient, compact, and precision technologies that Epson has developed since its founding have yielded inkjet technology that reduces environmental impacts and increases productivity along with a host of other technologies that Epson believes can play a major role in solving societal issues and in achieving the Sustainable Development Goals. We will play to these strengths and work with partners as we seek to co-create high customer value that offers both environmental and economic benefits.

Epson 25 Renewed Corporate Vision: Environment

Promote decarbonization and close the resource loop, develop environmental technologies, and provide products and services that reduce environmental impacts



<p>1. Decarbonization</p>	<ul style="list-style-type: none"> • Renewable energy use • Energy-saving facilities • Greenhouse gas removal • Supplier engagement • Carbon-free logistics
<p>2. Closed resource loop</p>	<ul style="list-style-type: none"> • Effective use of resources: Reduce size and weight, use recycled materials • Minimize production losses • Extend product service lives: Refurbish and reuse
<p>3. Customer environmental impact mitigation</p>	<ul style="list-style-type: none"> • Lower power consumption • Longer product life • Fewer consumables and limited lifetime parts • Digitalization of printing • Miniaturization of production machines
<p>4. Environmental technology development</p>	<ul style="list-style-type: none"> • Dry fiber technology applications • Naturally derived (plastic-free) materials • Material recycling (metal, paper) • CO₂ absorption technology

Environmental Investment and Spending

- Spend 100 billion yen over the 10 years to 2030 (items 1, 2, 4)
 - Reduce GHG emissions¹ in the supply chain by more than 2 million tonnes
 - Use renewable energy to meet 100% of the electricity needs of the entire Epson Group by 2023²
- Concentrate management resources on the development of products and services that reduce environmental impacts (item 3)

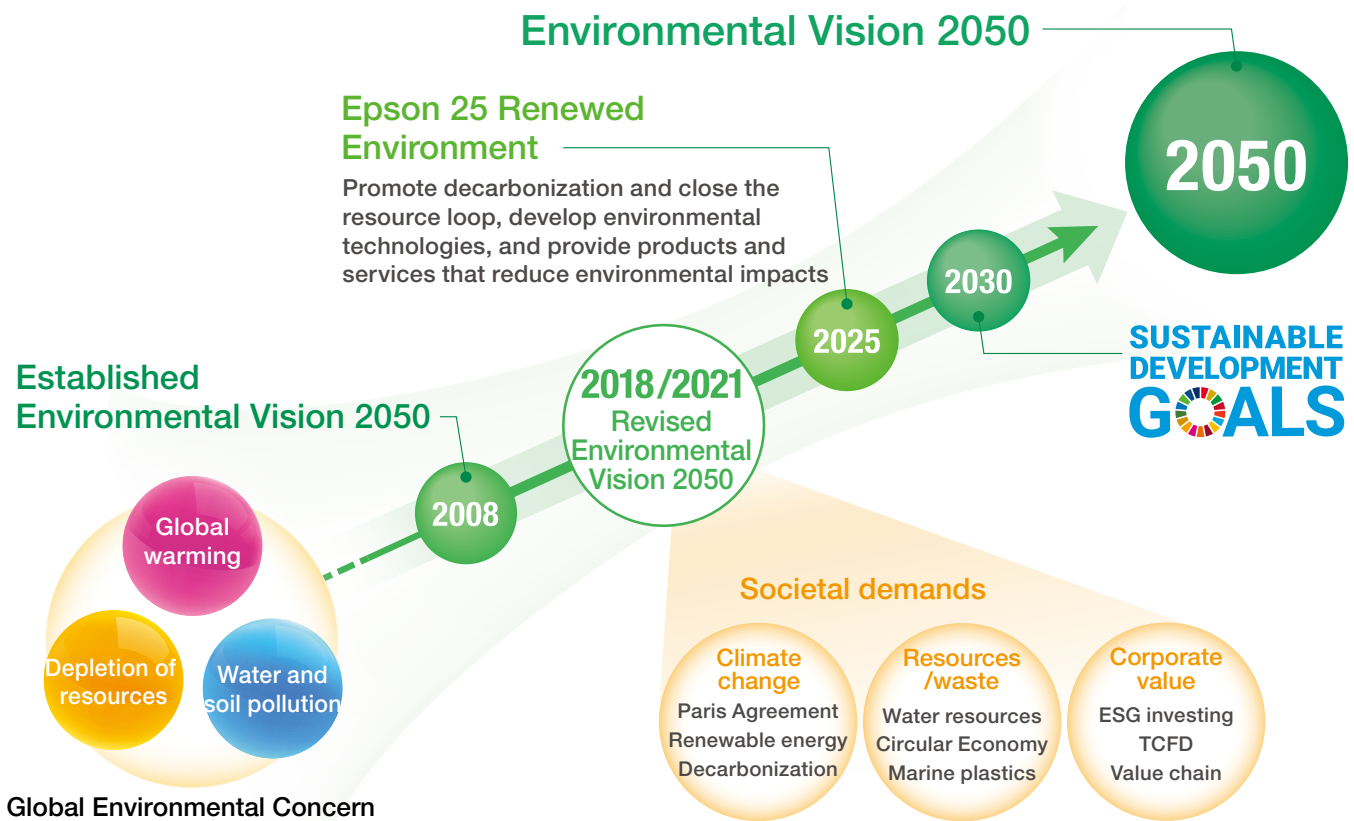
¹ GHG Scope 1, 2, 3 emissions

² Excludes leased properties for sales offices, etc. where the amount of electricity consumed cannot be determined

Striving to Sustainability

Epson is declaring its intent to contribute to the achievement of the SDGs through its environmental and other CSR initiatives. The SDGs are the world’s agenda for sustainable development. There are 17 goals, such as ending poverty and hunger, ensuring peace, justice, and gender equality, and environmental and resource sustainability for future generations. All UN member states have committed to achieving these goals by 2030.

Epson’s Environmental Vision 2050 is aligned with the SDGs. We will continue to honestly address customer and societal challenges and will create unique environmental value through our business activities to help achieve the SDGs and a sustainable future.



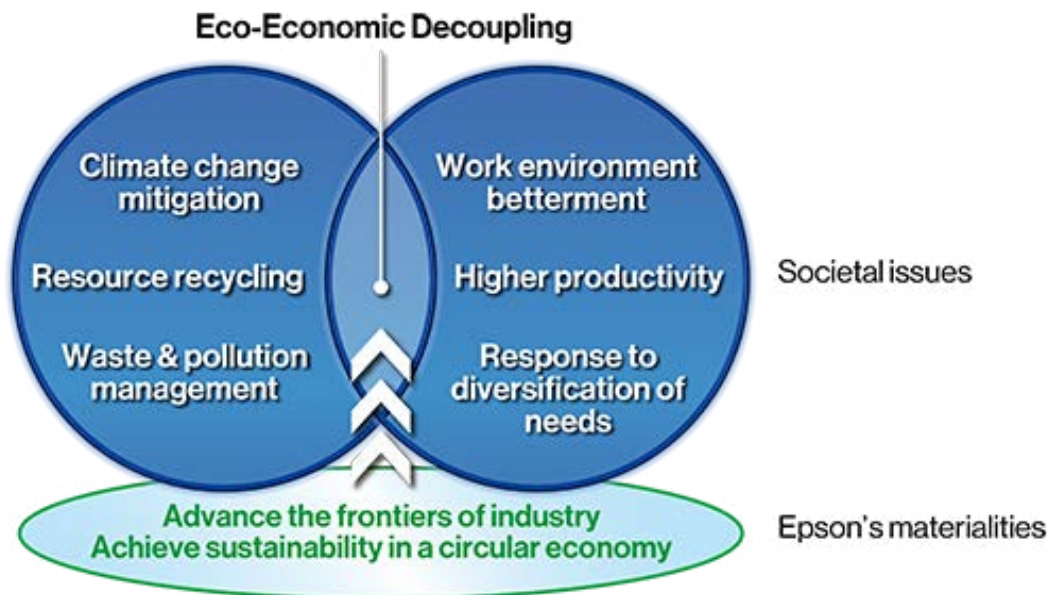
Feature Article



Solving Social Issues Through Inkjet Technology

The SDGs, adopted around the globe, demand that we change the world to achieve a better and more sustainable future.

“We want to change the world with inkjet technology.”
 Propelled by this aspiration, we seek to transform methods and mentalities and to provide products, services, and production processes that have a far lower environmental impact on society, decoupling economic growth from environmental degradation.
 This is Epson’s mission.



Decoupling:
 To separate economic growth from environmental impacts and the use of natural resources; and to increase resource and environmental efficiency at every stage, from production to consumption to disposal, through technological innovation and social transformation

Feature Article

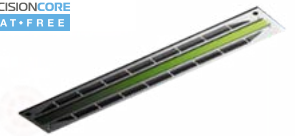
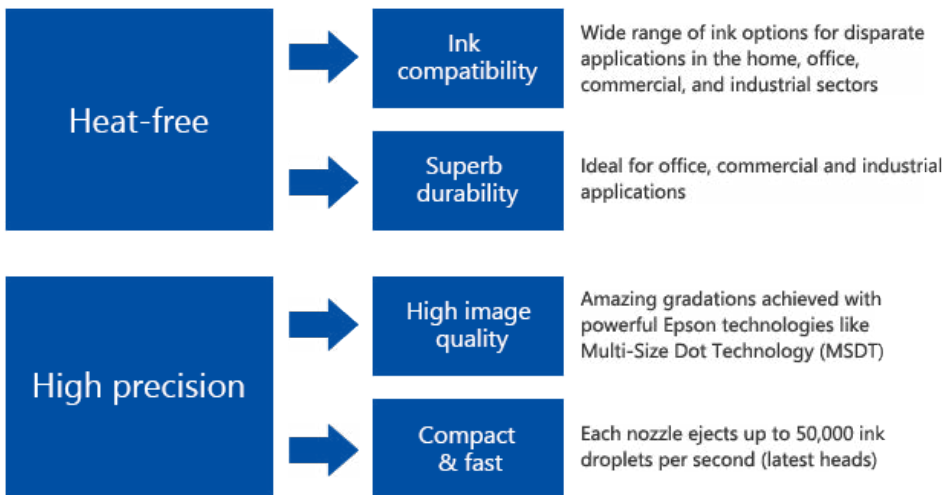
Advantages of Inkjet Technology

Epson’s inkjet systems mechanically eject droplets of ink without heating it.

Since a non-contact method is used to deposit ink, Epson’s inkjets can print on a wide range of media. And, because heat is not used, a variety of inks (substances) can be used.



Characteristics of Epson inkjet systems



PrecisionCore Micro TFP print chip

Epson is deploying its state-of-the-art piezo-electric PrecisionCore printheads in printers across a wide range of categories. We want to use this technology, which can deliver value by boosting productivity while mitigating environmental impacts, to replace analog printing in every possible application. We are selling more printheads to external customers in response to the expansion of the digital printing market in the commercial and industrial sectors.

Replace analog printing in every possible application

Value delivered by inkjets

Fewer processes, reduced resource use, less waste and wastewater, shorter turnaround times, smaller space requirements, and custom on-demand production

Feature Article

Future Outlook (Expansion in Production & Creative Areas)

Inkjet-based manufacturing innovations Advancing the frontiers of industry through open innovation

We believe that a sustainable world is one where all people are happy and content and where the environmental impacts that society inflicts are dramatically lowered.

The time has come to promote the decoupling of economic growth from environmental impacts by innovating countless production processes with countless technological innovations. In other words, we must advance the frontiers of industry.

Epson’s inkjet technology has the potential to satisfy the conditions for a sustainable world.

The number of potential applications for inkjet technology is growing. To expand the use of this technology in new areas and to maximize its full capabilities, Epson needs to collaborate with outside partners who share our aspirations and who have new ideas and new technologies.

By combining our strengths with those of partners who have strengths in other fields, we can produce synergies and advance the frontiers of industry at a high level.

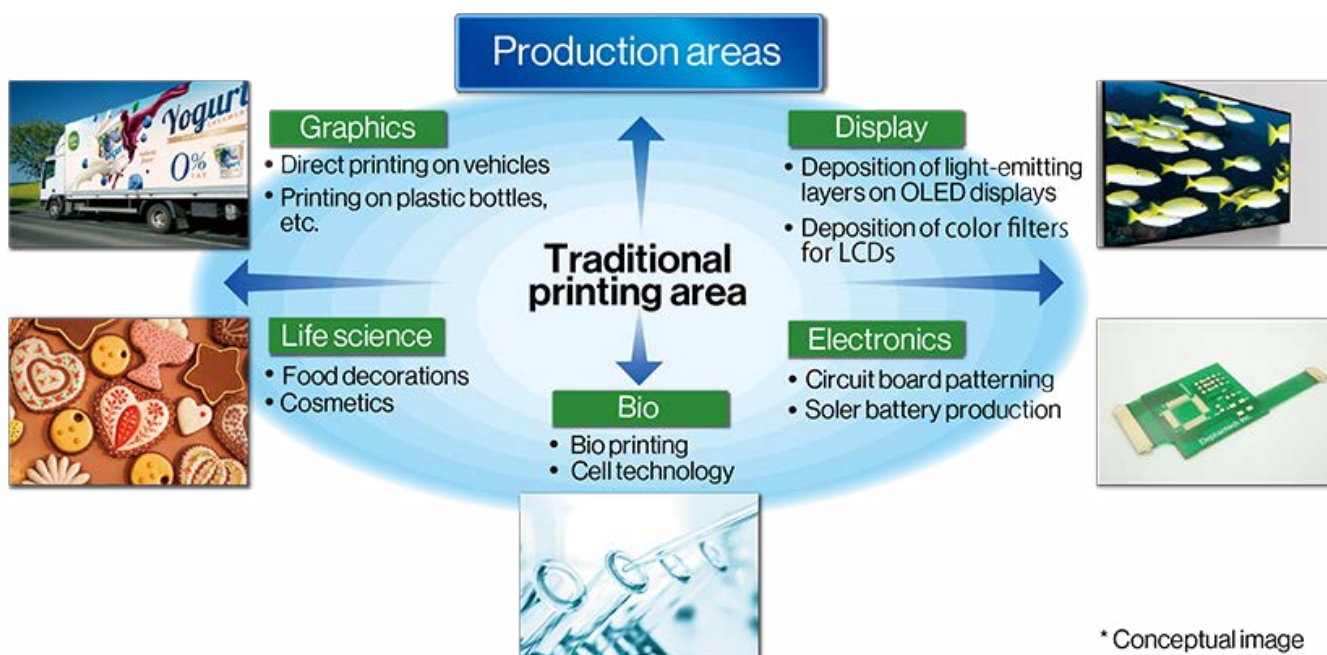
Conditions for sustainability

- People can live happy and content
- Environmental impacts that society inflicts are dramatically lowered

Advance the frontiers of industry

Enable human needs to be met with the least environmental impact

Further expanding inkjet applications through open innovation



Feature Article

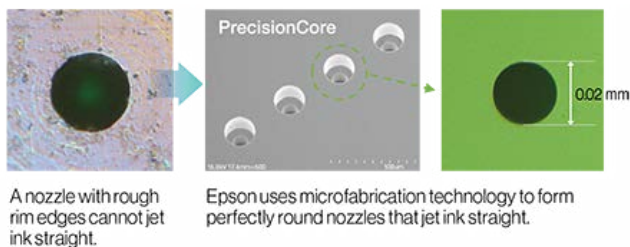
State-of-the-Art Printheads

The evolution of Epson inkjet printheads. Epson's inkjet heads have evolved over three broad generations.



PrecisionCore head nozzles are 0.02 mm (20 μm) in diameter

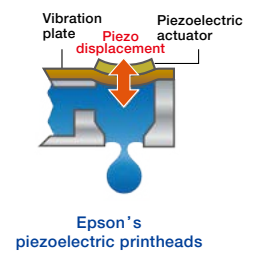
That is about 1/5th the diameter of a typical human hair.



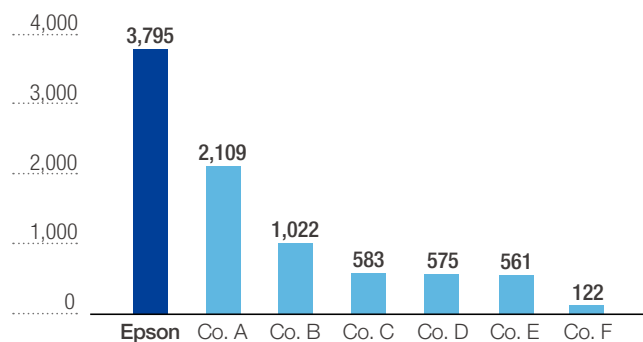
Piezo-electric inkjet heads consume little electricity and, since they are heat-free, are compatible with all manner of inks. Since 1984 Epson's inkjet heads have evolved across three generations to become faster, more precise, and more compact.

PrecisionCore heads are the 3rd and newest generation. They were achieved by using the latest high-precision MEMS technology for everything from the ultra-thin film piezo-actuators to the nozzles.

Epson was able to obtain a larger displacement by fabricating thin-film piezo-actuators a mere 1 micrometer (1/1,000 mm) in thickness.



Number of Piezo Printhead-Related Patents Owned



* As of July 11, 2024. Per Epson research.
 * Patents registered in Japan, the US, China, and Europe with an application date of July 11, 2004 or later

Key intellectual property

Epson owns a formidable number of piezo head patents around the world, and those technologies are incorporated into our heads.

Feature Article

Business Growth and Low Environmental Impact

Operations launched in Building 9 at the Hirooka Office in 2018
Epson has laid a foundation for advancing the frontiers of industry by putting itself on a path toward tripling print chip production capacity and by accelerating external head sales.

Building 9 environmental considerations

- LED lighting throughout the building
The latest LEDs are also used for yellow lights for semiconductor fabrication.
- High-efficiency air-conditioning system
Reduced the amount of construction materials and increased the efficiency of space use by using task and ambient air conditioning.
- Low-carbon electricity used for production
All of the electricity needs of Hirooka office including Building 9 can be met with renewable energy.



Epson Wins Minister of Economy, Trade and Industry Award at the 29th Grand Prize for Global Environment Awards

- Company praised for inkjet innovation to minimize environmental impact -



<https://corporate.epson/en/news/2020/200228.html>

Green Bonds

Global action is needed to achieve sustainability. The contribution that any one company can make by reducing the environmental impacts of its business activities is limited. Environmental Vision 2050 articulates actions for creating synergies with business partners based on our technologies, products, and services and for allowing us to play a part in creating a better world.

To achieve Environmental Vision 2050, we have been setting mid-term milestone targets, while steadily working to bridge the gap needed to reach them. We will use our efficient, compact and precision technologies in tandem with various initiatives to improve the environmental performance of our products and business activities and to reduce environmental impacts across the value chain. By offering products and services that enable new business processes, we aim to provide outstanding economic and environmental value to our customers.

In line with these policies, Seiko Epson issued green bonds¹ through a public offering in Japan to raise funds for projects that will contribute to the solution of environmental problems. A second-party opinion was obtained from an external ESG rating company. They found that Epson's green bonds satisfy the requirements of Green Bond Principles 2018 published by the International Capital Market Association (ICMA) and Green Bond Guidelines, 2017, issued by the Ministry of the Environment.

¹ Green bonds: Bonds issued to raise funds needed for projects that will contribute to the solution of environmental problems such as global warming.

1. Summary of Issue

Instrument name	Seiko Epson Corporation unsecured straight bonds (with inter-bond pari passu clause) (Green Bonds)		
	20th	21st	22nd
Series	20th	21st	22nd
Term to maturity	3 years	5 years	10 years
Total amount of issue	10 billion yen	40 billion yen	20 billion yen
Denomination	100 million yen		
Issue price	100 yen per face value of 100 yen		
Interest rate	0.020% per annum	0.230% per annum	0.450% per annum
Pricing date	2020/7/10		
Payment date (issue date)	2020/7/16		
Redemption date	2023/7/14 (Redeemed)	2025/7/16	2030/7/16

Instrument name	Seiko Epson Corporation unsecured straight bonds (with inter-bond pari passu clause) (Green Bonds)
Use of proceeds	<p>Seiko Epson has allocated all bond proceeds to cash reserves, which decreased due to payments for the green bond eligible assets listed in (1) through (3) below, as well as to the green bond eligible projects listed below in (4) through (8).</p> <ul style="list-style-type: none"> (1) Construction costs for a new building (Building 9) at the Hirooka Office (2) Construction costs for a new building (Building B of the Innovation Center) at the Hirooka Office (3) Construction costs for factory expansion at a manufacturing subsidiary in the Philippines (4) Costs of R&D and production facilities for high-speed linehead inkjet multifunction printers for offices (5) Costs of R&D and production facilities for commercial and industrial printers (6) Costs of R&D and production facilities for inkjet printers and the application of inkjet heads (7) Costs of R&D and production facilities for PaperLab and the application of Dry Fiber Technology (8) Costs of purchasing renewable energy
Bond rating	A (R&I)
Conformity assessment	<p>Seiko Epson established a green bond framework that is aligned with the Green Bond Principles of the International Capital Market Association and obtained a second-party opinion from rating company Sustainalytics to verify that requirements are met. In addition, Rating and Investment Information, Inc. (R&I) gave Seiko Epson's green bonds a GA1 rating, its highest rating, in an R&I Green Bond Assessment.</p> <p>The external review of these green bonds is eligible for a subsidy from the Ministry of the Environment's FY2019 Financial Support Programme for Green Bond Issuance.</p>

2. Third-Party Conformity Assessments

 Seiko Epson Corporate Green Bond Framework Second Party Opinion by Sustainalytics
https://corporate.epson/en/sustainability/environment/vision/pdf/greenbond_framework.pdf

Management

Environmental Management

As stated in its Management Philosophy, Epson is committed to respecting the global environment and anchors its business activities on this principle. Additionally, addressing the growing social and customer interest in low environmental impact, Epson aims to deliver customer value with its unique and innovative technologies that surprise and delight. Furthermore, to carry out environmental programs under uniform standards and goals in every country and region of the world, the basic environmental stance is set forth in Epson Principles of Corporate Behavior and in the Environmental Vision 2050.

Environmental Management System

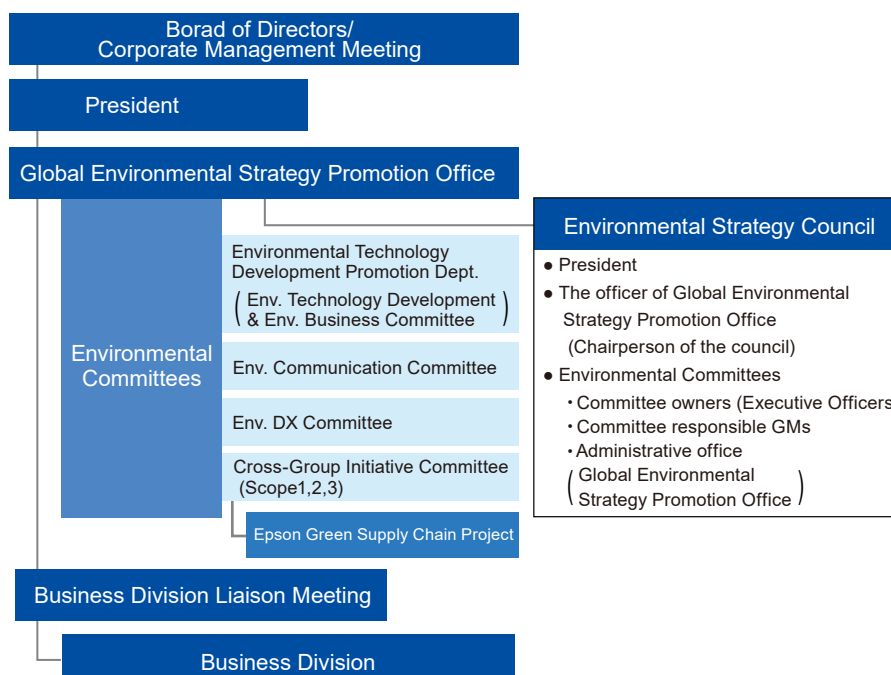
Business units within the Epson Group establish their own environmental action plans based on the Epson 25 Renewed Corporate Vision, and carry out the activities using an Environmental Management System (EMS). We conduct internal audits to check performance against the plans and take corrective action against nonconformances.

We operate our EMS in compliance with the international ISO 14001 international standard, and we implement a planning and control cycle to effect continuous improvement. Epson’s main global manufacturing, sales, and service sites are pursuing integrated business process and environmental management initiatives as required by ISO 14001 (2015), and are renewing their certifications.

All financially consolidated companies in the global Epson Group have environmental programs and, in the FY2023, environmental data was gathered from 64 of those companies (representing 99% of revenue).

Organizations for Implementing Environmental Strategies

To make achieving the environmental vision more feasible and enhance the resilience of our climate strategies, we created a Global Environmental Strategy Promotion Office to draft and carry out environmental strategy and sub-committees to address the various environmental issues.

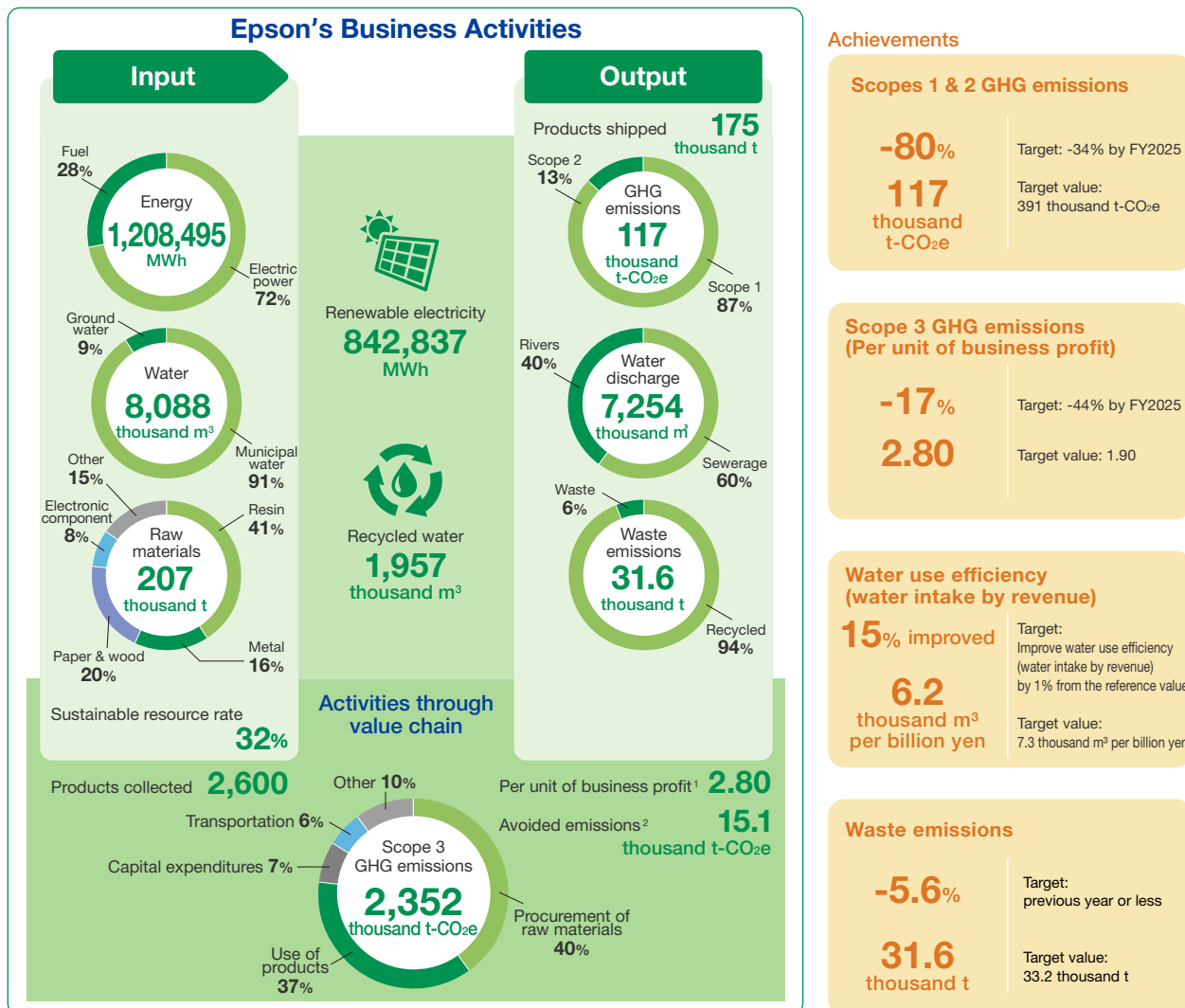


Environmental Performance

Epson consumes resources and, in the process of conducting business activities across the life cycles of its products and services, emits GHGs and other emissions to the air, land, and water.

We are working to assess the environmental impacts of our business activities across the value chain in an effort to reduce our impacts.

Material Balance (FY2023)



¹ Calculated as the ratio of scope 3 (Categories 1 and 11) GHG emissions to business profit (Unit: thousand t-CO₂e/100 million yen)

² Based on the calculation method confirmed by Mizuho Research & Technologies, Ltd., the value is obtained by multiplying the difference between the weighted average of the publicly available lifetime CO₂ emissions of major laser printers in the global market and the lifetime CO₂ emissions of Epson's A3 color inkjet printer by the number of Epson A3 color inkjet printers sold in a given fiscal year.

Decarbonization

Epson is combating climate change by reducing greenhouse gas emissions in production (scopes 1 and 2) and across its value chain (scope 3) to help drive a transformation toward a decarbonized future, as envisioned by the Paris Agreement. Epson also contributes to society by developing energy saving products and further developing inkjet technology.



Goal

Reducing Greenhouse Gas (GHG) Emissions

The 2015 Paris Agreement set a goal of keeping the increase in average global temperature to well below 2°C above pre-industrial levels. Epson has set targets for reducing GHG emissions in the value chain to achieve this 2°C goal as well as the goals of Epson 25 Renewed. Epson’s targets have been approved by the Science Based Targets initiative as being consistent with climate change science.

GHG Reduction Targets

<p>Scope 1 Scope 2</p>	<p>Reduce scopes 1 and 2 GHG emissions by 34% by the FY2025. * Updated to in line with 1.5°C in November 2021</p>
<p>Scope 3</p>	<p>Reduce scope 3 emissions from categories 1 and 11 as a percentage of value added (business profit) by 44% by the FY2025. Category 1: Purchased goods and services Category 11: Use of sold products</p>

Scope 1: Direct GHG emissions from the use of fuels, etc.
Scope 2: Indirect GHG emissions from purchased energy, etc.
Scope 3: Indirect GHG emissions of the entire value chain

Epson’s Science-Based Targets (SBTs)

Epson has set FY2025 targets for reducing direct emissions associated with its business activities (scopes 1 and 2 emissions) and for reducing indirect emissions (scope 3 emissions). To achieve these SBTs, we are working in concert with our customers and partners to provide eco-conscious products and services that will both drive business growth and increase corporate value.

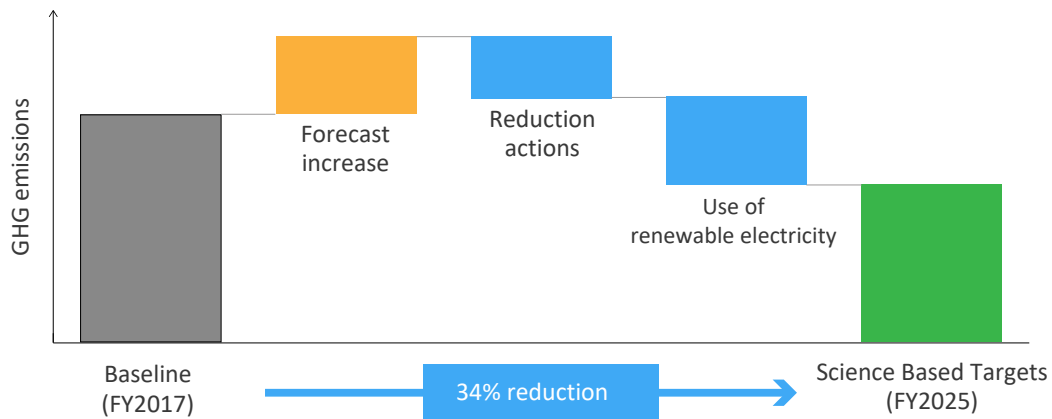
Initiatives to Reduce Scopes 1 and 2 Emissions

Under a company-wide cross-functional organization, each site is increasing the feasibility of decarbonization by implementing reduction measures such as production innovation, equipment and facilities renewal and investment, and the use of renewable electricity.

Main actions for reducing emissions

- Production innovations
- Investment in updated facilities and equipment such as plant infrastructure, scrubbers, and solar power systems
- Use of renewable electricity: Procurement of renewable electricity that uses local natural resources, etc.
- Other reductions to be achieved by power utilities reducing their GHG emissions factors

Conceptual image of FY2025 scopes 1 & 2 emissions reductions



Renewable Electricity Use

Epson expects its energy use to increase as production increases in line with its long-term growth strategy. Therefore, all Epson sites and businesses are implementing energy-saving measures and increasing the use of renewable energy to achieve our SBT.

In 2021, Epson joined the international initiative RE100, which aims to drive a transition on the part of corporation to the use of 100% renewable electricity for their business activities by 2050. With the acceleration of our efforts in introducing renewable electricity, the global transition to 100% renewable electricity was completed at all Epson group sites¹ on schedule in December 2023. We will continue to utilize renewable electricity moving forward.

¹ Excludes some sales sites and other leased properties where the amount of electricity cannot be determined

Carbon Pricing

Carbon pricing, an instrument that captures the costs of GHG emissions across society, is seen as a way to spur action and innovation in support of lower carbon emissions. Epson prepared payback period criteria and guidelines that incorporate carbon pricing principles to evaluate (study the feasibility of) potential investments for reducing GHG emissions. They were introduced on a trial basis in FY2018 and were formally adopted in 2020.

Reducing Scope 3 Emissions Intensity

Under the Epson 25 Renewed Corporate Vision, we are seeking to provide environmental value and mitigate environmental impacts along with our customers. In each product category, we set targets (metrics) that are linked to product value. Ultimately, we have an ambitious goal of reducing scope 3 emissions per unit of value added that is linked to a management performance indicator.

Avoided Emissions

Epson's inkjet technology saves resources. Our printers, which do not use heat to print, draw comparatively little electricity while consumables and limited lifetime parts require only infrequent replacement. Using Epson inkjets instead of laser printers can cut users' electricity consumption and reduce the environmental impacts of society as a whole. Based on the guidance published by the World Business Council for Sustainable Development (WBCSD) and confirmed by a third-party organization, Epson calculated that the emissions avoided through the replacement of laser printers with Epson's inkjet printers in fiscal year 2023 amount to 15.1 thousand t-CO₂e¹. Moving forward, we will apply the calculation logic developed for A3 color inkjet printers to other product categories, further visualizing the contribution to reducing our customers' environmental impact.

¹ Based on the calculation method confirmed by Mizuho Research & Technologies, Ltd., the value is obtained by multiplying the difference between the weighted average of the publicly available lifetime CO₂ emissions of major laser printers in the global market and the lifetime CO₂ emissions of Epson's A3 color inkjet printer by the number of Epson A3 color inkjet printers sold in a given fiscal year.

Risks & Opportunities (Responding to TCFD)

The Task Force on Climate-related Financial Disclosures (TCFD) released its final report in June 2017. The TCFD encourages businesses to publicly disclose their medium- to long-term risks and opportunities related to climate change as financial information. Epson takes this as a call to develop resilient management and corporate health, able to adapt to all sorts of transitions in the face of climate change with impacts of a scope and scale we cannot predict.

Climate Change (Performance)

Production (Climate Change)

Epson's initiatives to mitigate global warming revolve around reducing CO₂ emissions by switching to renewable energy, conserving energy, and reducing global emissions of greenhouse gases (GHG) other than CO₂.

2023 Overview

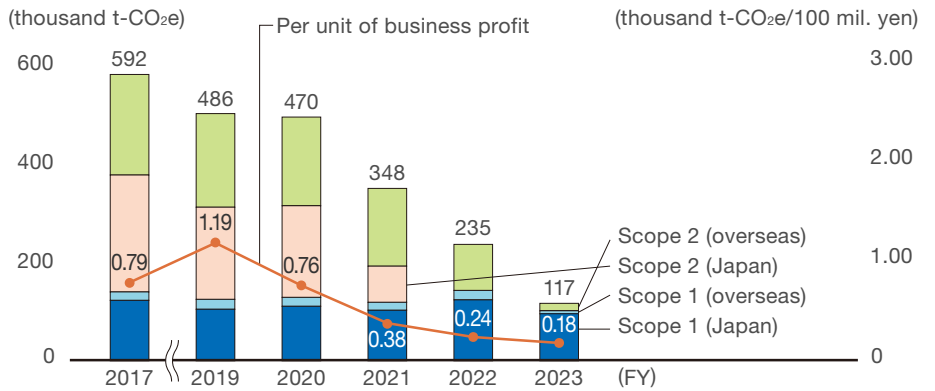
In the 2023 fiscal year, Epson accelerated the use of renewable energy in addition to driving site-based energy-saving initiatives, enabling us to progress toward our SBT Initiative-validated 2025 target of reducing scope 1 and scope 2 greenhouse gas (GHG) emissions by 34% compared to FY2017. This boosted the percentage of renewable energy from less than 1% in the past to about 69% (and 96% in the case of electricity).

Although an increase in energy consumption is expected in order to achieve the goals of the mid-term business plan, Epson will continue to pursue its target, focusing on reduction measures such as production innovation, alongside the utilization of renewable electricity.

80% Reduction

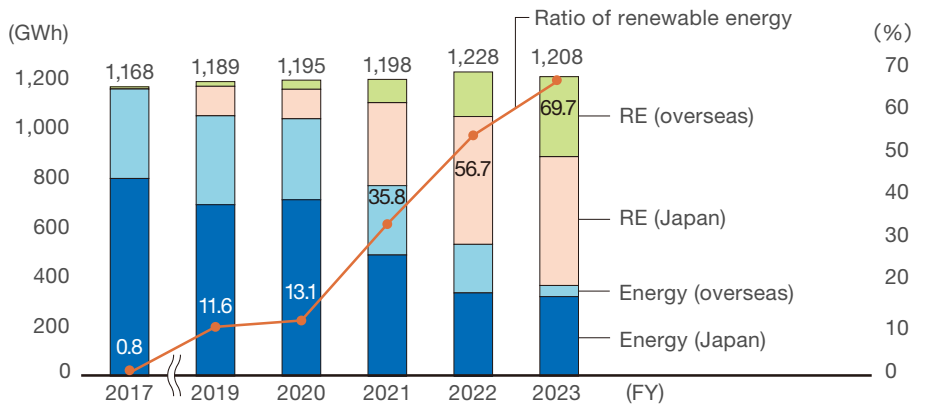
Scope 1, 2 emissions
(compared to FY2017)

Greenhouse Gas Emissions (Scopes 1 & 2)



* CO₂ conversion factor of greenhouse gas emissions
 - Electric power: Disclose emissions at Market-base. In Japan, we use the adjusted emissions factors for the load serving entities (i.e., utilities) from which our sites purchase electricity, pursuant to Load Serving Entity Emission Factors announced by the Ministry of Environment and the Ministry of Economy, Trade and Industry. Overseas, we use the country emission factors listed in IEA (International Energy Agency) or from the load serving entities from which our sites purchase electricity. The emission factor is set to zero for the amount of renewable electricity certificates and J-Credits utilized.
 - Fuel: The factors announced by the IPCC in 2006 were used for both domestic and overseas data.
 - GHGs other than CO₂: Equivalents were calculated based on 100-year GWP values in the Fifth Assessment Report of the IPCC.

Energy Usage

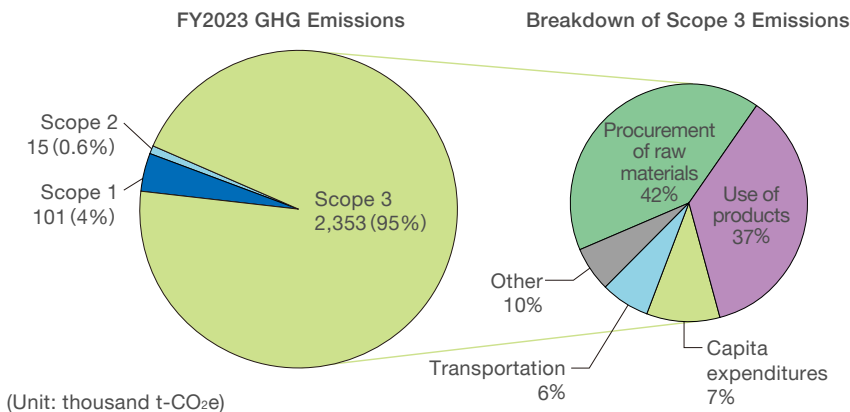


* RE: Renewable Electricity
 * Percentage of energy from renewable source

Value Chain Initiatives

Epson is proactively working to reduce the direct and indirect emissions associated with its business and production activities (scopes 1 and 2 emissions). However, it is indirect emissions that occur in the value chain (scope 3 emissions) that account for the vast majority of Epson's GHG emissions. The lion's share of scope 3 emissions are emissions during the use of our products (category 11: use of sold products) and emissions associated with the procurement of raw materials (category 1: purchased goods and services). Therefore, Epson has incorporated these two categories in its SBT (science-based target). In the future, we will switch from an intensity target based on reducing emissions as a percentage of business profit to a more ambitious reduction target that is in line with the 1.5°C scenario.

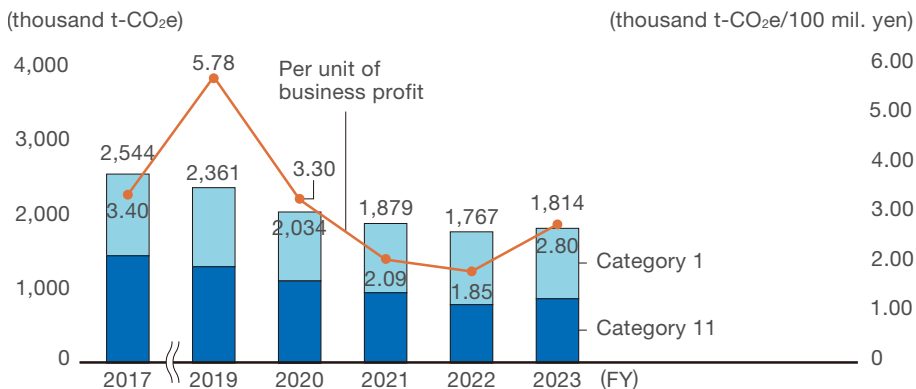
Greenhouse Gas Emissions from Value Chain



17% Reduction

Scope 3 emissions per unit of business profit (compared to FY2017)

Greenhouse Gas Emission (Scope 3: Categories 1 & 11)

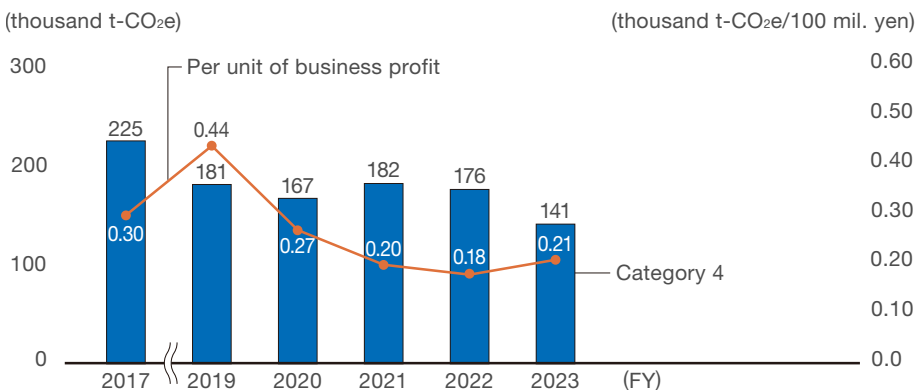


* Coverage of science-based target, Category 1: Purchased goods and services, Category 11: Use of sold products
 * Category 1: The National Institute of Advanced Industrial Science and Technology IDEA Ver.3.3 is used for calculations from FY2022.

Logistics Initiatives

Epson is reducing GHG emissions by increasing the efficiency of product, part, and waste transportation. We are making products smaller (which increases shipping efficiency), rethinking our logistics centers, innovating the loading and packing processes (to boost loading efficiency), and reconsidering shipment departure and arrival frequencies and number of trips.

Greenhouse Gas Emissions from Distribution (Scope 3: Category 4)



* Category 4: Upstream transportation and distribution

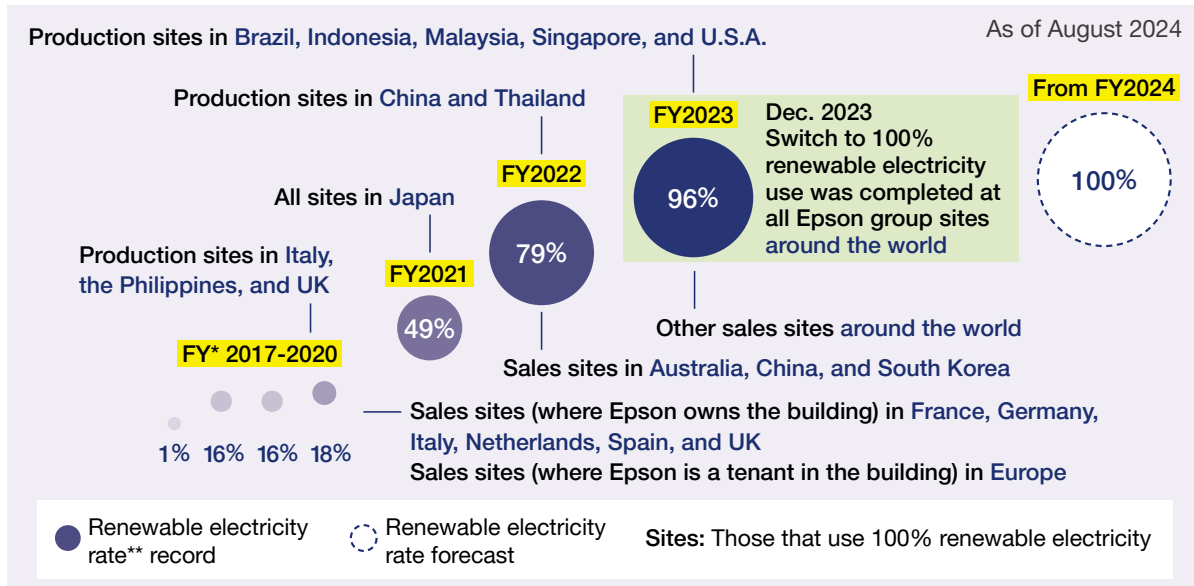
Cooperation with Suppliers

Epson and its suppliers can help address societal challenges and achieve sustainability by aligning their approach to supply chain CSR.

Use of Renewable Electricity

The use of renewable electricity is a key means by which Epson seeks to reach its goal of achieving decarbonization. In line with this, Epson declared, in March 2021, that it would switch to 100% renewable electricity to meet the electricity needs at all Epson Group sites¹ around the world by 2023. In November 2021, the switch was completed in Japan. The global switch to renewable electricity was completed on schedule in December 2023. The Epson Group consumes approximately 872 GWh² of electricity per year. By sourcing renewables to cover this demand, Epson expects to reduce its annual CO₂ emissions by approximately 400,000 tonnes.

Steps taken to switch to 100% renewable electricity use at all Epson group sites¹



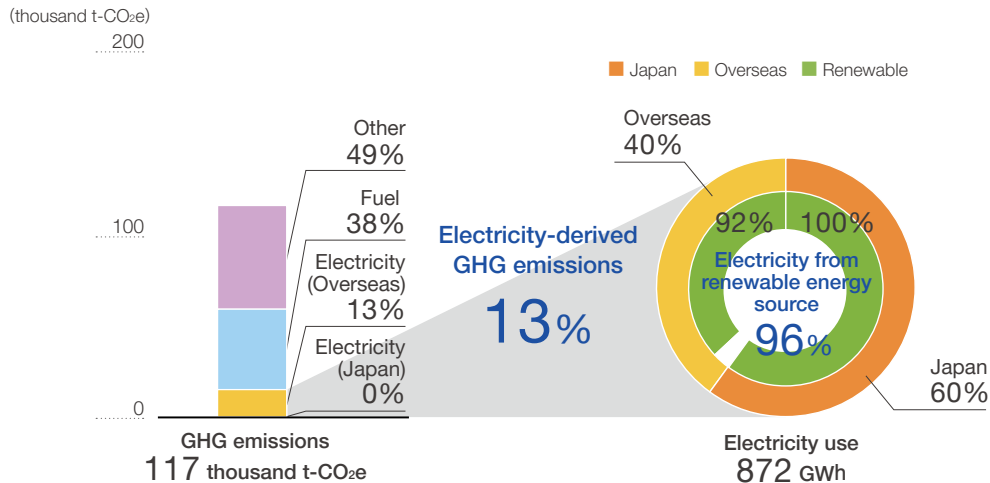
* Fiscal year. The fiscal year for Seiko Epson corporation runs from April to March
 ** Renewable electricity rate = Amount of renewable electricity used by sites around the world in the current fiscal year / total amount of electricity used x 100%

¹ Excludes some sales sites and leased properties where the amount of electricity consumed cannot be determined.
² For the fiscal year 2023, the results include cogeneration systems (CGS) electricity and self-generated electricity. Since it is difficult to procure renewable energy fuels or green gas certificates that meets the RE100 technical criteria, we have achieved 100% renewable electricity by voluntarily applying renewable energy certificates equivalent to the amount of electricity used.

Scope1 & 2 emissions and electricity consumption in FY2023

More than 70% of Epson’s GHG emissions came from the consumption of electricity in fiscal 2017. As a result of our prior efforts to achieve decarbonization by switching to renewable electricity we use, the ratio of GHG emissions from electricity declined to about 10% in fiscal 2023. At home and abroad, we have increased the percentage of renewable energy to 96% of electricity usage by selecting the optimal renewable electricity in each region, such as hydropower and wind power, and by proactively investing in on-site electricity generation.

Breakdown of sources (renewable and non-renewable) of Scope 1 & 2 emissions in FY2023

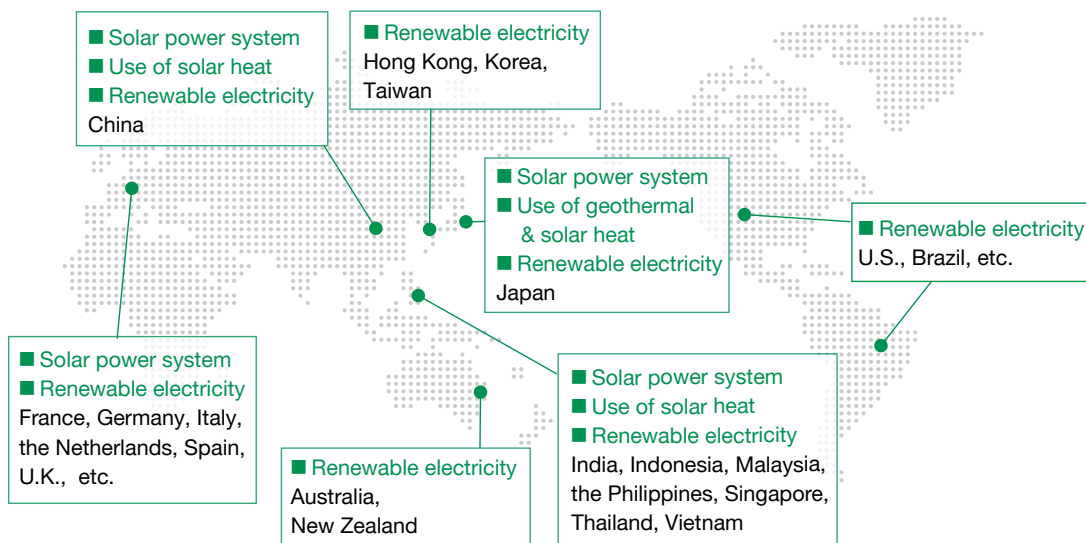


Transitioning to Renewable Energy at Epson’s Global Sites

In Japan, Epson purchases Shinshu Green Electricity, CO₂-free value-added electric power produced locally with abundant water sources in Nagano Prefecture using Nagano Prefectural hydroelectric power. This is both reducing Epson’s GHG emissions and increasing local consumption of locally produced energy. In the Tohoku area, where Epson has a semiconductor fabrication plant and which accounts for about half of Epson’s domestic electricity consumption, Epson uses another CO₂-free value-added electric power to reduce GHG emission from electricity usage. In November 2021, Epson completed the transition to 100% renewable electricity for all its domestic sites in Japan.

Our overseas production and sales sites have also completed the transition to using 100% renewable electricity in December 2023. In addition to generating electricity with a rooftop mega-solar power plant, our production site in the Philippines switched to a mix of geothermal and hydroelectric power in January 2021. In addition, our production site in Bekasi, Indonesia, began using biomass power generation in July 2022. The procurement of geothermal power, which is being actively developed by taking advantage of the resources of volcanic islands, and sustainable biomass power using Palm Kernel Shells (PKS; a byproduct of the palm oil production process) and wood chips as fuel, are examples of energy use that aligns with regional characteristics.

Use of Renewable Electricity at Epson Sites Worldwide (Country/Region)



* Onsite equipment, power purchase agreement, and/or certificate purchasing

Case of Onsite Solar Power Generation



Philippines (Epson Precision (Philippines), Inc.)



Thailand (Epson Precision (Thailand) Ltd.)



China (Epson Wuxi Co., Ltd.): PPA*



Japan (Fujimi Plant): PPA*

* Power Purchase Agreement: Onsite Solar Power Generation Service

Support for Recommendations to Expand the Use of Renewable Energy

The use of renewable energy (energy from natural sources) is one of the most effective ways to reduce GHG emissions. Accordingly, Epson is implementing plans to expand its use of renewable energy long-term. However, there are obstacles to expanding renewable energy use, including costs and supply limitations in some regions. Recognizing that there is nothing one company alone can do about these obstacles, Epson decided to declare its support for the important policy recommendations below as one solution. The realization of these recommendations will make it easier to take actions that minimize the impact on future climate change.

Coordinated global action is essential to combat climate change. We at Epson will therefore continue our efforts toward decarbonization, including by supporting future such recommendations. When deciding whether to join or continue our association with industry groups, we check whether the group's climate change initiatives are aligned with Epson's own policies.

Month/Year	Recommendations	Secretariats
Jul. 2024	Call for an ambitious 2035 target that is consistent with the 1.5°C goal	Japan Climate Initiative (JCI)
Jun. 2023	Issues and Recommendations on Renewable Electricity Procurement	Renewable Energy Institute
Apr. 2023	Call for accelerating the deployment of renewable energy and introducing effective carbon pricing	Japan Climate Initiative (JCI)
Jun. 2022	Call for accelerating renewable energy deployment	Japan Climate Initiative (JCI)
Apr. 2021	Calling for an Ambitious 2030 Target for Japan to Realize the Paris Agreement Goal	Japan Climate Initiative (JCI)
Jan. 2021	Calling on the Japanese government to raise its 2030 renewable energy target to 40-50%	Japan Climate Initiative (JCI)
Aug. 2020	Making Japan a Nation where Renewable Electricity is Easily Accessed: Three Strategies and Nine Policies Sought by Corporations Engaged in Climate Action	Renewable Energy Institute CDP Worldwide-Japan WWF Japan

Closed Resource Loop

To contribute to the formation of a circular economy in which waste is minimized, Epson is working to reduce emissions and preserve water resources in its production processes. Epson is also promoting the efficient use of limited resources by making products smaller and lighter, by collecting and recycling end-of-life products, and by developing digital inkjet printing solutions.



Life Cycle Thinking

Epson defines an “eco-considerate” product as one for which environmental impacts are considered from product conception to mission completion; that is, at every phase of the life cycle, from design and manufacturing to transport, usage and recycling. Through the creation of eco-considerate products, we are cooperating with customers and business partners to expand our environmental impact mitigation efforts beyond Epson’s doors.






Think
Design products thinking of the entire life cycle

Design for Environment
(Please refer to page 089.)



Choose
Use environmentally conscious materials

Management of Chemical Substances in Products
(Please refer to page 139.)
Paper Products
(Please refer to page 257.)




Create
Produce with a minimum of materials and energy, prevent unnecessary emissions

Decarbonization
(Please refer to page 074.)
Closed Resource Loop
(Please refer to page 083.)



Deliver
Transport products efficiently

Value Chain Initiatives
(Please refer to page 077.)



Use
Eco-performance as customer value

Products and Services that Reduce Environmental Impacts
(Please refer to page 095.)



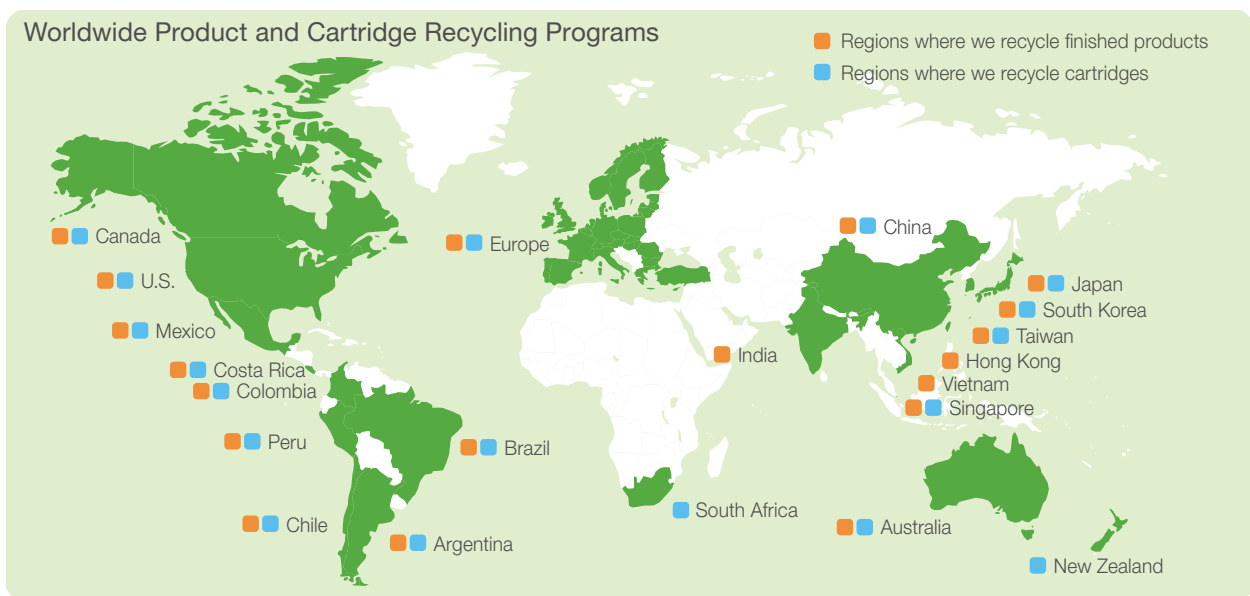
Recycle & Reuse
Reuse resources

Product Recycling
(Please refer to page 091.)

Product Recycling

To expand the resource reuse and recycling loop, work with customers, communities, and others in the industry to collect and recycle end-of-life products in countries around the world.

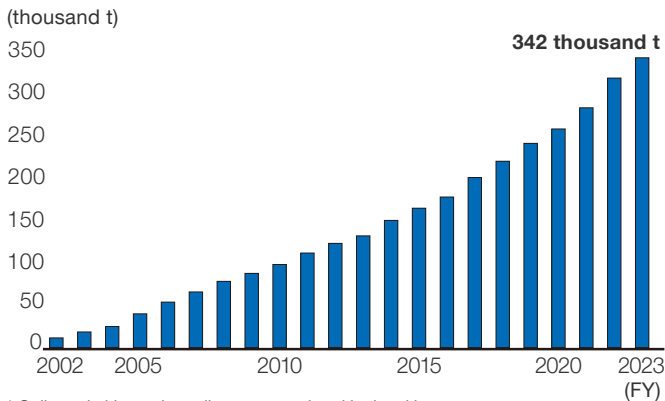
Epson's Global Collection and Recycling Systems



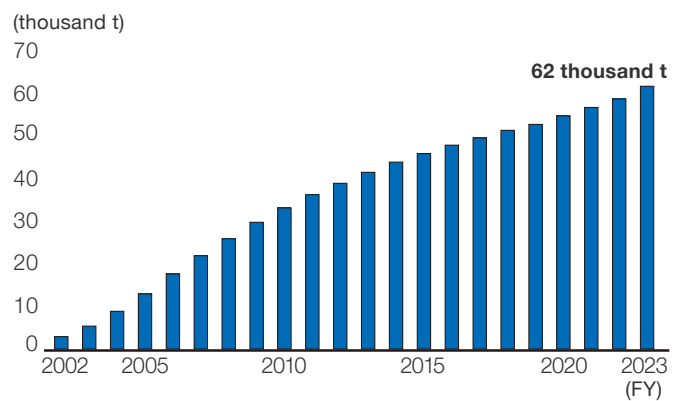
Please select your region for information about collecting and recycling Epson products.

Collection Trends for Products and Cartridges

Finished Products Collected (cumulative through fiscal year)



Cartridges Collected (cumulative through fiscal year)



* Collected either voluntarily or as mandated by local law
 * Sum of amount actually collected and amount expected to be collected

Resources (Performance)

Reduction of Waste

Epson is working toward zero emissions by reducing generated business waste and recycling.

Wastes are generated in our production processes, offices, and operations. Wherever possible, we reduce, reuse, and recycle these wastes on-site. Plastic runners from molding processes are recycled, for example. The remaining wastes, including valuable wastes, are recycled by a contractor. We carefully sort and separate wastes and select the best available recycling methods and contractors for each type. We will continue to reduce wastes and to work for general improvement in waste processing methods, including by allying with recyclers.

To help combat pollution from oceanic plastic wastes, Epson sales companies in Europe banned disposable cups and other single-use plastics in their office buildings in April 2019.

2023 Overview

Goal : No more than the 33.5 thousand t of the previous year

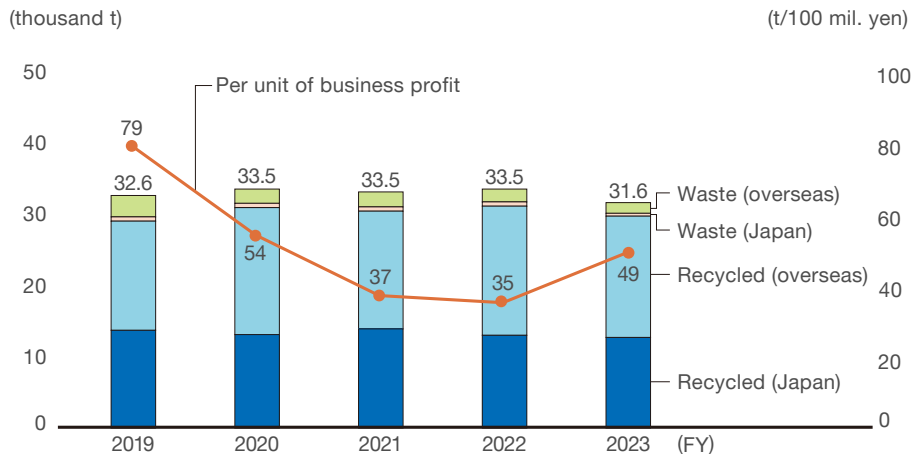
* Actions were carried out using control metrics benchmarked against the previous year's waste emissions.

Result: 31.6 thousand t (a reduction of 5.6% compared to the previous year)

5.6% Reduction

Wastes emissions
(compared to FY2022)

Waste Emissions



* Waste emissions data includes special wastes that cannot be recycled and wastes that are unrelated to production.

Preservation of Water Resources

Water and climate change, as well as other environmental factors, are closely linked. Epson’s business activities rely on water resources, and the sustainability of water resources substantially affects business continuity. Given this, we are working to preserve water resources by avoiding unnecessary contamination and use, and by recycling the water we do use. We actively strive to increase the rate of industrial wastewater that is recycled in our production processes and to meet strict water quality standards. We are also mitigating our overall environmental impacts, including by introducing more energy efficient water processing facilities. Our efforts extend beyond the water used in our production processes. We ensure that all employees have access to safe drinking water, as well as sanitary kitchens and restroom facilities. Moreover, we make our employees aware of the importance of saving water and preventing water pollution, and we install water-saving fixtures and sanitation facilities.

2023 Overview

Goal : 7.3 thousand m³ per billion yen

* Improve water use efficiency (water intake by revenue) by 1% from the reference value.

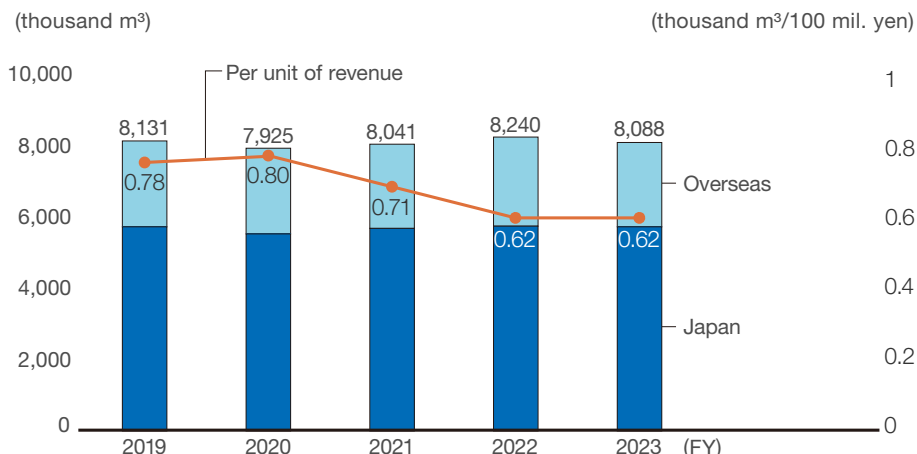
Result: 6.2 thousand m³ per billion yen (15% improvement form the reference value)

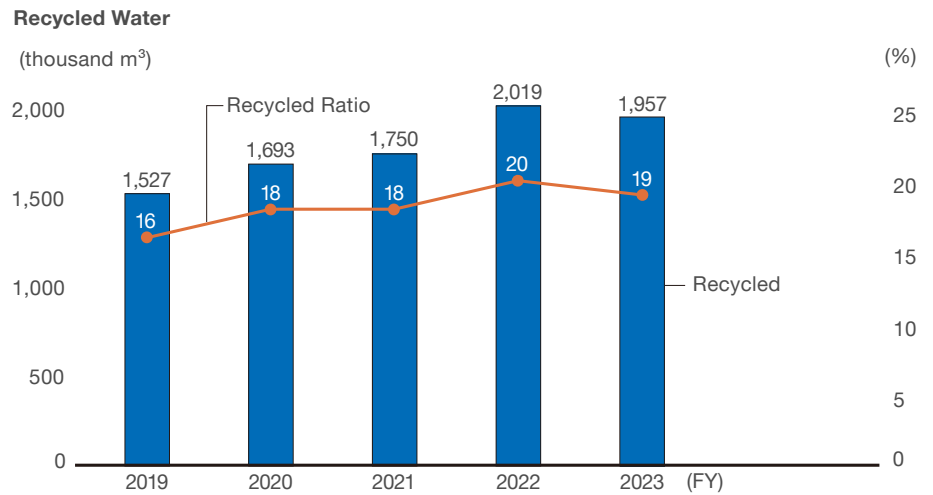
Reference value: 7.4 thousand m³ per billion yen (average for FY2017 to FY2022)

1.5% Improvement

Water usage per unit of sales
(compared to based value)

Water Usage



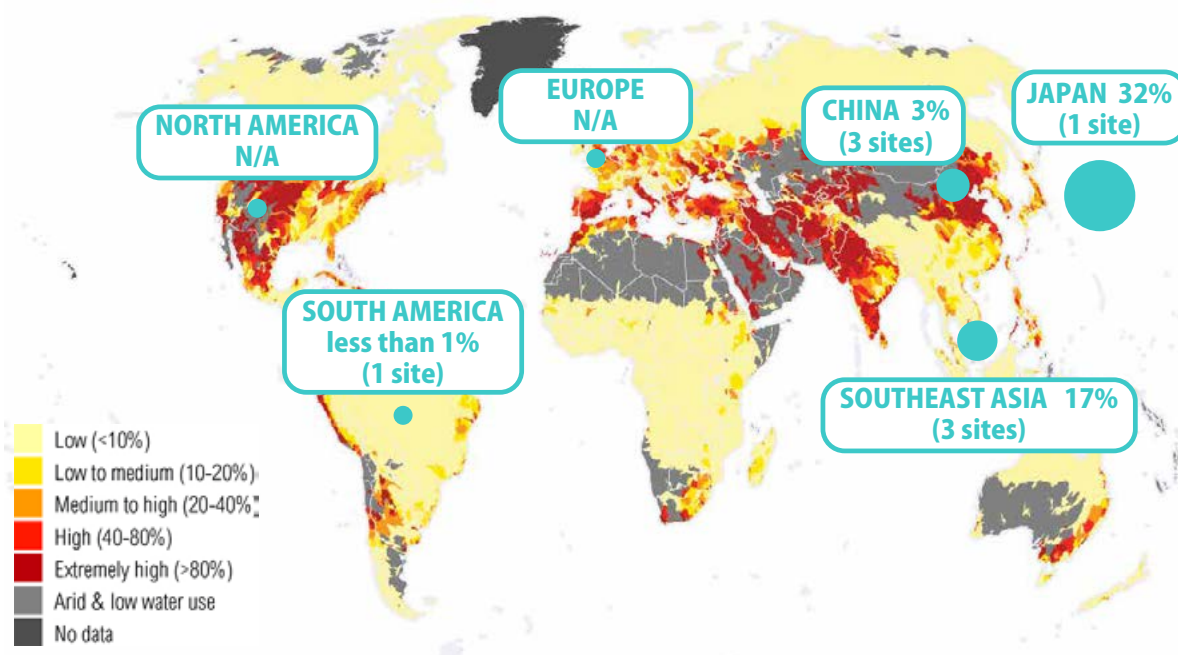


Addressing Water Related Risk

The water-related risks of Epson’s production sites were assessed using two global standard tools for water risk assessments: Aqueduct, developed by the World Resources Institute (WRI), and Water Risk Filter, developed by the World Wide Fund for Nature (WWF). These tools assess water primarily from a perspective of physical quantity of water resources and water pollution risks. The results of the assessments showed that no Epson site qualifies for the highest risk level per the overall risk indicators. However, it was found that some of Epson’s production sites in Japan, China, Southeast Asia, and South America are located in areas with water stress.

We confirmed the local water risk situation through questionnaires and interviews at eight sites identified as being located in areas with water stress. Furthermore, we conducted interviews with local organizations that supply water to those production sites. As a result, we learned that the impact on operations from water shortages is limited at those sites.

Water Intake Ratio in Areas with Water Stress (by Region) and Baseline Water Stress Map (FY2023)



* The percentage of Epson’s total water usage in each region with water stress is shown on a baseline water stress map from Aqueduct Global Maps 2.1 (WRI). The size of the circles visually indicates the percentage of water usage in each region.

* This map is a derivative of the World Resources Institute’s Aqueduct Global Maps 2.1, created by Seiko Epson Corp. under the Creative Commons license provided by www.wri.org

Therefore, a reduction in water intake is not a major issue even at sites identified as being located in areas with water stress using screening tools. Nevertheless, water is an important resource. We recognize we must use water approximately. With this awareness in mind, considering insights gained from communication with the World Wide Fund for Nature Japan (WWF Japan), which has expertise in water resources, we have set the medium-term target below emphasizing water use efficiency. Moving forward, we will continue to engage in activities to reduce water usage within our company to realize this medium-term target. Together with this, we will continue to consider measures for sustainable water use in each basin in collaboration with environmental conservation groups. In addition, to understand and assess water risks across the entire supply chain, Epson began analyzing water risks in the watersheds where some of its suppliers are located in fiscal year 2023.

[Medium-term Target]

Target: Improve water use efficiency (water intake by revenue) by 1% from the reference value

Period: From FY2023 to FY2025

Target value: 7.3 thousand m³ per billion yen

Reference value: 7.4 thousand m³ per billion yen (average for FY2017 to FY2022)

Evaluation and Response to Water-Related Risks under the 1.5°C Scenario

Based on the scenarios equivalent to a 1.5°C temperature increase presented by the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), as well as analysis of water-related risks using internal and external information, we have confirmed that the changes in operational risks in the future due to factors such as flooding, sea-level rise, and drought are limited for our business locations. Short-term climate-related risks concerning our business locations and supply chain will be addressed through our Business Continuity Plan (BCP).

Closed Resource Loop

Design for Environment

The environmental impacts of a product across its life cycle, from cradle to grave, are largely determined at the planning and design-engineering stages.

Epson takes a life-cycle thinking approach in efforts to minimize customers' environmental impacts by (1) providing products that change the way they work and live, and (2) providing products that offer environmental performance as a basic feature. We set concrete targets for environmental specifications that should be achieved at the product planning stage. And, we have introduced a design-for-environment (DfE) process in which we evaluate how well we did in and after the design stage.



Think

Primary Environmental Performance Features

Below are some of the representative environmental performance features that we evaluate as part of our DfE process.

Energy Conservation

We explore various hardware and software approaches to save energy. These can include anything from developing energy-efficient technologies to implementing low-power product control systems. We strive to realize low-power products by setting and attaining concrete numeric targets several years out for each model.

Resource Conservation

Epson sets concrete size and weight targets for products, since reducing these helps to significantly mitigate environmental impacts, not only because fewer materials are consumed but also because products can be transported and warehoused more efficiently. We also make every effort to design products so as to minimize wastes on the customer's end. We do this by, for example, minimizing the amount of packaging used for products and consumables or by providing new printing functions that eliminate unnecessary prints.

Recyclability

We design our products to be easy to recycle after use. Specifically, we try to achieve a recyclable rate¹ of 75% or better as estimated from product engineering drawings.

¹ Recyclable rate: Recyclable materials as a percentage of total product weight, excluding materials used as reducing agents in blast furnaces or as fuel sources.

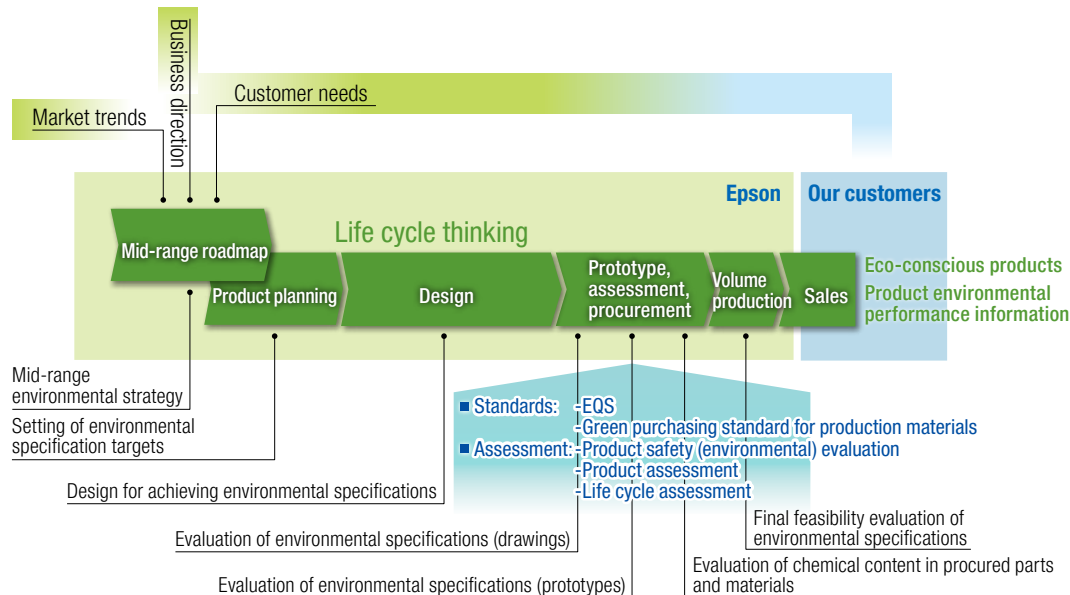
Substance Safety

Epson standards specify substances that are prohibited from inclusion in products and substances whose inclusion must be controlled. Information on these substances is gathered in a database to help ensure safety in all processes, from design and procurement to volume production.

Design-for-Environment Framework

Epson prepares internal specifications, provides evaluation tools, and develops and commercializes products in line with work standards that set forth rules and procedures. The materialization of the environmental specifications is reviewed at each step of the product's commercialization before it is finally sold.

Eco-conscious Product Commercialization Flow (Example for the Printing Solutions Business)



Standards

- EQS (Epson Quality Standard)
Includes internal standards for safety and environmental requirements that all Epson Group products and parts must meet in their design, production and procurement
- Green purchasing standard for production materials
Basic opinion on "Product Chemical Content Guarantees," and written standards covering specific criteria and application, for use when purchasing production materials

Evaluation

- Product safety (environmental) evaluation
Compliance check
- Product assessment
Checklists and evaluation sheets for evaluating the feasibility of individual environmental specifications during the drawing stage and experimental manufacturing stage
- Life cycle assessment (LCA)
Tools for quantifying environmental impacts (global warming impacts) in a product's life cycle and for efficiently and accurately exposing areas whose design should be improved

Closed Resource Loop

Product Recycling

Summary of Activities in Each Region

Europe

Finished Products

The European WEEE (waste electrical and electronic equipment) directive has been effective since 2005, and has been reflected in national legislation. To comply with the European WEEE directive, Epson is building recycling systems in each country. Moreover, Epson implements environmentally-conscious design in response to the WEEE directive 2012, that requires manufacturers to increase recyclability of products. Epson also acts quickly to comply with similar legislation that is expected to be adopted in EMEA¹ nations that are not EU member states.

¹ Europe, the Middle East and Africa

Cartridges

Epson Europe B.V. (EEB) is building a collection and recycling system for cartridges while monitoring customer needs and legislative trends. In 2013, EEB rebuilt the system to provide customers with more collection options and to increase recycling efficiency.

• Postal Collections

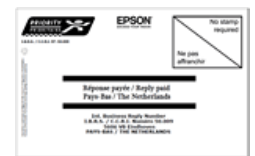
Customers request empty pre-printed envelopes, and return filled envelopes via post for consumer inkjet and LabelWorks cartridges. Customers simply request and attach a return label, and return up to ten cartridges in a package.

• Epson Express Center

Customers return consumer inkjet, laser printer, and LabelWorks cartridges to the nearest Epson Express Center.

• Box Collections

After customers go online and sign up to the program they receive a collection box for large format printer and laser printer (more than 10) cartridges. When the box is full, it will be collected by the recycling company.



Americas

Finished Products

In Canada and the United States, some states are seeking to introduce laws requiring manufacturers to collect and recycle products. In the U.S., Epson America, Inc. (EAI) has run a voluntary take back program since 2002.



In addition to the recycling program, EAI and the National Cristina Foundation have joined together with the goal of helping those who are facing economic challenges or have disabilities gain access to the technology of today.



In Brazil, the National Solid Waste Policy (PNRS) was launched in 2010, requiring the electronics industry to implement reverse logistics. Epson do Brasil Industria e Comercio, Ltda. (EDB) implemented a Collection Program for disposing of used products and consumables. The Collection Program operates throughout Brazil, with more than 100 collection points countrywide. Products and supplies collected are sent to an approved recycler who disassembles and then sends the item to recycling and/or co-processing¹ as required.

¹ Use of waste to replace new resources and fossil fuels.

Cartridges

In the U.S. and Canada, EAI has created a mail-based recycling program for ink cartridges. In the U.S., customers can return toner cartridges by attaching an electronic return label printed from a website.

Asia

Finished Products

In India, Epson India Pvt. Ltd. works on promoting recycling program by making an original logo under the India e-waste (Management and Handling) Rules, 2011 Directives.



In Taiwan, Epson Taiwan Technology & Trading Ltd. complies with the Resource Recycling Act.

In South Korea, Epson Korea Co., Ltd. (EKL) is part of the E-Cycle Governance and comply with laws related to resource conservation and recycling promotion, as well as the Resource Circulation Act for Electrical and Electronic Products, which came into effect in January 2008.

Cartridges

In Taiwan, Epson Taiwan Technology & Trading Ltd. set up a system in 2001 using a toll-free number and a website to accept collection requests directly from customers to facilitate on-the-spot collection.

In Singapore in 2012, Epson Singapore Pte. Ltd. joined with Canon Inc. to cooperate with the Singapore National Environment Agency and National Library Board to begin promoting The Homecoming Project to collect ink and toner cartridges. Under the program, consumers can deposit ink and toner cartridges from any manufacturer in collection boxes installed in 21 branches of the national library.



Oceania

Finished Products

Epson Australia Pty. Ltd. (EAL) partners with ANZRP (Australia & New Zealand Recycling Program), a not-for-profit organization that operates the TechCollect program. This program offers a free service for the general public and small businesses to drop off their e-waste for responsible recycling, as part of the National TV and Computer Recycling Scheme, regulated under the Recycling and Waste Reduction Act.



Cartridges

EAL participates in the Cartridges 4 Planet Ark program. EAL is a founding member of this promotion to recycle ink cartridges and toner cartridges. The aim of the program is to prevent cartridges from entering the waste stream and thereby reduce the potential environmental impact arising from the end of life disposal of cartridges.



Lamps

EAL has in place a projector lamp recycling program whereby used projector lamps are recycled, and EAL will recycle any brand lamps - not just Epson. Approximately 95% of the weight of the lamp is recycled.

Japan

Finished Products

Since 2003 Japan has legally required producers to collect and recycle unwanted computers from individuals and as businesses. In 1999, Epson launched a voluntary program to collect and recycle other Epson-brand waste electrical and electronic equipment (WEEE) also, such as printers, scanners, and projectors, from businesses ahead of the enforcement of applicable laws.

Cartridges

Epson has built various cartridge collection schemes while monitoring customer needs. In addition to being good for the environment, Epson's cartridge recycling program provides employment to persons with disabilities at Epson Mizube Corporation, a special subsidiary to support the employment of disabled individuals within the Epson Group.

• Take-Back Service

Epson has set up a collection service for customers who consume large numbers of cartridges. As part of this service Epson makes donations to OISCA¹ and NACS-J², organizations that work on environmentally sustainable development.

¹ The Organization for Industrial Spiritual and Cultural Advancement-International.

² The Nature Conservation Society of Japan.

• Bellmark Program

Epson has participated in the Bellmark program since 2005. In addition to reducing wastes and helping to preserve the environment, the Bellmark program supports participating schools by awarding them points for ink cartridges collected. Schools use these points to purchase educational materials and equipment.



• Cartridge Collection Program at Epson Sites in Japan

Epson began collecting used ink cartridges at Epson Group sites in Japan in 2011 in order to expand aid to the Bellmark program. Collection boxes have been installed at every Epson business site to collect cartridges from employees, business partners, and members of the community. The collected cartridges are recycled and Bellmark points are granted based on the number of cartridges collected. The points are then donated to the Bellmark Educational Support Foundation, local schools, or schools that were damaged by natural disasters. The results of our activities in fiscal 2023 were approximately 33,710 points.



• Ink Cartridge Satogaeri (Homecoming) Project

Printer manufacturers in Japan joined forces in 2008 to form the Ink Cartridge Satogaeri (Homecoming) Project, a program that uses approximately 3,600 post offices and local governments across Japan to collect used ink cartridges. The project has donated to environmental protection organizations, allowing customers to indirectly participate in social contribution activities.



Collection box

• Joint Environmental Program

In April 2012, Epson and Catalina Marketing Corporation launched an environmental program where used ink cartridges from coupon printers are collected and refilled. Under the program, Epson collects used ink cartridges from nearly 30,000 inkjet coupon printers installed in retail stores across Japan. Epson then refurbishes and refills the cartridges for reuse at the stores. Except for the label, almost all parts of the cartridge are reused and product quality is managed just as it is for new cartridges.

Customer Environmental Impact Mitigation

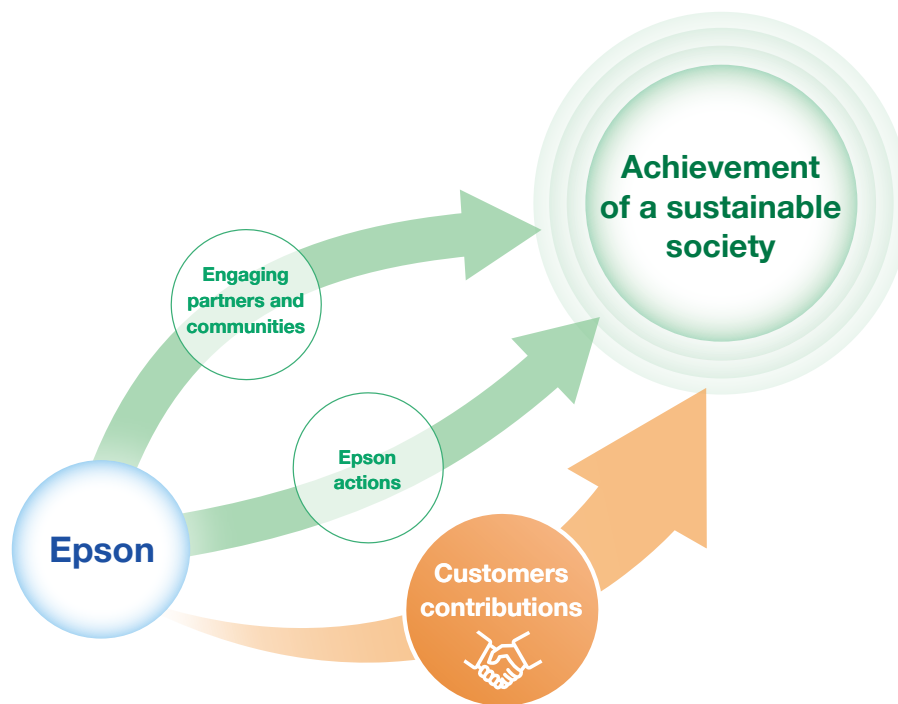
Products and Services that Reduce Environmental Impacts

The impact that one company can have on the achievement of a sustainable society is limited, but Epson is looking to make an impact and make the world a better place through products and services that support customers' sustainability efforts and through collaborative action with local communities and partners.

As a manufacturer, Epson has always asked itself what it can do to achieve a sustainable society and has worked for many years to increase the energy efficiency of its production processes and products, improve resource efficiency, and eliminate harmful and hazardous substances.

To make a greater contribution, we seek to drive work process innovations by minimizing the environmental impacts incurred by our customers when using Epson products and by raising operational efficiency and productivity. Achieving this will mean taking on new challenges to offer value existing technologies cannot provide.

Epson's answer is to use our original technologies to provide products and services offer this value to our customers worldwide.



Customer Environmental Impact Mitigation

Minimizing Customer Environmental Impacts

We sell products and services that transform the way our customers work. In so doing, we are minimizing their environmental impacts while also raising their operational efficiency and productivity.

- Our innovative products and services make our customers' jobs and lives easier and more enjoyable while also shrinking their environmental footprints.
- Our products and services enable new business processes and offer outstanding economic and environmental value.

Shrinking the Environmental Footprint of Offices with a Combination of Performance and Efficiency

Epson's business inkjet printers employ our original Heat-Free Technology to eject ink without heat. This technology achieves outstanding low power consumption performance. Our business inkjet printers with built-in PrecisionCore lineheads (WorkForce Enterprise WF-C series and AM-C series) are products with both a high-level printing performance of 40 to 100 pages per minute (ppm) and low power consumption. The WF-C21000 achieves a printing speed of 100 ppm¹. This printing speed approximately doubles productivity in contrast to the printing speed of 50 ppm for general laser printers used in offices.

¹ For single-sided A4 sheets. WF-C20750 series: 75 ppm / AM-C series: 40, 50 and 60 ppm



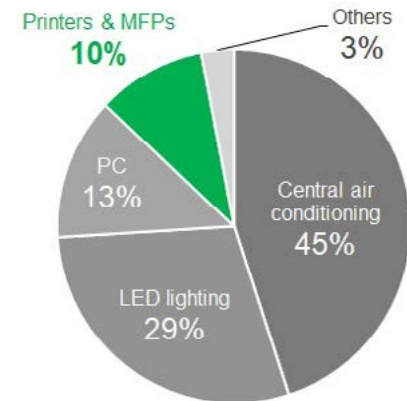
WorkForce Enterprise
WF-C/AM-C series

Ideas for the Office

Businesses are more sensitive than ever to environmental issues. Many try to save energy by adjusting their thermostat settings or adopting LED lighting. What they may overlook is that printers and MFPs account for about 10% of total power consumed in a typical office.

We see an opportunity to help them further cut their energy use and costs. Epson inkjet printers draw very little power when printing because ink droplets are ejected by the action of piezoelectric elements that contract under only a tiny applied voltage. In contrast, laser printers require heat—and a lot of electricity—to fuse toner to paper.

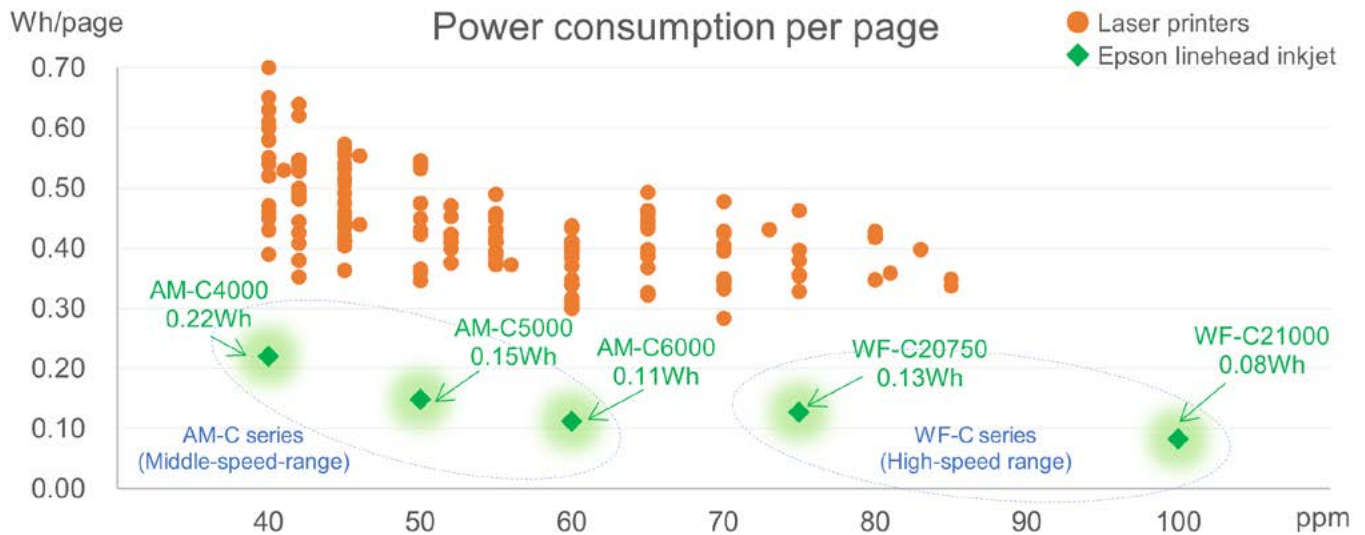
How Power is Consumed at the Office²



² Epson research based on data from commissioned survey conducted in March 2018 by SOMPO Risk Management & Health Care Inc.

Power Consumed per Page

The graph below shows the estimated energy consumed per page. The figures, which are based on typical electricity consumption (TEC) values provided by the ENERGY STAR®, may be used as a guide to compare products running at different speeds. The graph indicates the superior energy efficiency of Epson WorkForce Enterprise series compared to typical A3 color laser office MFPs.



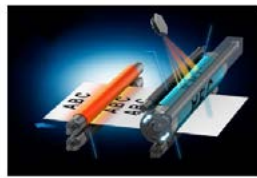
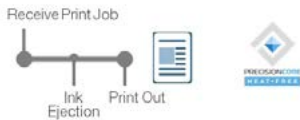
* Comparative simulation of power consumption per page. All A3 color MFPs with outputs of 40-100 ppm (excluding Digital Front End) which is posted on energystar.gov as of September 11, 2023. Our per page calculations are based on TEC measurement.

Reduces Annual Electricity Consumption

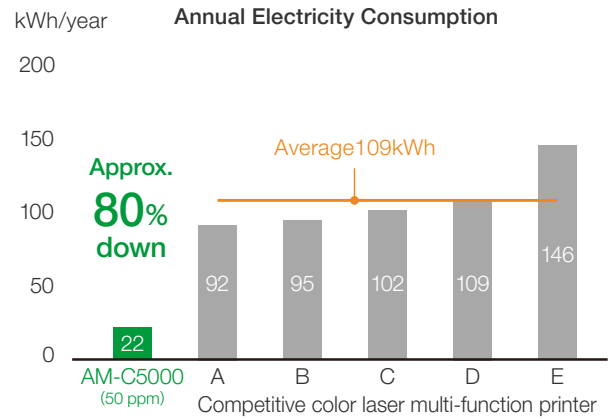
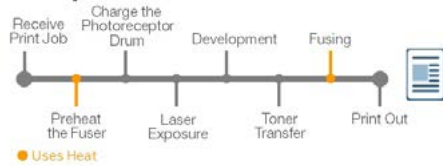
WorkForce Enterprise printers are equipped with PrecisionCore Heat-Free Technology and use no heat in the printing process. That means they consume far less power than laser printers, which in turn reduces their running costs. According to the results of an independent study, AM-C5000 may consume, on average, 80% less electricity per year than comparable competing color laser multifunction printers.



Inkjet printer



Laser printer



* Keypoint Intelligence-Buyers Lab was commissioned by Epson to evaluate the WorkForce Enterprise AM-C5000 (50ppm) for Europe. Test data is from May 2023. Epson selected four competitor's models from worldwide top five best-selling vendor³ in the 41-50 ppm color laser multi-function printer class. Devices were tested in default mode as per Keypoint Intelligence's proprietary standard energy consumption test methods. Calculations were based on a weekday workload of 2 x 4 hours printing + 16 hours in sleep/standby mode, and weekend energy use of 48 hours in sleep/standby mode. A total of 69 pages of workload test pattern using DOC, XLS, PPT, HTML, PDF files and Outlook email messages were printed six times in each four-hour printing period.
³ Source: IDC's Worldwide Quarterly Hardcopy Peripherals Tracker 2023Q1, Units Share by Company

Recognized for Excellence in Energy Efficiency and Conservation

Seiko Epson received the Agency for Natural Resources and Energy Commissioner's Award (Product & Business Model Category) for their new MFPs* under the fiscal 2023 Grand Prize for Excellence in Energy Efficiency and Conservation awards program organized by the Energy Conservation Center, Japan. Among other things, the new MFPs were recognized for their higher energy efficiency compared with the previous models for the reason such as the introduction a new circuit unit reduces power consumption in sleep mode and during operation. (December 2023)

* WorkForce Enterprise LM-C6000/C5000/C4000 linehead inkjet multifunction printers.



FY2023 Energy Conservation Grand Prize
 (Product & Business Model Category)
 Sponsor: The Energy Conservation Center, Japan



Eco Features



WorkForce Enterprise WF-C/AM-C series



- Inkjet multi-function printers with linehead enabled by Epson PrecisionCore and Heat-Free Technology take the combination of print performance and energy efficiency to the next level.
- Epson WorkForce Enterprise series demonstrates superior energy efficiency than a typical A3 color laser office MFPs.
- The maximum power consumption is below 320W⁴, making it suitable for use with the common 100V, 15A outlets found in typical office settings.

⁴ WF-C21000 series: 320W, WF-C20750 series: 300W, AM-C series: 190W

Changing Office Printing with Inkjet Technology

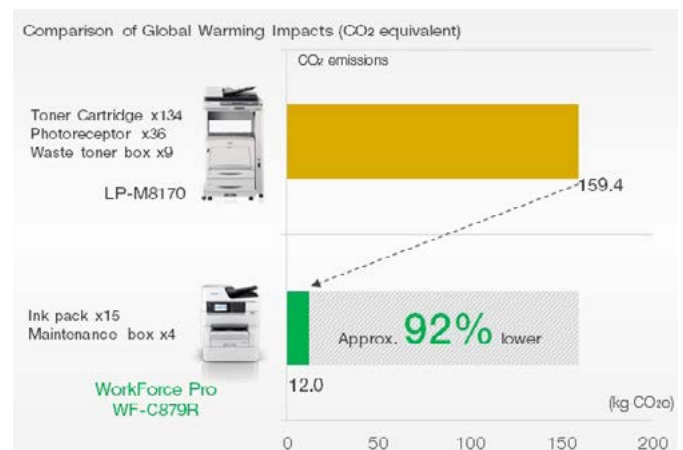
Printers with the innovative high-capacity replaceable ink pack system require minimal replacement of consumables and minimal energy, saving work while reducing environmental impacts.



High-capacity Ink Pack Model
WorkForce Pro WF-C879R

Reducing Environmental Impacts with the High-Capacity Replaceable Ink Pack System

High-capacity ink packs not only reduce costs but contribute to reducing environmental impact by reducing resource consumption and minimizing waste. They also ease the burden of managing consumables replacement and help reduce downtime.



* Comparison of global warming impacts of consumables and their packaging. The 200,000 page¹ and ² of the WF-C879R was used as the basis for comparing consumables³ for the Epson LP-M8170, a color laser MFP (only available in Japan). Epson calculates the total global warming impacts of consumables (material, material processing) as CO₂ emissions based on Epson's test conditions. Figures don't include ink and toner, but include the effects⁴ of the material recycling. CO₂ emissions will vary depending on customer printer use.

¹ Average life printing of this product.

² Ink pack yields are based on ISO/IEC 24711 and ISO/IEC 24712, Epson tests in default mode printing continuously, color yields are determined by taking an average yield.

³ Numbers are calculated proportionally based on the number of pages printed.

⁴ Reduction of CO₂ emissions due to recycling.

Supporting Energy-Efficient Offices with Inkjet Printing

Because inkjet printers use no heat in the printing process, they consume far less power than laser printers, which in turn reduces the running cost.

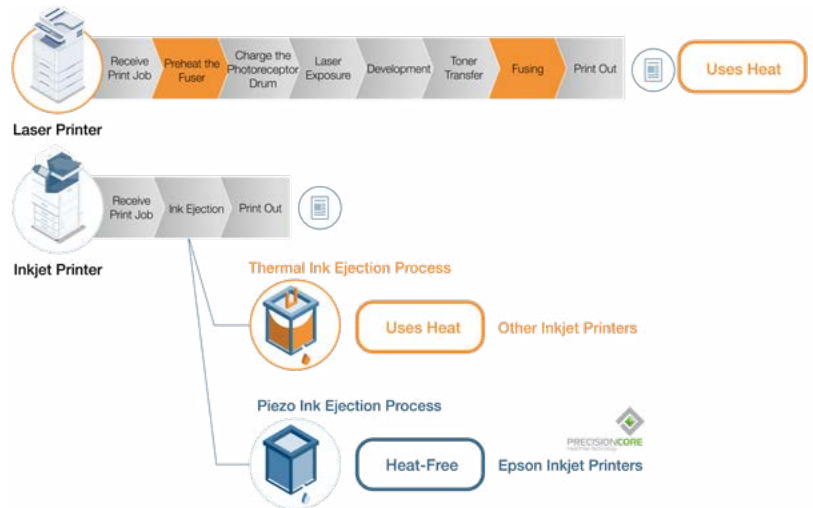
Epson inkjet printers use Heat-Free Technology to deliver advanced customer benefits.

Epson Heat-Free Technology does not require heat in the ink ejection process.

Instead pressure is applied to the Piezo element, which flexes backwards and forwards firing the ink from the printhead.

In contrast, other technologies work with heat. Laser printers need to heat the fuser to enable printing, for example.

The fact that they do not use heat means that they use less power and produce less CO₂ emissions.



Offering Low User Intervention, Thanks to High-Capacity Ink Packs with a Compact Body.



Eco Features



WorkForce Pro WF-C879R

- High-capacity ink packs allow you to print up to 86,000 pages in mono and 50,000 pages in color² without replacing ink and reduce CO₂ emissions by up to 94% compared to their equivalent laser printers, which consume a large number of toner cartridges and photoconductor units.
- Epson Heat-Free Technology requires no heat to print consume far less energy than laser printers.

Adding New Value to Paper Contributes to a Circulating Society

The PaperLab A-8100, a dry-process office papermaking system, makes new paper from old right on-site using Dry Fiber Technology, which is characterized by waterless¹ defibration.



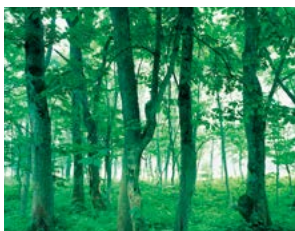
PaperLab A-8100
Dry-process office papermaking system



Preservation of Water Resources

The PaperLab A-8100 uses only about 1/100th¹ of the water it takes to make an equivalent mass of ordinary paper, thus helping to conserve the Earth's precious water resources.

¹ Water consumption of ordinary paper includes water used in the growth of the trees that supply the virgin pulp. Ordinary paper means paper distributed in Japan.



Effective Use of Forest Resources

Paper is produced from wood taken from the forests, but the A-8100 spares our forests by producing new copy paper from used documents right in the office. Therefore, any paper produced by the A-8100 may be marked with the eco-label established by the 3R Promotion Forum Japan.



Reduction of Life Cycle CO₂ Emissions

The A-8100 enables small paper recycling cycle by turning used paper into new paper right on site. Paper can be locally recycled for local consumption, producing fewer CO₂ emissions across the life cycle compared to a traditional paper recycling process, when producing an equivalent mass of paper.



Awareness-Raising

The A-8100 reproduces paper on the spot—a fresh surprise that can raise the environmental awareness of your staff and spawn further environmental action. Children who have had the opportunity to see paper recycled come away with insights and greater concern for the environment, as well as a desire to solve environmental issues with science.

Internal Case Study

Epson uses PaperLab extensively to recycle and reproduce paper used on its own sites. The recycled paper is primarily used for business purposes, including employee business cards. Additionally, Epson donates notebooks made from recycled paper used in-house to elementary and middle schools. Through this initiative, Epson not only raises awareness about paper recycling among children but also enhances its own brand recognition.



Notebooks made from recycled paper

The paper recycling work is carried out by employees of Epson Mizube Corporation, a special subsidiary, which provides opportunities for employees with disabilities to expand their roles and play an active part within the organization.

Application of Dry Fiber Technology

In addition to the dry-process office papermaking system PaperLab, Dry Fiber Technology is also used for waste ink pads and soundproofing materials from recycled paper. Furthermore, by applying this technology, Epson has developed a new upcycled packaging material using scraps generated during the sewing process of cotton garments. This packaging material is now used for some of Epson's watch product packaging.



Waste ink pads for inkjet printers
(maintenance box)



Watch packaging made from cotton scraps



Eco Features



PaperLab A-8100

PaperLab A-8100 is an office papermaking system that recycles paper right on site using a dry process.

- Contributing to the conservation of water resources with Epson's unique paper recycling technology that does not use water².
- "Paper to paper" recycling, where fresh sheets of copy paper are produced from used paper generated on-site, is an effective way to conserve forests.
- The ability to recycle at the office reduces the volume of paper that must be transported to off-site recyclers.

² A small amount of water is used to maintain a certain level of humidity inside the system.

An Eco-Conscious Office Created by Combining Inkjet Printers with an Office Papermaking System

Epson is proposing eco-conscious office solutions that benefit the environment.

Epson wrings the maximum benefit for customer from solutions that combine inkjet printers, which employ Epson's proprietary Heat-Free Technology to reduce office power consumption, waste, and printing costs, with dry process office papermaking systems, which efficiently recycle paper to conserve water and forest resources. In addition to allowing a more environmentally friendly way to take advantage of the convenience of paper, an in-office paper recycling ecosystem delivers customer value by reducing costs and strengthening information security.



Epson installed 16 PaperLabs at its nine main sites in Japan. Through the local recycling of paper for local consumption, Epson is looking to reduce the amount of new paper purchased by the Epson Group. Furthermore, the Eco-Conscious Office Center in EPSON SQUARE MARUNOUCHI serves as a model for a metro office. It demonstrates to visitors that a greener office can be achieved anywhere.

Epson is giving potential customers a concrete idea about how they can improve their environmental performance by publicly disclosing our paper recycling operations and recycling data.



Raising Meeting Productivity with Interactive Communication

Epson's interactive projectors increase the productivity of interactive meetings, deliver more effective presentations, and even contribute to a smaller environmental footprint.



**Interactive projector
EB-1485Fi
(known as the BrightLink 1485Fi
in certain markets)**

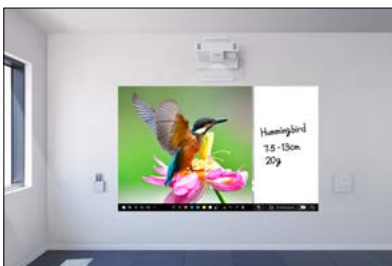
Reduce Your Environmental Footprint with Videoconferencing

Connect your existing videoconferencing system to the projector, and use the projector's multi-location interactive and split-screen functions to display your videoconference on one side of the screen and your presentation on the other, to achieve virtual face-to-face collaboration. This interactive projector can reduce the need for travel and reduce your environmental footprint.



Multi-location Interactive Function

- Share your PC screen with up to four locations.
- Participants in all locations can annotate a presentation and save the content to their PCs.



Split Screen Function

- Achieve virtual face-to-face collaboration while sharing whiteboard and PC screen images.
- Clearly display different content on a split screen that measures to 100 inches.

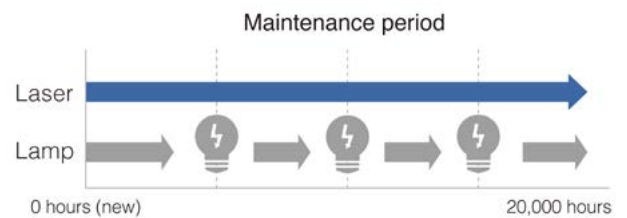
Use as a Copyboard

The all-in-one interactive projector with copyboard, electronic blackboard, and other common whiteboard functions saves both resources and installation space. Directly annotate up to 20 sheets' worth of projected data and images, no PC required. Increase meeting productivity and minimize printouts by saving data or by emailing it directly from the projector.



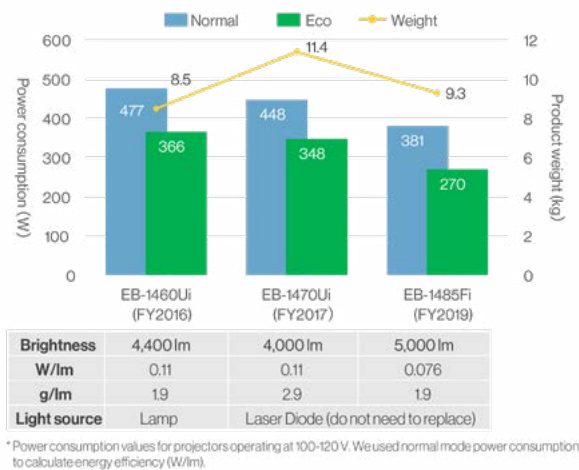
Maintenance-free Light Source

The laser light source is extremely reliable, eliminating the worry of lamp failure during important presentations.



Energy and Resource-saving

Within the projector's lifecycle, CO₂ emissions will be the greatest during the stage in which it is used by the customer. Through product improvements, we will offer reductions in the consumption of electricity and natural resources during use.



Eco Features



EB-1485Fi

- Connect your videoconferencing system to the projector, and use the multi-location interactive and split-screen functions to display your videoconference on one side of the screen and your presentation on the other, to achieve easy remote collaboration and reduce the need for travel. Helps to reduce your environmental footprint.
- This all-in-one interactive projector includes copyboard, electronic blackboard, and other whiteboard functions to save both resources and installation space.
- Projected data and images can be annotated with digital pens. Minimize printouts by saving data as is or by emailing it directly from the projector.
- The laser light source is extremely reliable, eliminating the worry of lamp failure during important presentations.
- Energy-saving features
 - An illuminance sensor detects ambient brightness and automatically adjusts the output of the lamp
 - You can reduce power consumption by as much as 29% using ECO mode

Driving Production Process Innovations with Digital Textile Printers

Epson’s digital textile printers faithfully reproduce prints in vivid colors and wonderful detail-and they do so with outstanding throughput and minimal environmental impact.



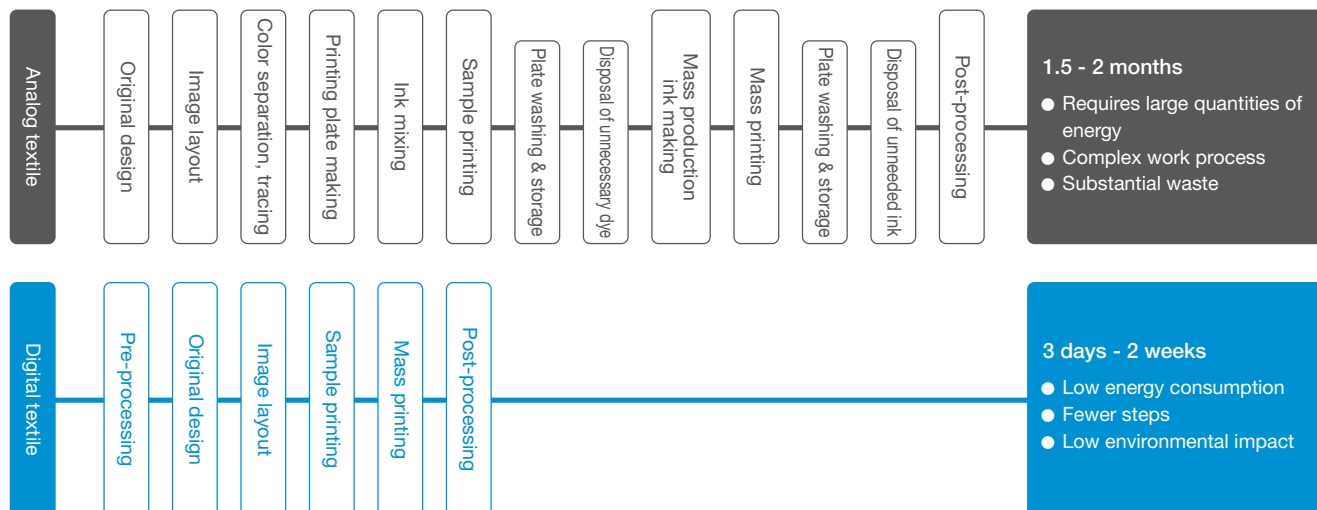
Digital Textile Printer
Monna Lisa

Streamlined Manufacturing Process

Epson’s inkjet digital textile printers expand your design possibilities while minimizing your use of energy, water, materials, and time compared to conventional processes. Digital textile printing involves the use of printing systems to print out digital data to direct to fabric. It is different from traditional analog printing in which dedicated printing plates are pressed directly onto the fabric. Digital printing has the following characteristics:

1. Faithful reproduction of fine gradations and subtle color tones
2. Since no analog plates are needed, digital textile printing saves storage space, eliminates time spent on plate management, and enables small production runs at low cost and with fast turnaround
3. Minimize the environmental impact in comparison with analog printing
 - Little less of dyeing material
 - No need for water for plate washing

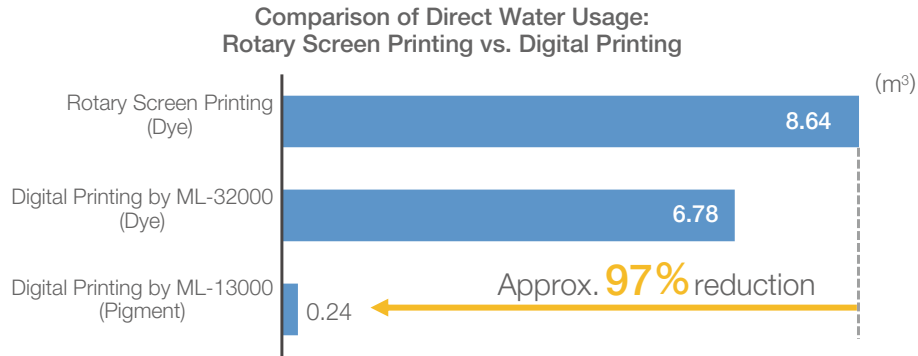
Comparison of Analog and Digital Textile Printing Processes



Reduction of Water Usage

A study¹ shows that around 20% of wastewater worldwide comes from fabric dyeing and treatment.

Digital textile printing, compared to analog methods (such as rotary screen printing), eliminates the need for plate washing. Furthermore, pigment-based digital printing requires no post-processing, allowing for a reduction of water usage by up to 97%², thereby contributing to the reduction of industrial wastewater.

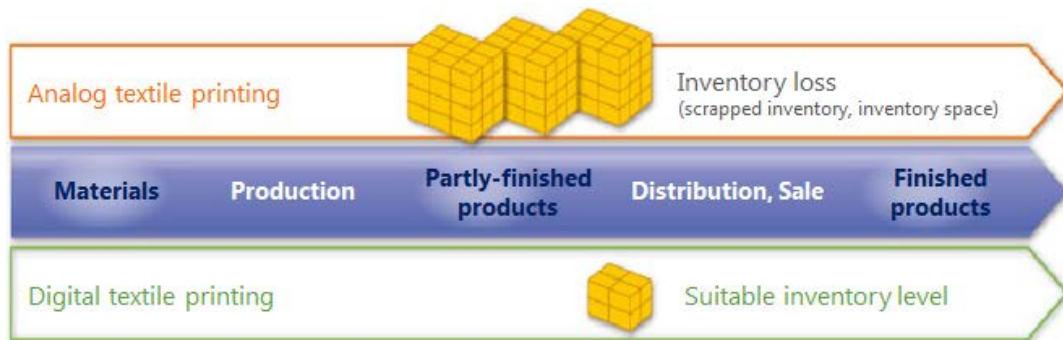


¹ World Bank, 2019 How Much Do Our Wardrobes Cost to the Environment?

² Report on Direct Water Usage in Digital Textile Printing (January 2024), commissioned by Seiko Epson to Furuhashi Environmental Research Institute, a comparison is made between the processes of rotary screen dye-printing and inkjet dye/pigment-printing by Monna Lisa. This comparison examines the direct water usage for dyeing a fabric that is 1.5 meters wide and 300 meters long, noting that these figures may vary depending on the usage environment and measurement conditions.

Efficient Inventory Management

Digital inkjet printing has a short processing time ranging from 3 days to 2 weeks, encompassing all stages from pre-processing to post-processing, making it ideal for small-lot, diverse production. This approach minimizes inventory losses associated with materials, partly-finished products, and finished products, from production through distribution and sale.



Eco Features



Digital Textile Printer
Monna Lisa

- Since the digital textile printing process is shorter and does not require printing plates, it uses less energy and water than a traditional analog process, and wastes far less ink.
- Ideal for small-lot production. Minimizes inventory losses from manufacturing through to sales.
- Digital textile printer inks have acquired Eco Passport certification, indicating that they meet international safety standard for chemical substances of textiles.

An Inkjet Workflow for Brightly Colored Garments with Fineness of Detail

There is a growing market for the printing of original images on T-shirts, polo shirts, tote bags and other cotton products. We are answering the needs of this market with advanced inkjet printing technology that renders images in vivid colors and intricate, faithful detail with low environmental impacts.



SureColor SC-F2200 series

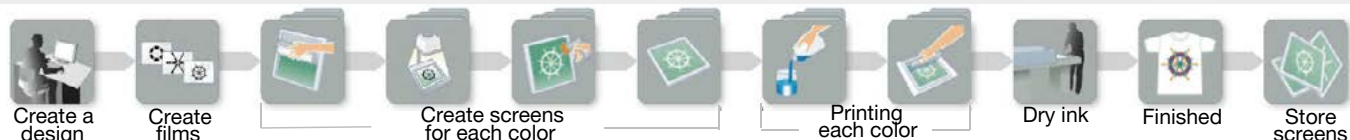
Transforming the Garment Printing Workflow

Traditional silk-screen printing requires extensive preparation, including the production of screens and the mixing of ink, as well as maintenance. For photos and other multicolored prints with gradations, the print process is long, and the longer the process, the more energy, water, materials, and other resources are used.

Digital prints produced with a SureColor SC-F2200 print digital data from a PC directly onto T-shirts and other garments. So, not only is there no need for screens or plates but images and photos can be reproduced with smooth gradations and in full color. The SureColor SC-F2200 shortens the garment printing workflow.

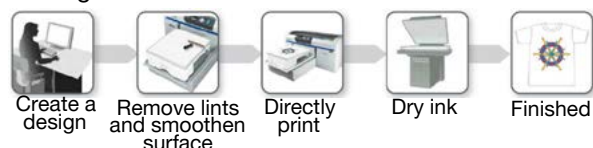
Moreover, the inkjet process saves resources and is more environmentally conscious than analog processes because there are no films, screens, or plates to produce, wash, or store.

Silk screen printing

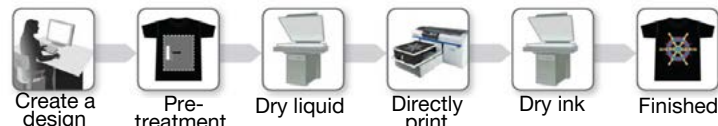


Direct-to-Garment printing

· For light color T-shirts



· For dark color T-shirts



Infant-safe Prints on Textiles

The UltraChrome DG inks and pretreatment liquid used in Epson's garment printers are Eco Passport¹ certified and complies with ZDHC MRSL² level1, indicating that they meet international safety standard for textiles. Under this standard, even printed textiles that directly contact the skin of infants and toddlers are safe. Additionally, the inks are approved with GOTS³.



¹ Eco Passport by Oeko-Tex® is a system by which textile chemical suppliers demonstrate that their products can be used in sustainable textile production.

² The evaluation is based on analytical testing in accordance with the Manufacturing Restricted Substances List (MRSL), which prohibits the intentional use of chemicals in the manufacturing process of textile products and others. It demonstrates compliance with the ZDHC MRSL Guidelines. ZDHC: Zero Discharge of Hazardous Chemicals.

³ An international standard for products made from organic textiles.



Eco Features



SureColor SC-F2200 series

- Streamlined garment printing workflow compared to silk-screen printing.
- Saves resources because no plates or screens are used, unlike traditional printing processes that require a separate film and screen for each color. No washing required, since there are no screens.
- UltraChrome DG ink and pretreatment liquid are certified of Eco Passport.

The Value of Color on Demand

Easily print full-color labels, tickets and tags - where and when users need them and in the quantities required.

Eliminate large inventories of pre-printed labels on demand by printing labels in short runs.

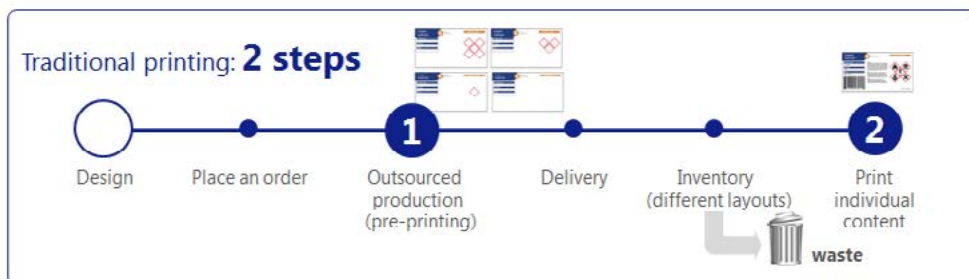


Epson ColorWorks Color Label Printers

(From the left: CW-C4000 series, CW-C6000 series, CW-C6500 series)

Epson’s ColorWorks Inkjet Label Printers Simplify Traditional Processes

Thermal printers were traditionally used to overprint black onto pre-printed labels, but this approach can be slow, disruptive, wasteful and inconvenient. Epson’s range of on-demand color inkjet printers eliminates these issues easily. With the ability to print customized color labels, tickets and tags in-house as and when required, users no longer have to worry about inventory, production downtime, label waste, lost orders or late shipments.



Eco Features

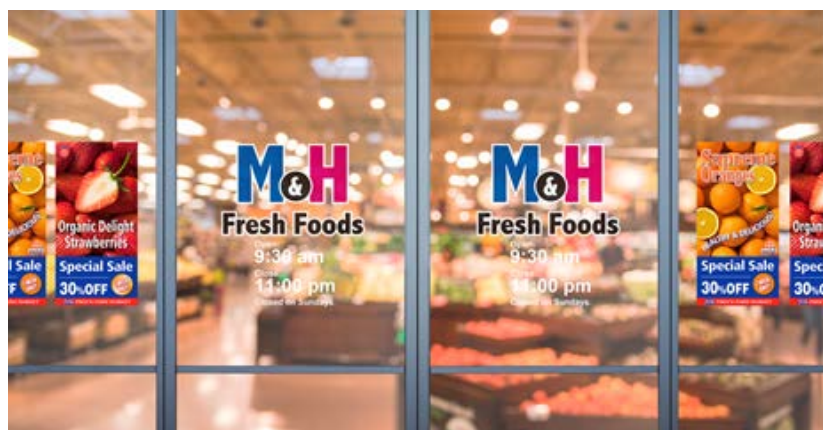


- Simplifying the traditional label printing process, improve inventory management and reduce waste.
 - Streamline label production by printing color labels on-demand
 - No need to keep an inventory of pre-printed labels

Epson ColorWorks

Label Printing Technology Shifting from Analog to Digital

The trend toward short-run print jobs has spread to labels and packages, giving rise to demand for efficient printing systems that can agilely respond to this demand. Epson’s digital inkjet label presses provide customers with a new label printing workflow that meets their needs.



Digital Label Press
SurePress L-4533A/AW

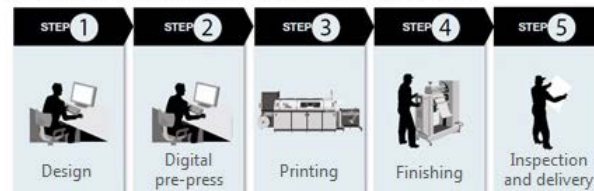
An Efficient Label Printing Process with a Low Environmental Impacts

A digital printing process does not need the press plates and other prepress processes required by analog printing processes. And, since a digital process does not use developer or film or plate materials, it conserves resources. Capable of stable, consistent output, a digital process does not require mock-ups and thus can reduce the waste of ink and label substrates during setup. Digital label presses thus offer both a more efficient workflow from start to finish and lower environmental impacts.

Time-consuming Analog Workflow



SurePress L-4533A/AW Digital Printing Workflow



SurePress AQ Ink T4 for a Better Printing Environment

Epson's SurePress AQ ink T4 is a non-toxic, low odor, and noncombustible water-based pigment ink that offers print shops a better working environment. This ink also provides excellent adhesion on label substrates, without the need for pre-treatments or coatings.



Eco Features



SurePress L-4533A/AW

- Save resources by removing the need for pre-press process like plate making, and eliminating the use of developer and films.
- Easy color-matching and no replacement of plates makes the SurePress less wasteful, and enables it to consume less standard label stock and ink.
- No need for special cleaning eliminates waste fluid emissions from maintenance.
- Removing the need for pre-treatment, SurePress water-based ink has good adhesion on a variety of standard label stocks. Non-toxic, low odor, and noncombustible water-based pigment ink offers print shops a better working environment.

Reducing Environmental Impacts by Providing Remote Work Assistance with Smart Headsets

Epson's smart headsets with binocular, see-through lenses increase operational efficiency and work quality by displaying digital manuals and work instructions in the field of vision and enabling workers to perform work with both hands. In industrial settings, these headsets can be used by managers to provide remote service and maintenance personnel, for example, with instructions and assistance.



MOVERIO BT-45CS¹

¹ Helmet is not included as product

Remote Work Assistance

The centered high-resolution 8 mega-pixel front-facing camera enables workers to share their view and receive help with complex tasks through streaming or recorded Full HD pictures and videos.

In addition to safely increasing work efficiency and contributing to greater overall operational efficiency, Epson's smart headsets enable skilled personnel in a remote location to provide technical instructions to workers on the ground. This helps to reduce the need for travel and, consequently, your environmental footprint.



Advantages

- Printed paper manuals and instructions are rendered unnecessary.
- Greater work efficiency thanks to hands-free operation.
- Tasks can be completed safely because the binocular, see-through lenses allow workers to see their surroundings through projected content.
- Images and voice can be shared with workers in remote locations so that assistance can be provided effectively.

Usage Scenes

- Used for work where they wear caps, or where they do not need to wear anything on their head

- Infrastructure (server room)
- Manufacturing (assembly of office automation equipment, household appliances, vehicles, etc.)
- Maintenance (large equipment such as aircraft, semiconductor manufacturing equipment)
- Agriculture (technology transfer)



- Used for work where wearing a helmet is mandatory

- Infrastructure (electricity, gas, water)
- Manufacturing (heavy machinery, steel, robotics)
- Construction, Public Works (building construction, excavations, bridges)



Eco Features



BT-45CS

- The headsets are equipped with a camera and sensors that provide remote personnel with an accurate picture of the situation so that they can provide workers on the ground with instructions and assistance without having to travel, so the environmental impacts associated with travel can be reduced. The headsets also promise to reduce downtime and time losses associated with travel.
- Hands-free operation enables tasks to be performed safely and efficiently, improving both operational efficiency and work quality.

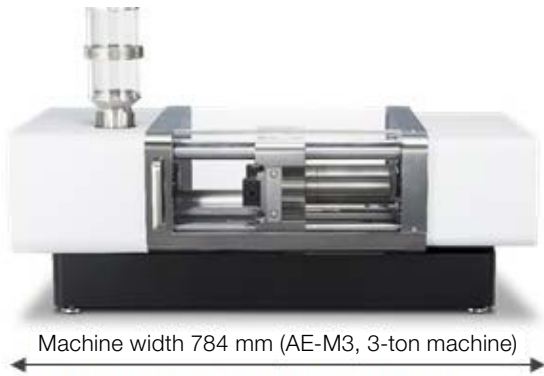
Make More with Less: Micro Injection Molding Machines for Superior Financial and Environmental Performance

The smaller the parts, the greater the waste of materials and energy consumed in the manufacturing process.

Epson's micro injection molding machines solve this customer issue by allowing users to make more with less.

Epson's AE-M3 and AE-M10 micro injection molding machines employ a proprietary disk drive system that dramatically reduces machine size, making them ideal for molding small, precision parts with exceptional energy efficiency.

These machines are standard-equipped with a hot runner system that minimizes waste and efficiently uses input resources.



Machine width 784 mm (AE-M3, 3-ton machine)

Micro Injection Molding Machine
AE-M3 and AE-M10

* Only available in Japan

Mold Only the Parts You Need, When, Where, and in the Quantity Needed

Examples of Molded Parts

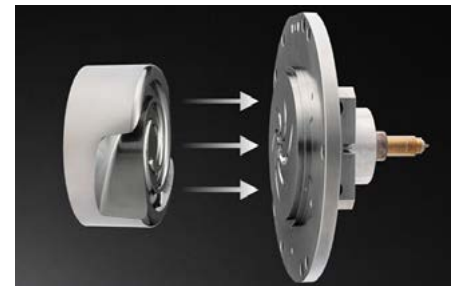
Small precision gears (POM)	Super engineering plastic parts (PEEK, LCP, PPS)	Plastic lenses (COP)	Composite components (composite material)

Fast, Precision Injection with Minimal Energy and Waste

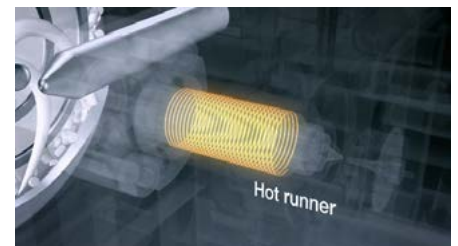
Injection molding machines melt a plastic material with a heater and precisely inject the molten material into a mold cavity, where the material cools and hardens before being ejected as a molded product.

Epson’s micro injection molding machine employs a proprietary disk drive system to melt and inject the plastic. The molten plastic is precision injected with minimal energy. The short melting path has the additional benefit of reducing damage to thermally sensitive materials, thus helping to ensure good molding quality.

The hot runner system that is standard on these molding machines minimizes material waste from runners and other parts in the molding process. It also shortens cooling time after mold clamping, which reduces molding time (cycle time) and thus increases productivity.



The proprietary disk drive system dramatically reduces machine size and energy consumption



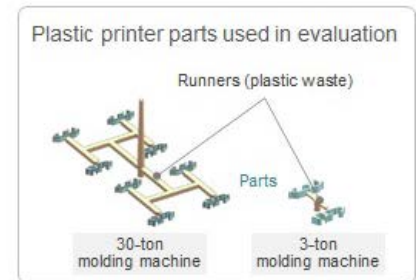
The hot runner system minimizes waste plastic and reduces cycle time

* The video above was provided using the service of YouTube™. YouTube™ is a trademark of Google Inc.

Reduces CO₂ by Conserving Energy, Saving Space, and Reducing Waste Plastic

Epson's micro injection molding machines have a far smaller environmental impact than the average 30-ton molding machine. In addition to unrivaled compactness and an energy saving design, our machines eliminate much of the waste material from runners and such that are generated in the part molding process.

Reduction Effect Compared to the Average 30-ton Injection Molding Machine on the Market



* This evaluation compares the impacts of a 30-ton machine and a 3-ton machine when producing 500,000 Epson printer parts per month. Calculations were checked using a method of Mizuho Research & Technologies Institute. Epson's AE-M3 (3-ton molding machine) produces two parts at a time and has a molding time of 694 hours, whereas the average 30-ton molding machine of other companies produces eight parts at a time and has an average molding time of 382 hours. The manufacturing, transportation, and disposal stages of products and accessories are not taken into account when calculating CO₂ emissions. These are the estimated results of a hypothetical model based on Epson's actual results, and the calculation results may differ depending on the conditions of the customer's equipment and materials.

Calculation conditions: Cubic volume of part was 0.5 cm³, plastic material was POM, the 30-ton machine was a composite imagined using the mean value of three representative models from other manufacturers, and the installation area was the molding machine installation space + incidental equipment + work space.

2022 Good Design Award

The micro injection molding machine AE-M3 and AE-M10 won a 2022 Good Design Award, which presented annually for designs that benefit and enrich our lives and society. In addition, these were selected for the Good Design Gold Award and the Good Design Best 100.

< Reasons for Award >

Global industries need to find ways to economically produce the goods that are needed in only the amounts they are needed. However, there is a structural dilemma in that high-mix, low-volume production results in large losses; in fact, making more with less-less waste, less energy-is hard to do. We live surrounded by all kinds of plastic products, most of which are made using large plastic molding machines that waste significant amounts of material. Epson's micro injection molding machines are revolutionary in that they can efficiently do the work of a large factory in an area the size of a desktop.



Eco Features



AE-M3/M10

Designed around the concept of "making more with less," the AE-M3 and AE-M10 are micro injection molding machines that support on-demand production and mass customization.

- A proprietary disk drive system dramatically reduces machine size and achieves exceptional energy efficiency. These machines are standard-equipped with a hot runner system that minimizes waste and efficiently uses input resources.
- The machines save energy and reduce plastic waste, thereby reducing CO₂ emissions by as much as 78%¹ compared to an average 30-ton machine from other manufacturers.

¹ A 78% reduction from the average CO₂ emissions of a standard 30-ton machine from other manufacturers. This figure is an estimate for when the same quantity of parts is produced using a model based on Epson's actual results.

Intelligent Receipt Printers that Control Peripherals

TM-T70II-DT2 and TM-T88VI-DT2 are next-generation receipt printers with integrated printer and PC functions that support smart store operations when connected with tablet and POS peripherals.



TM-T70II-DT2



TM-T88VI-DT2

Greatly Simplified System Configuration

These receipt printers are loaded with interfaces for connectivity with a wide assortment of peripheral devices. They can be used with a web browser and are not dependent on any specific operating system or terminal type, simplifying POS system configuration.



Easy maintenance

The latest applications are always available through the cloud (Web server), reducing the environmental impact of service staffs' business travel for onsite installation and updates.

POS configuration flexibility

The number of POS systems can be flexibly changed depending on the level of demand, contributing to the optimization of equipment utilization and reducing electricity consumption.

Every network terminal is available

Electricity-saving devices like smartphones can be used because the Intelligent receipt printer is not restricted by the type of terminal or operating system.

Resource-saving design

By using the paper saving modes for standard receipt lengths, it is possible to achieve up to a 49%¹ reduction in paper usage.



Eco Features



TM-T70II-DT2



TM-T88VI-DT2

- Because the number of POS systems can be flexibly changed depending on the level of demand, users can reduce the electricity consumption of their operation by removing unnecessary devices.
- The latest applications are always available through the cloud (Web server), reducing the environmental impact of service staffs' business travel for onsite installation and updates.
- Electricity-saving devices like smartphones can be used because the Intelligent receipt printer is not restricted by the type of terminal or operating system.
- By using the paper saving modes for standard receipt lengths, it is possible to achieve up to a 49%¹ reduction in paper usage.

¹ The combination of paper saving and backward paper feeding is measured using a test pattern defined by Epson, with the actual reduction amount varying depending on the printing pattern.

Photo

Revamping the Photo Printing Workflow with Inkjet Minilabs

Epson inkjet minilabs are easier to maintain than traditional silver-halide photofinishing equipment. In addition to streamlining the photo printing workflow, they save maintenance costs, help to mitigate resource consumption and reduce the environmental impacts of the printing process.



Inkjet Minilab SureLab SL-D3000 series
(with sorter option)



Inkjet Minilab SureLab
SL-D1000 series

Efficient Photo Printing with Digital Printing

Silver-halide minilabs require chemical adjustment and calibration in the morning, as well as waste fluid processing and cleaning at the end of the day¹. The SureLab SL-D3000 series/ D1000 series inkjet minilab, however, does not require any special maintenance at startup and shutdown. Inkjet minilabs dramatically improve the photofinishers' work environment because, without chemicals, there is no waste liquid to be processed, no parts to be cleaned, and no chemical smell.



¹ According to Epson research.



Eco Features



SureLab SL-D3000 series/
D1000 series

- No chemicals means no liquid waste.
- No washing process means no water hookup is needed.

Customer Environmental Impact Mitigation

Environmentally Conscious Products

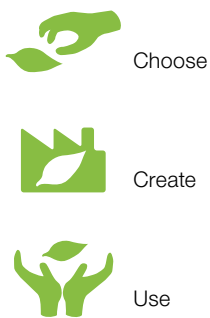
We provide eco-conscious products. Our efforts to reduce environmental impacts are yielding products that increase production process and product energy efficiency, raise resource efficiency, and eliminate the use of harmful and hazardous substances.

- Compact, lightweight, energy-efficient Epson products that are designed for long life and easy recyclability have a lower environmental impact across their life cycles.
- Epson produces attractive products engineered for easy maintenance and chemical safety.

Printer Designed to Pursue a Shift Away from Underground Resources

In the design of Epson’s ET-4810 series¹ printers, the adoption of a high-capacity ink tank system, the use of packaging materials made from paper resources, and the incorporation of recycled materials into the plastic body help shift away from the use of underground resources in consumables, packaging, and the product itself.

¹ Models sold outside Japan (Representative Models: ET-4810/ET-2840/ET-2830/L5590/L3560/L3550)

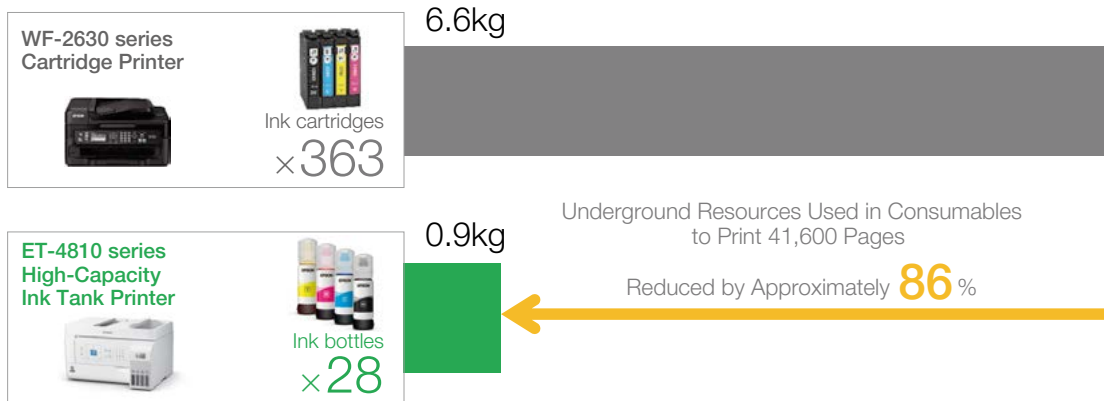


ET-4810 series

Reduction of Resource Usage Related to Consumables

The high-capacity ink tank system reduces the frequency of consumable replacements, cutting the use of plastic and metal in consumables by 86%² compared to traditional cartridge systems.

Comparison of the Use of Plastics and Metals in Consumables



² This is a comparison of the mass of petroleum-derived plastics and metals in consumables, including packaging materials, for printing 41,600 pages of A4 color documents over five years using the ET-4810 and WF-2630 series printers. This calculation is based on Epson’s evaluation criteria and may vary depending on different usage conditions.

Use of Paper Products in Packaging Materials

The ET-4810 series uses cardboard, a paper-based product, as cushioning material instead of traditional polystyrene cushioning materials. Furthermore, the cardboard contains over 80% recycled material. Additionally, the polypropylene tape used to protect the product during transport has been replaced with paper tape. By utilizing paper products, we are reducing the use of petroleum-derived plastics.



Polystyrene Cushioning Material
(ET-4800 series)



Cardboard Cushioning Material
(ET-4810 series)

Use of Recycled Plastic Material in Printer Body

The ET-4810 series incorporates recycled plastic in approximately 30%³ of the plastic used in its body. By utilizing recycled materials, we reduce the amount of petroleum-derived plastics used and contribute to resource circulation.

³ This ratio refers to the proportion of recycled material in the total mass of plastic used. The mass is calculated considering the ratio of recycled materials, and the content may vary depending on procurement conditions.



ET-4810 series

Approximately **30%**
Recycled Plastic Used






Eco Features

- The high-capacity ink tank system reduces concerns about running out of ink and minimizes the hassle of replacement, while also decreasing resource usage.
- Using cardboard cushioning materials made from paper resources.
- Incorporating recycled materials into the plastic used in the printer body.

Resource-Saving Business Printer with a Compact and Lightweight Design

Epson's AM series¹ business inkjet printers have been made more compact compared to the previous WF series², resulting in a smaller installation footprint, making it possible to fit into limited spaces. The reduction in size and weight has also contributed to a decrease in resource usage, helping to reduce environmental impact.

-  Think
-  Choose
-  Create

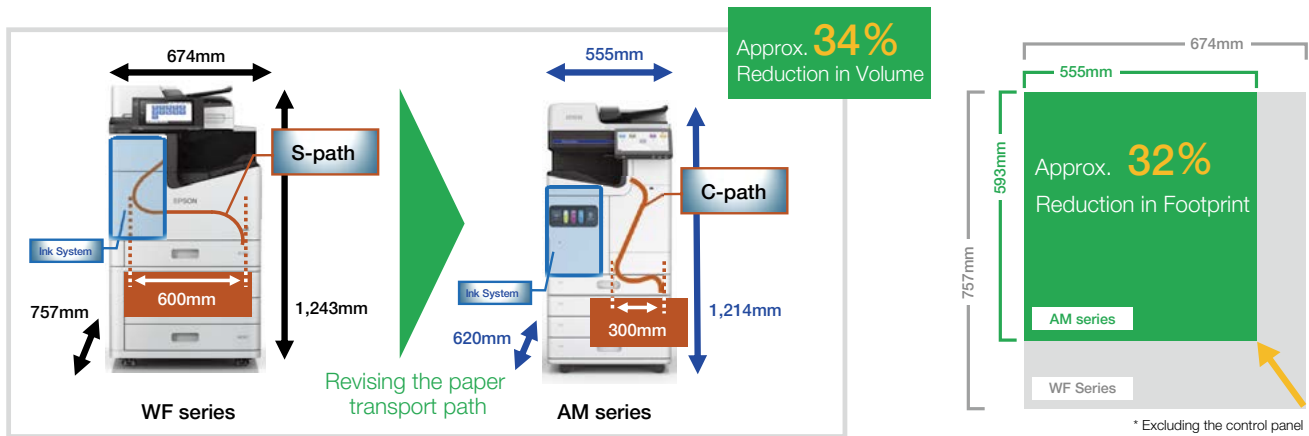


AM-C4000/5000/6000

¹ AM-C4000/5000/6000 series
² WF-C20600/20750/21000 series

Compact and Lightweight Design

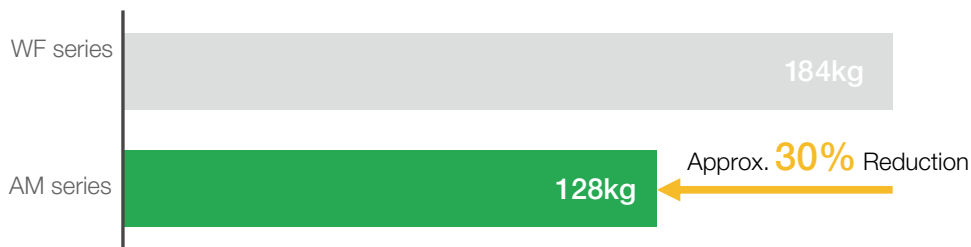
The AM series has become more compact and lightweight by changing the internal layout compared to the WF series. By revising the paper transport path from the traditional S-path to a C-path and placing the ink supply system in the available space, we have effectively utilized the internal space, reducing the volume of the AM series by approximately 34% and the footprint³ by about 32%.



³ The area a machine occupies.

In addition to its space-saving design, the AM series has achieved approximately 30% weight reduction compared to previous models by thinning the frame thickness. By changing the connection between the frames from screws to welding, we have realized the reduction in thickness while maintaining the same level of rigidity as previous models.

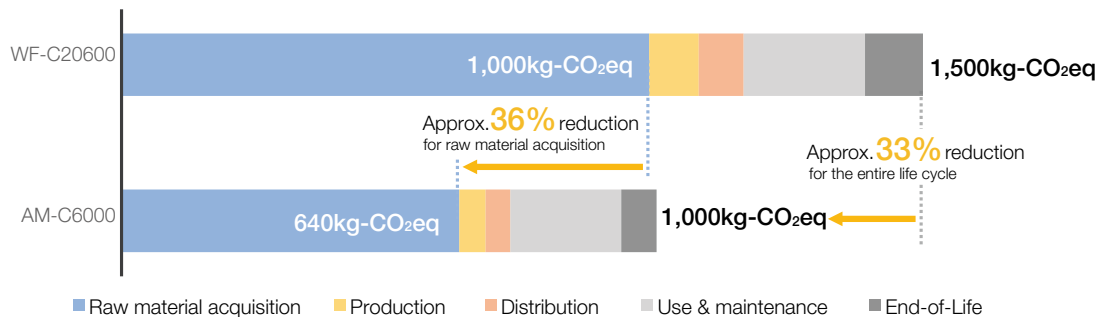
Comparison of Printers' Weight ⁴



⁴ Including consumables.

Due to its compact and lightweight design, the environmental impact (CO₂ emissions) during the raw material acquisition has been reduced by approximately 36% compared to previous models, achieving an overall reduction of about 33% across the entire lifecycle.

Comparison of Printers' Life Cycle Environmental Impact



* Comparison with the model featuring a printing speed of 60 pages per minute.
 ** This comparison based on printers for North America market.



Eco Features

- Revising the transport path has resulted in a volume reduction of approximately 34% and a footprint reduction of about 32%.
- In addition to the compact design, the thinning of the frame has achieved a weight reduction of around 30%.
- As a result of the compact and lightweight design, the environmental impact (CO₂ emissions) of product's raw material acquisition has been reduced by approximately 36%. (compared to the WF-C20600 and AM-C6000)

Compact and Lightweight Wireless Receipt Printer Enables Printing Anywhere

Further lightweight design of the wireless receipt printer reduces resource consumption and contributes to lowering environmental impact.



Choose



Create



Deliver



TM-P80II series

Weight Reduced by Design Change

The TM-P80II series has undergone a redesign of its body, achieving a weight reduction of up to 24% compared to the previous model. This not only reduces environmental impact but also lessens the burden during transportation.

Design Change

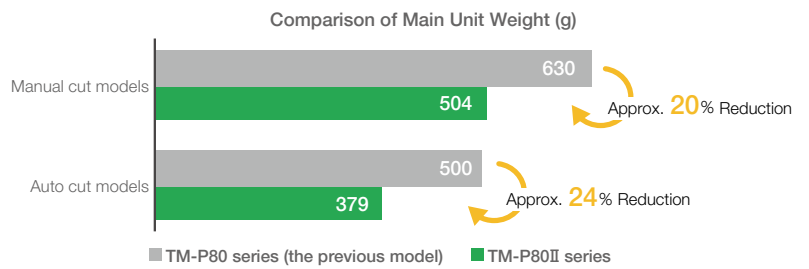


TM-P80



TM-P80II

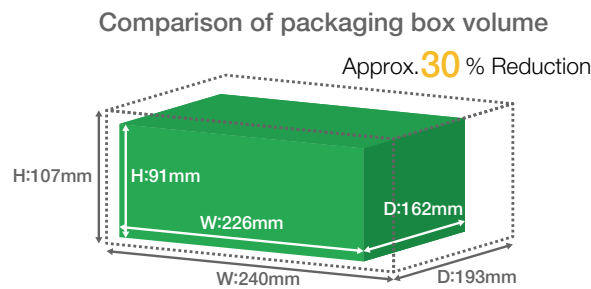
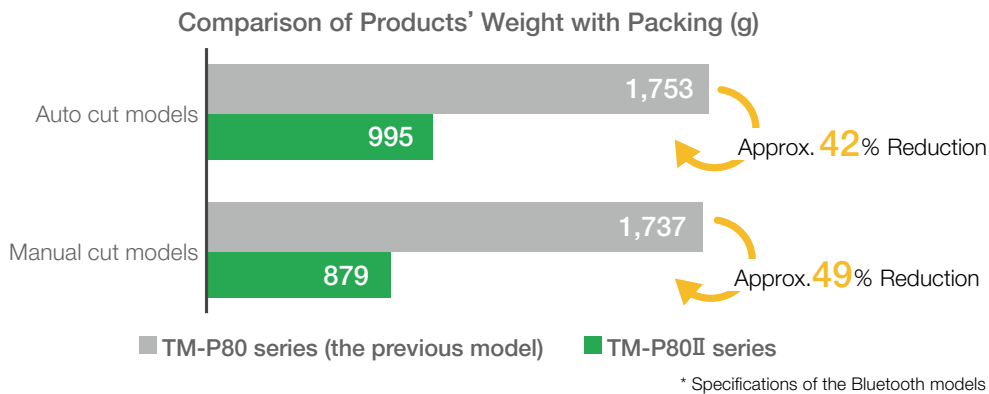
* The images are of manual cut models.



Usage scene image

Compact and Lightweight Packaging

The TM-P80II series comes standard with a USB interface. By enabling charging from commercially available USB charging devices (Type C) and computers, the need for a dedicated power adapter, which was previously included, has been eliminated, reducing the number of included items. Along with the reduction in weight of the main unit, the packaging is up to 49% lighter compared to the previous model. Additionally, with the reduction in included items, the size of the individual packaging boxes has been reduced by approximately 30%, improving loading efficiency during transportation.



- Image of individual packaging box size for the TM-P80II series
- Image of individual packaging box size for the TM-P80 series (the previous model)



Eco Features

- The lightweight design reduces the resource consumption of the main unit.
- The reduction of included items has achieved a lighter packaging.
- The miniaturization of individual packaging boxes has improved loading efficiency during transportation.

A4 Document Scanner Partially Made from Recycled Plastic

Approximately 30%¹ of the plastic used in the main unit is made from recycled materials. Additionally, by providing the software via the internet instead of on CD-ROM, resource consumption and waste disposal could be reduced.



Choose



Create



DS-C480W



DS-C420W

¹ This ratio refers to the mass of plastic used overall. The mass is calculated considering the proportion of recycled materials. The content percentage may vary depending on procurement circumstances.

Use of Recycled Materials in the Product

The DS-C480W and DS-C420W incorporate approximately 30%¹ recycled materials in the plastic used, which contributes to reducing reliance on petroleum-based plastics and promotes resource circulation.



Usage scene image







Eco Features

- Recycled materials are utilized in the plastic of the main unit.
- Resource consumption and waste disposal could be reduced by changing the software delivery from CD-ROM to the internet.

Fully-Integrated, Feature-Rich Compact Teller Device

As an all-in-one product, the TM-S9000II offers a lower environmental impacts while also lightening the work load of tellers by efficiently processing checks electronically.

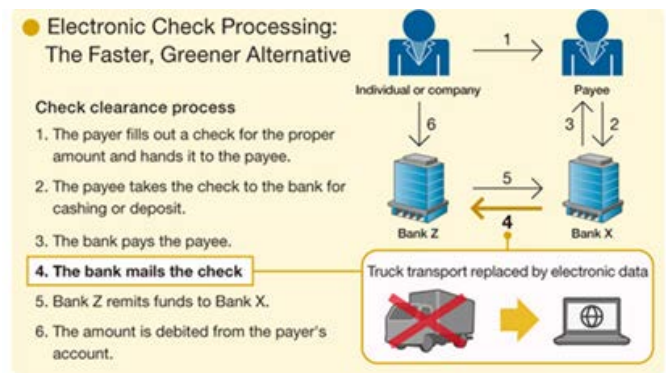
-  Choose
-  Create
-  Deliver
-  Use



TM-S9000II

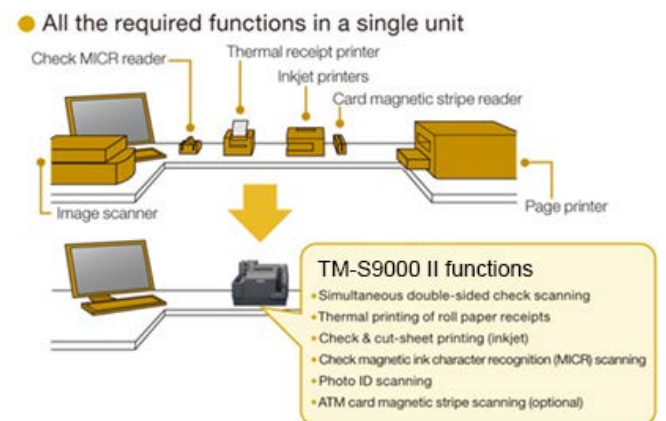
Electronic Check Processing: The Faster, Greener Alternative

Paper checks are an integral part of life in the U.S. and some other locales. In the past, banks would physically mail checks to one another for processing, but legal changes and technological advances have made electronic check processing standard. With the TM-S9000II, Epson supports electronic check processing, which not only lightens the work load on banks but also reduces the environmental impact by eliminating the need for physical transport.



ALL the Required Function in a Single Unit

The TM-S9000II combines check scanning, endorsement and receipt printing functions in a single device. In addition to having a small footprint that saves space at the teller counter, this all-in-one device is fast and easy to use. By maximizing work efficiency and eliminating the need for several separate devices, the TM-S9000II helps save energy and resources.



Eco Features

- Support the digitalization of the check settlement process and also greatly reduce the environmental impacts related to physically transporting checks.
- The functions necessary for the tellers are integrated in one unit, reducing the environmental impacts related to energy use, resources and so on by making separate equipment unnecessary.

Compact SCARA Robots

Epson’s industrial robots have led the industry for over 30 years thanks to their innovativeness and reliability. And Epson has SCARA robot global market share leader for thirteen successive years¹.

T series have a built-in controller and batteryless motors. SCARA robot arms move horizontally and can perform simple tasks that are currently done by hand, such as loading and unloading electronic components and small automotive parts from test equipment. SCARA robots can also help you replace single-axis robots.

-  Choose
-  Create
-  Deliver
-  Use



T3/T6

* The T6 has doubled the payload capacity (6 kg) of the T3.

¹ Market share based on unit sales of industrial SCARA robots, 2011-2023. (Source: Fuji Keizai “2012 - 2024 Reality and Future Outlook of Worldwide Robot Market”).

Space-saving and simple cabling

Epson integrated all the compact, lightweight controller components into the robot arm so that customers do not need a separate controller box or a space in which to install it. In addition, you no longer have to route long cables to the controller, which simplifies initial setup and redeployment.



Epson LS3 SCARA robot and RC90 controller



The T3 has a built-in controller

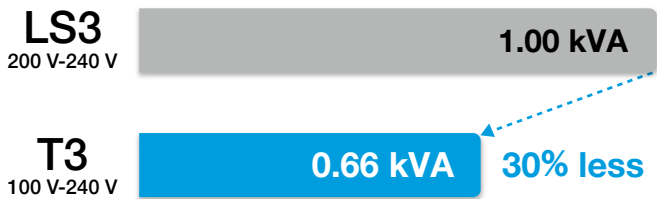
* Weights indicated in the above pictures do not include cables.

Saving Energy and Resources

The T3 is 30% more energy-efficient than conventional SCARA robots. And it runs on 100 V, so it can be used in facilities where a large power supply is not available.

You do not need to replace batteries because the T3 records the back-up status of its motors by using a simple mechanical system with the latest motor technologies.

Power Comparison Between a T3 and Conventional SCARA Robot



Battery Replacement Cycle






Eco Features

- Compact all-in-one SCARA robots increase productivity and save space by automating simple tasks and replacing single-axis robots.
 - Equipped with a built-in controller to save space
 - Run on AC 100 V, using 30% less power than comparable Epson robot systems¹
 - No batteries required for the motor unit, thus reducing resource use, maintenance, and factory downtime

¹ Compared with an Epson LS3 SCARA robot

A Projector with a Long-lasting Laser Light Source for Reduced-maintenance Operation

The high-output laser light source has a long service life and helps shrink the size of the optical engine.

-  Choose
-  Create
-  Use

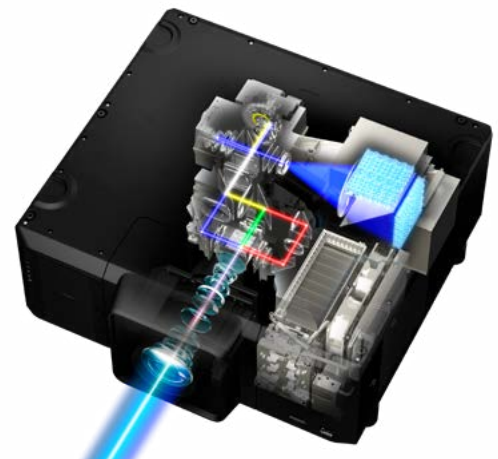


EB-L25000U

Laser Light Source

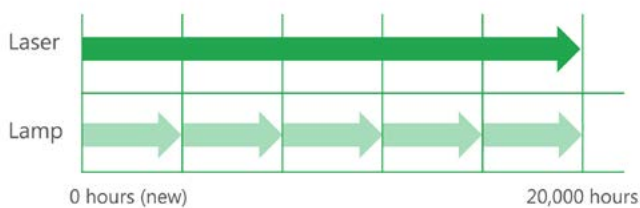
High-lumen projectors designed primarily for use at major events need to be extraordinarily reliable and to maintain stable brightness and image quality around the clock. These large-venue projectors are often installed on high ceilings, which can make lamp replacement troublesome and expensive.

The laser light source lasts up to an estimated 20,000 hours¹, practically assuring that it will be ready to go when you are.



A portion of the light from a blue laser is converted to yellow light after striking a yellow phosphor wheel. This yellow beam is then split into red and green. Thus only a single light source is needed to produce the three primary colors of light (red, green, and blue), which helps to reduce the size of the optical engine.

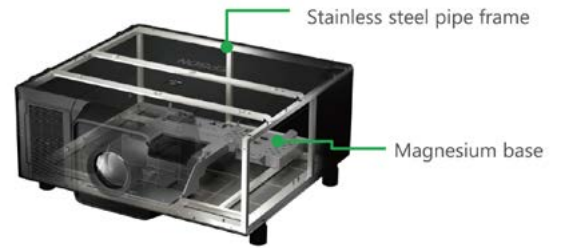
Maintenance Period of Laser and Lamp



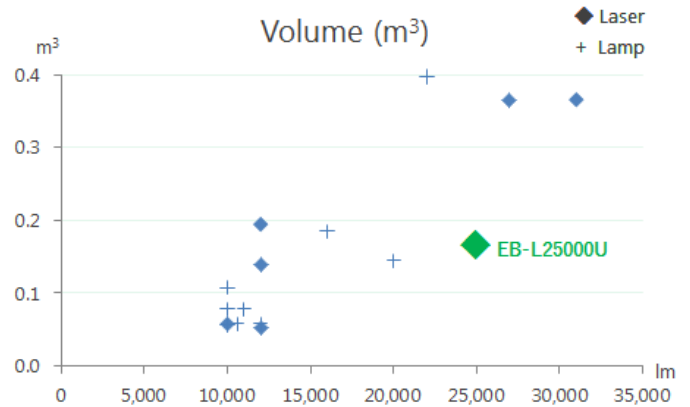
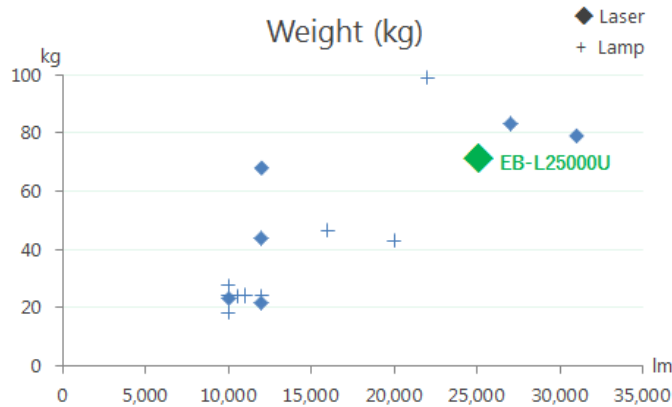
¹ Approximate time until brightness decreases 50% from first usage. Measured by acceleration test assuming use of 0.04 - 0.20 mg/m³ of particulate matter. Time varies depending on usage conditions and environments.

Lightweight Yet Durable

Laser light, which is less susceptible to diffusion than lamp light, can more readily be concentrated, meaning that the mirrors, LCD panels, and other main components in the optical engine can be made smaller and lighter.



A pipe frame and baseplate structure ensure a durable, knock-resistant case. Besides being compact and light, this projector is designed to be easy to install, remove, and transport again and again.



* Compared to the weight and volume of projectors with 10,000 lumens of brightness or more (per Epson research conducted in May 2017). Some projectors use a laser light source, others use a lamp.



EB-L25000U wins iF Design Award 2017.

Products are evaluated based on a wide range of criteria, including consideration of environmental standards, practicability, workmanship, degree of elaboration and innovation, functionality, usability, safety, aesthetics, and universal design.



Usage scene image

Eco Features

- The EB-L25000U supports major events with stunning image productions and a level of reliability that only a laser light source can deliver.
 - Equipped with a 20,000 hours long-lasting laser light source.
 - Compact, lightweight design, improved robustness, and easy installation.
 - Smaller, lighter mirrors, LCD panels, and other main components in the optical engine.
 - A pipe frame and baseplate structure ensure a durable, knock-resistant case.

Customer Environmental Impact Mitigation

Product Environmental Information

Epson is taking steps to comply with the labeling requirements in major countries around the world.

Compliance with Environmental Labels

An environmental label is a tool for making environmental declarations and providing other information about a product’s environmental features or performance. The requirements for environmental labels are prescribed by various groups, including the International Standards Organization (ISO). The ISO defines the three types of environmental labels described below.



Type I

Indicates that the product has met the criteria set by a certified third-party organization.



Type II

A “self-declaration” label that indicates a company volunteers environmental information about its products. (Epson’s ecology profiles fall under the Type II category.)



Type III

Indicates that the environmental effects of a product throughout its life cycle - from raw material procurement through manufacturing, distribution, use, disposal and recycling - are analyzed using LCA methodology and that the results of such analyses are published as quantitative data. Accuracy and reliability of the claimed data must be verified before being made public.

Eco Labels Acquired In different Product Categories

Country/ Region	Type I												
	U.S.	Germany	Sweden	China	Taiwan	South Korea	Singapore	Thailand	Malaysia	Japan	North America	Worldwide	Worldwide
Eco Label	EPEAT®	Blue Angel	TCO	China Environmental Labelling	Green Mark	Eco-Label	Green Label	Thai Green Label	MyHIJAU	Eco Mark	Ecologo	GREEN GUARD	ECO PASSPORT, GOTS, BlueSign, ZDHC
Inkjet Printers (incl. MFPs)	●	●		●	●	●	●	●	●	●	●		
Page Printers (Laser & LED)		●			●	●				●			
SIDM Printers				●	●					●			
POS Printers													
Label Printers													
Label Works													
Scanners	●				●					●			
Ink/Toner Cartridges					●	● (Toner Cartridges)				●			

	Type I												
Country/Region	U.S.	Germany	Sweden	China	Taiwan	South Korea	Singapore	Thailand	Malaysia	Japan	North America	Worldwide	Worldwide
Eco Label	EPEAT®	Blue Angel	TCO	China Environmental Labelling	Green Mark	Eco-Label	Green Label	Thai Green Label	MyHIJAU	Eco Mark	Ecologo	GREEN GUARD	ECO PASSPORT, GOTS, BlueSign, ZDHC
Inks												● (Sign, Display)	● (Textile, garment)
Paper										●			
Projectors			●		●	●				●			
PCs (incl. monitors)										●			
Watches										●			

	Type II			Type III	Other		
Country/Region	Europe	Japan	Worldwide	Japan	Japan/ North America	China	Europe
Eco Label	THE ECO DECLARATION	PC Green Label	Ecology Profile	Eco-Leaf	ENERGY STAR®1	Energy Conservation Certification	Food Contact Material regulation
Inkjet Printers (incl. MFPs)	●		●	●	●	●	
Page Printers (Laser & LED)	●		●		●		
SIDM Printers	●		●		●	●	
POS Printers	●		●		●		
Label Printers	●		●		●		
Label Works					●		
Scanners	●		●	●	●	●	
Ink/Toner Cartridges							
Inks							●
Paper							
Projectors	●		●			●	
PCs (incl. monitors)		●			●		
Watches							

¹ The ENERGY STAR® Program is also being implemented by EFTA, Switzerland, Canada, Australia, New Zealand and Taiwan. Third-party certification became a requirement in North America from January 2011.

For more on environmental labeling and environmental information on Epson products, please contact the Epson sales company in the country or region in which you live.

Epson Ecology Profiles

The environmental attributes of Epson brand products are published in the form of an “ecology profile.” For finished products such as printers and scanners, the environmental attributes of the product as a whole, including but not limited to accompanying packaging material, supplies, and consumables, are published in the format specified by ECMA-370¹. For electronic devices we use our own format to provide quantitative data regarding substances included in these products.

¹ ECMA-370 specified requirements for environmental declarations established by the international standards organization ECMA International. “The Eco Declaration” is often abbreviated as “TED.”

Please contact your country or region’s Epson sales company for more information about the Eco Declarations.

Safety Data Sheets for Printer Consumables

To enable customers to safely and properly use Epson products, including consumable printer supplies (ink cartridges, toner cartridges, ribbon cartridges, etc.), Epson provides Safety Data Sheets (SDS), which describe a product’s chemical content as well as how to operate, handle, and store the product.

Environmental Technology Development

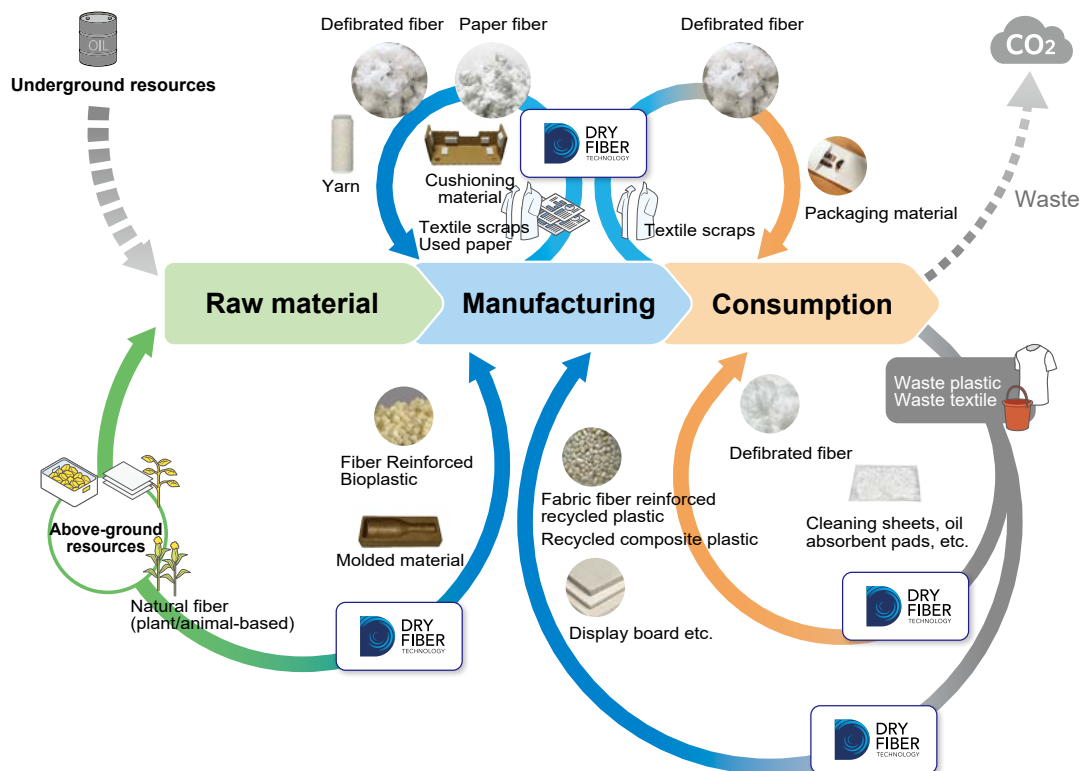
Goal

Developing Environmental Technology Based on Societal Issues to Foster the Circular Economy

We have identified four materialities in establishing the Epson 25 Renewed corporate vision. One of these is achieving sustainability in a circular economy. To realize this, we are focusing on developing technologies that contribute to closing the resource loop without relying on underground resources and aim for carbon negative. Additionally, we are actively promoting co-creation with partners to develop new solutions that contribute to reducing environmental impact, aiming to create new business opportunities.

For example, through material technologies such as Dry Fiber Technology (DFT) and Metal Powder Manufacturing Technology, we aim to replace underground resources with above-ground resources by utilizing waste materials and recycled materials. Additionally, to achieve carbon negative, we are developing CO₂ absorption technologies to address unavoidable residual greenhouse gas emissions.

Dry Fiber Technology (DFT)



Closing Resource Loop by Used Paper/Textile Fibers Recycling

The defibrating technology, Dry Fiber Technology, utilized in the dry-process office papermaking system “PaperLab,” has evolved for internal use, enabling used paper to be recycled into sound-absorbing and cushioning materials. Meanwhile, the same technology is also utilized for recycling sewing scraps from cotton clothing.

We have also entered into a joint development agreement with the Hong Kong Research Institute of Textiles and Apparel limited (HKRITA) to establish a process for defibrating elastic blended fabrics and tightly woven fabrics. This will enable the extraction of new recycled fibers from functional clothing, sheets, and dress shirts, as well as from factory mill ends, unsold items of clothing, and unwanted apparel.



Cotton yarn (prototype production) made of 50% fibers defibrated using Dry Fiber Technology

Accelerating the Social Implementation of Composite Plastics for Circular Economy (Collaboration with Tohoku University)

Using bioplastics and recycled plastics instead of virgin plastics is crucial for a circular economy. However, compared to virgin plastics, they often have lower mechanical strength and durability, which limits their usage to certain applications.

Epson has been collaborating with Tohoku University under a comprehensive partnership agreement since 2006, engaging in systematic research and development as well as talent cultivation through industry-academia cooperation. Joint research on fiber-reinforced plastics, based on Dry Fiber Technology, is one of the efforts. In August 2023, the establishment of the “Sustainable Materials Co-Creation Research Institute” aims to accelerate research and development, as well as social implementation, of foundational technologies for cellulose fiber-reinforced bioplastics and recycled plastics, which serve as sustainable materials to drive the circular economy.



The development of composite plastics using defibrated cellulose or fabric has been adopted as a sub-project under the “Construction of a Circular Economy System,” which is part of the Cross-Ministerial Strategic Innovation Promotion Program (SIP)¹ Phase 3, led by the Cabinet Office. (July 2023)

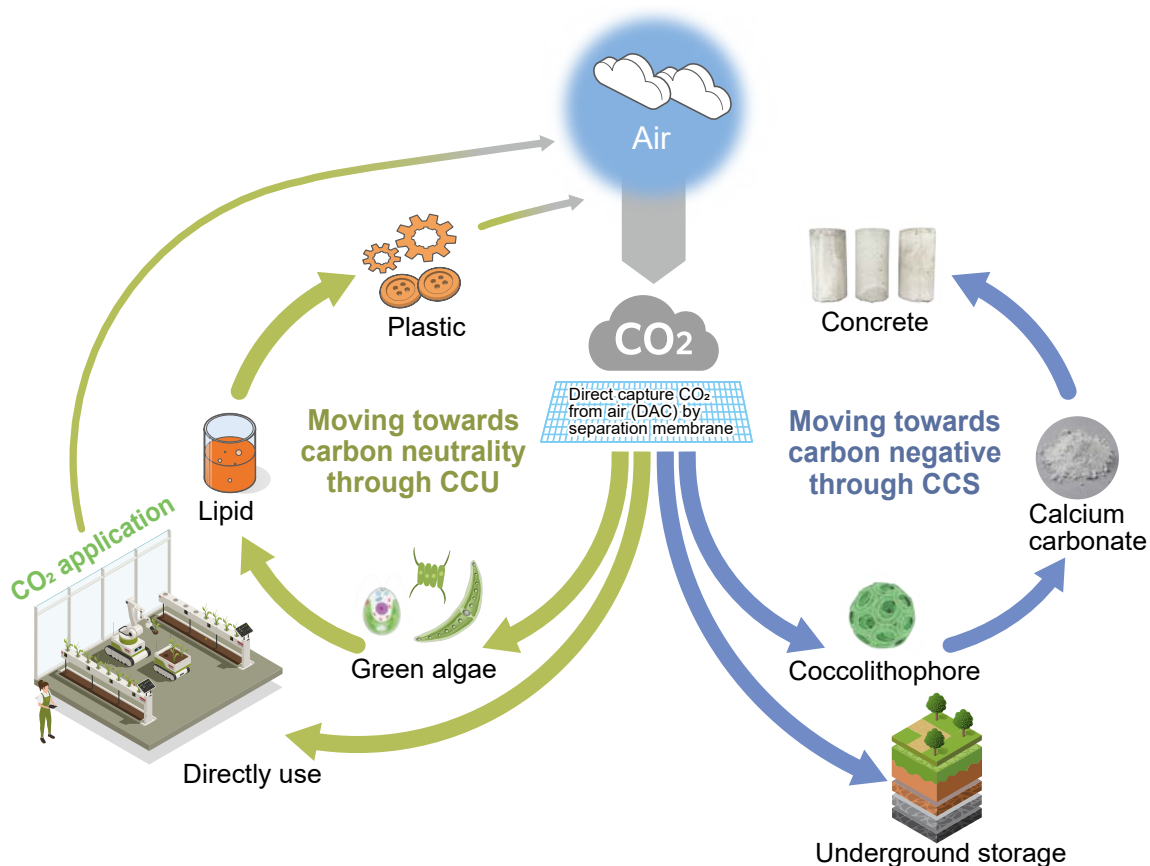
¹ A national program led by the Council for Science, Technology, and Innovation (CSTI) aims to achieve scientific and technological innovation, transcending the boundaries of ministries and conventional fields.



Cross-ministerial Strategic Innovation Promotion Program

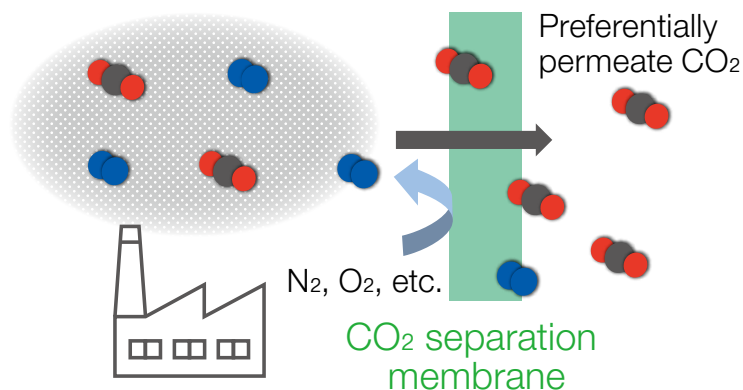
CO₂ Absorption Technology

Epson aims to establish CO₂ absorption technologies that can offset its own residual CO₂ emissions in pursuit of carbon negative, as outlined in its Environmental Vision 2050.



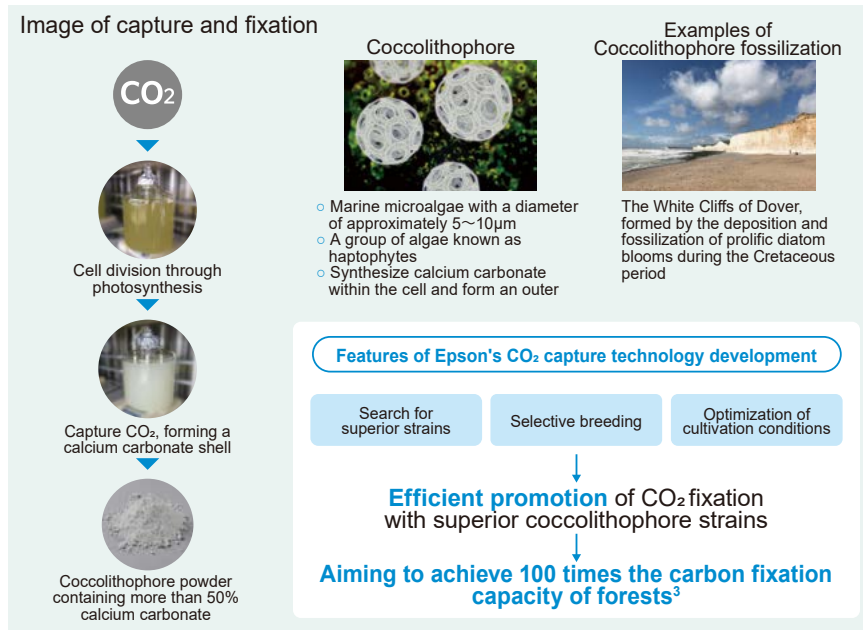
CO₂ Separation Membrane Based on Epson's Proprietary Technologies

Epson is developing separation membrane that preferentially transmit CO₂ based on several proprietary technologies, such as thin film technology from inkjet heads. In the future, we aim to achieve high-efficiency CO₂ capture with compact, low-energy systems.



Biological Carbon Fixation

Epson is working on the development of CO₂ capture technology using microalgae. Currently, we are focusing on coccolithophore, which synthesize calcium carbonate, for CCS². Through the optimization of cultivation conditions and the utilization of various breeding technologies, we have succeeded in increasing CO₂ fixation in our lab to 70 times that of forests³. Additionally, for CCU⁴, we are developing technology using green algae. In the future, we aim to more efficiently fix CO₂ and even pursue its utilization.



² CCS (Carbon dioxide Capture and Storage): Capturing CO₂ emitted from power plants, factories, etc., and storing it somewhere, such as underground

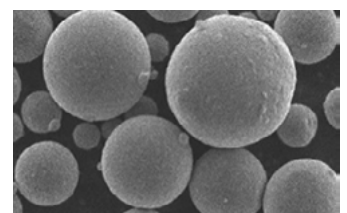
³ Calculation is based on the data from the Forestry and Forest Products Research Institute (FFPRI), Japan

⁴ CCU (Carbon dioxide Capture and Utilization): Capturing CO₂ emitted from power plants, factories, etc., and utilizing it such as direct use for the agricultural or for fuel production

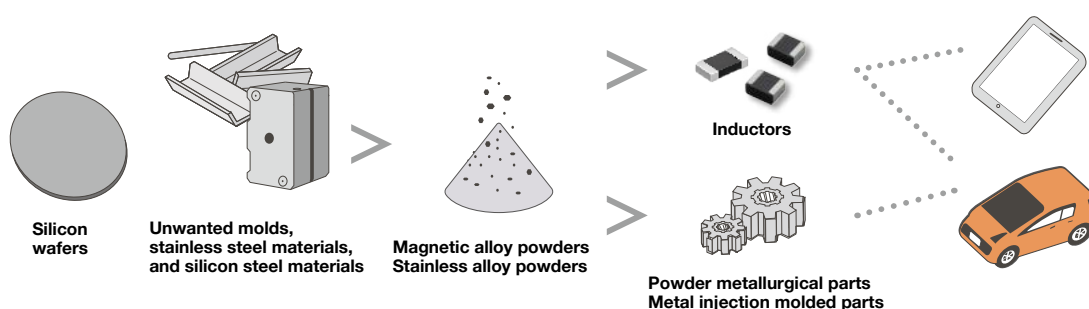
Metal Powder Manufacturing Technology

Recycling Metal Materials in the Epson Group with Original Metal Powder Manufacturing Technology

Epson Atmix Corporation is using its metal melting and atomizing process technologies to produce metal powder products. In February 2020, the company began taking silicon wafers that were used in Epson's semiconductor fabrication business and producing metal powder from them. This reuse of wafers reduces Epson's waste, CO₂ emissions, and use of underground resources such as virgin silicon. By the end of the 2021 fiscal year, Epson Atmix had recycled 8.5 tonnes' worth of silicon wafers. The company will continue to search for other materials that could potentially be upcycled into high-performance metal powders.



Super-fine powder with grain diameters of 10 microns or less



Commencement of Construction of a Metal Refining Plant to Recycle Waste Metals

Epson Atmix is constructing a new plant to recycle waste metals from within the group and from the market into raw materials for metal powder products, in order to establish a manufacturing process that achieves metal resource circulation. The plant is scheduled to begin operations in June 2025.



Pollution Prevention & Chemical Management

To minimize the effects we have on the ecosystem and human life, Epson is working to control substances of concern in products, manage chemicals used in production processes, and manage environmental risks. Epson also emphasizes communication with stakeholders.

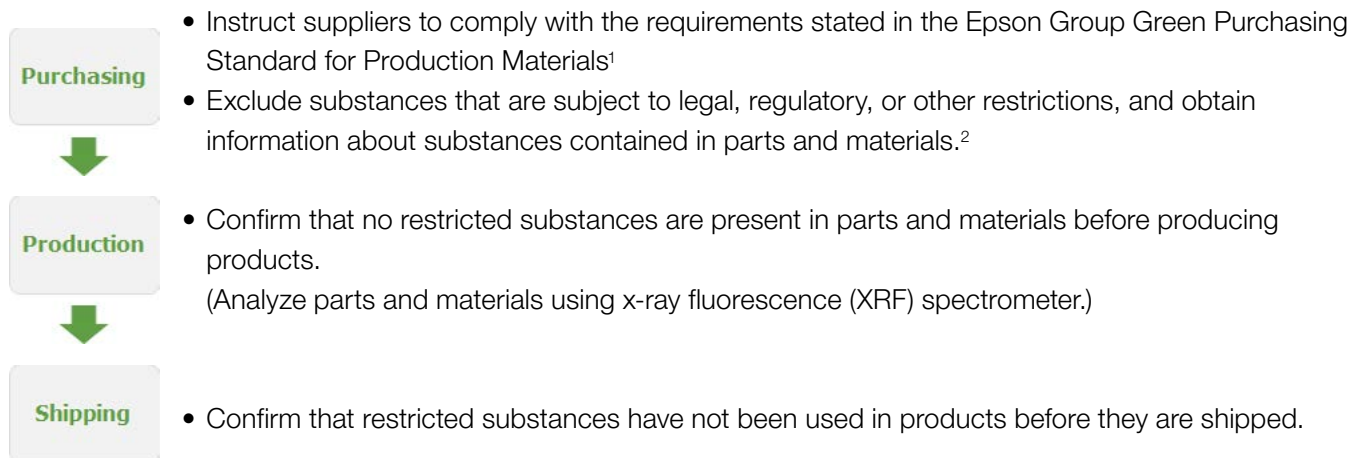


Management of Chemical Substances in Products

Epson gives preference to lower-impact alternatives when selecting the components and raw materials that make up its products.

Management of Chemical Substances in Products

The European RoHS Directive, REACH Regulation, U.S. TSCA, and other international chemical substance regulations have become stricter, making it more important than ever to properly manage the chemical substances that are used in products. Epson systematically controls product substance content at the purchasing, production, and shipping stages to ensure compliance with these restrictions.



¹ A written standard that sets forth requirements for the building and maintenance of a substance control system by suppliers who provide parts and materials used in Epson products. The standard also defines requirements relating to the elimination or exclusion of legally restricted substances and requirements for providing information on substances present in parts and materials.

² Use of the industry standard information sharing scheme chemSHERPA

Examples of Management of Chemical Substances in Products

Legal and Regulatory Compliance

More and more nations are regulating chemicals. We investigate regulations and chemical hazards as early as possible by using such as an industry standard survey tools, analyze the information we obtain, and then supply products accordingly.

- Measures for Meeting the RoHS Directive¹

Epson has made compatibility with the European RoHS directive a standard feature of its entire lineup of products throughout the world, regardless of whether a particular product is bound for the European market or not.

¹ The European RoHS Directive restricts the use of the following 10 hazardous substances in electrical and electronic equipment: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE), phthalates DEHP, BBP, DBP and DIBP.

- Actions for REACH Compliance

European REACH (Registration, Evaluation, Authorization and restriction of Chemicals) Regulation requires that we register the import and production of chemical substances and that we communicate and report when products contain harmful substances (e.g., substances of high concern: SVHC).

Epson is meeting these requirements by submitting information in SCIP, the database for information on Substances of Concern in articles as such or in complex objects (Products) established under the European Waste Framework Directive, which became mandatory from January 2021. We also make information on the chemicals used in ink available to customers in the form of safety data sheets (SDS) published in 24 European languages on the websites of our European sales companies.

We are also responding to countries and areas besides Europe, to similarly meet our legal and societal obligations, as well as the needs of our customers.

- Response to GHS²

The United Nations declared in 2003 that a globally harmonized set of rules was needed to inform consumers and dealers about the hazards and appropriate handling of chemicals.

Different nations and regions have enshrined these rules as law and made them obligatory at different times. Epson has continued to respond to the rules as they primarily apply to ink cartridges and toner cartridges.

² GHS (the Globally Harmonized System of Classification and Labelling of Chemicals) provides a unified, worldwide set of rules on harmful chemical substances. It harmonizes classification standards and labels for the hazards associated with individual chemicals and the way safety data sheets are written.

- IEC 62474 compliance

Epson tracks the chemicals contained in Epson products by obtaining composition data on products from its suppliers based on the IEC 62474 Declarable Substances List (DSL).

With the exception of some substances, such as those that are exempt from the European RoHS Directive and SVHC of the European REACH Regulation, Epson products do not contain substances on the IEC 62474 DSL.

Providing Ink for All Types of Printed Matter

We provide inks with safe chemical properties as required for products made with inkjet technology (labels, stickers, fabric, etc.).

- The Highest Level of Textile Product Safety

Eco Passport³ certification

Epson's textile printer inks⁴ have acquired Eco Passport certification, indicating that they meet international safety standards for chemical substances used in textile production. Even printed textiles that directly contact the skin of infants and toddlers are safe.



³ Eco Passport by Oeko-Tex® is a system by which textile chemical suppliers demonstrate that their products can be used in sustainable textile production.

⁴ UltraChrome DS inks for textile printers, UltraChrome DG inks and dedicated fabric processing agents for garment printers, digital textile printer inks.

- Safe Printing Ink for Food Labels

Compliant with Food Contact Material regulation

Epson's SurePress digital inkjet label presses and ColorWorks on-demand color label printers inks are compliant with Food Contact Materials (FCM) - EU Regulation framework (EC) No. 1935/2004, Good Manufacturing Practices Regulation (GMP) (EC) No. 2023/2006, Plastics Implementation Measure Regulation.



Sample of food packages

Switching to Safer Materials (e.g. Eliminating Harmful Substances)

Epson standards specify substances that are prohibited from inclusion in products, and substances whose inclusion must be controlled. Information on these substances is collected and managed in a database. This database is used to ensure safety in all processes, from design and procurement to volume production. Epson is proactive in eliminating from its products substances that could adversely affect the environment or human health.

Chemical Management (Performance)

Epson has a system in place to control chemical substances in its production processes. We specify what substances are prohibited or restricted within the Epson Group and carefully assess the safety of chemicals before they are used at any Epson site. We use a “E-Chem” chemical substances management system to register information about chemical substances used in production as well as in other areas. The system is also used to track the quantities of substances used, volatile organic compound (VOC) released into the environment, and emissions of substances subject to reporting under the Pollution Release and Transfer Registers (PRTR) system.

In Japan, we inspect CFC-related equipment and calculate the amount of leakage in accordance with the “Fluorocarbon Emissions Control Act” to ensure legal compliance. The Epson Group is currently below the reporting requirement in terms of amount of leakage. CFCs have a very great greenhouse effect that is hundreds to more than 10,000 times greater than that of carbon dioxide. Hoping to prevent global warming, Epson will work to avoid leaks of CFC refrigerants and switch to refrigerants with a smaller greenhouse effect.

We report and publish data on these chemical substances and communicate with local communities to build trust.

Please see ESG data for data on PRTR substance emissions and VOC emissions.

 [ESG data \(Please refer to page 325 of “Appendices”\)](#)

Environmental Risk Management

Any environmental pollution resulting from Epson’s business activities could have a serious impact on residents of the surrounding area, as well as for the rest of the region or country. We follow Group-wide standards for pollution control and ensure that all members are well acquainted with the ideas and laws of environmental risk management. Each promotion unit uses ISO 14001 to identify and assess the risk of failing to meet standards or of experiencing environmental complaints or incidents in an ongoing effort to continuously mitigate those risks.

In FY2023, there was an instance where legal standard was exceeded, but the site promptly responded by reporting to the authorities and making improvements to the equipment. This incident had no significant impact on the environment. Additionally, there were no complaints, accidents, administrative penalties, or environmental-related fines.

Type	Description
Exceedance of legal standards	Exceedance of sewage discharge standards (oil, insoluble substances)

Environmental Due Diligence

We investigate the environmental aspects prior to acquiring new businesses and land through M&As as part of due diligence. We investigate all newly acquired sites, and not only manufacturing sites, to confirm whether there are any problems involving things such as soil and groundwater pollution and hazardous wastes prior to entering into new contractual agreements.

Soil and Groundwater Remediation

Epson is actively assessing the current status of soil and groundwater contamination at its sites and is working on remediation and preventive measures. Additionally, to prevent contamination from chemical substances and reduce associated risks, Epson is enhancing the safety of environmental facilities, including leak prevention measures.

As of FY2023, 6 sites have been confirmed to have contamination resulting from past business activities. At sites such as the head office, where trichloroethylene in groundwater was found to exceed regulatory standards during voluntary inspections, we are continuously implementing barrier measures and water extraction remediation to prevent off-site contamination. These measures require a long-term approach, but both the extent and concentration of contamination have been showing a declining trend, and regular monitoring confirms that no contamination is escaping off-site.

Moreover, if new contamination is discovered during investigations conducted under the Soil Contamination Countermeasures Act, such as when changes to the land are made, we will report the findings to the authorities and implement remediation and countermeasures appropriate to the specific conditions of each site. We will also work with authorities to ensure transparency of information.

Moving forward, Epson will continue to advance remediation using appropriate methods in line with legal requirements and developments in remediation technology, while also prioritizing communication with authorities and neighboring communities.

Site	Target Substances	Remediation	Causes of contamination	Investigation types for confirming contamination
Head Office	Groundwater: Trichloroethylene	Barrier, pump and treat, monitoring	Used in past business activities	Voluntary inspections (before regulation)
Fujimi	Groundwater: Trichloroethylene	Barrier, pump and treat, monitoring	Used in past business activities	Voluntary inspections (before regulation)
Suwa-minami	Groundwater: Trichloroethylene	Barrier, pump and treat, monitoring	Used in past business activities	Voluntary inspections (before regulation)
Shiojiri	Groundwater: Trichloroethylene	Barrier, pump and treat, monitoring	Used in past business activities	Voluntary inspections (before regulation)
	Soil: Fluoride, lead	Containment (Capping) and monitoring	Unable to identify (no usage history from business activities)	Investigation in compliance with the Soil Contamination Countermeasures Act (construction plan)
Hirooka	Soil: Arsenic, fluoride, lead Groundwater: Arsenic	Containment (Capping) and monitoring	Unable to identify (no usage history from business activities)	Investigation in compliance with the Soil Contamination Countermeasures Act (employee dormitory demolition)
Ina	Soil: Fluoride, lead, trichloroethylene	Containment (Capping) and monitoring	Used in past business activities	Investigation in compliance with the Soil Contamination Countermeasures Act (factory building demolition)

Drainage Management

Epson's Chitose Plant is located upstream from Lake Utonai, which has been designated as a national wildlife protection area and a Ramsar Site.

Wastewater generated in manufacturing processes is detoxified and then discharged into sewers. To prevent leaked chemicals and other substances from leaking offsite, rainwater is collected in a retention basin to monitor the pH and oil levels before flowing into Lake Chitose and Lake Utonai via the Bibigawa River. All chemicals, waste materials, and wastewater treatment systems are located indoors to prevent them from leaking off the site.

Waste Management

Epson's internal policy specifies that wastes must be processed in the country in which they originate. We do not directly import or export any wastes, including hazardous wastes specified under the Basel Convention.

However, we employ subcontractors who satisfy the requirements of the Basel Convention to process fluorescent lamps, etc., that originate in countries and regions where it is difficult to process them domestically.

PCB Waste Storage

As of FY2022, PCB waste that was discovered and kept in storage has been finished to disposed of. Furthermore, when new PCB waste is discovered in the future, we will promptly carry out proper disposal by the legal deadline.

Asbestos

All buildings owned by the Epson Group in Japan were investigated for asbestos by the end of the 2019 fiscal year. Level 1 asbestos (extremely high friability) and level 2 asbestos (high friability) are enclosed, sealed or, when necessary, removed to prevent human exposure. We also regularly test for airborne asbestos dust indoors in areas where asbestos-containing building materials are used, including where asbestos has been enclosed and sealed, to verify safety.

Biodiversity Conservation

We both benefit from and affect biodiversity in myriad ways. Epson believes that preserving biodiversity is also vital to maintaining our business activities and our employees' lifestyles. Basically, we look to preserve biodiversity throughout our business activities and to raise employee awareness of its importance.

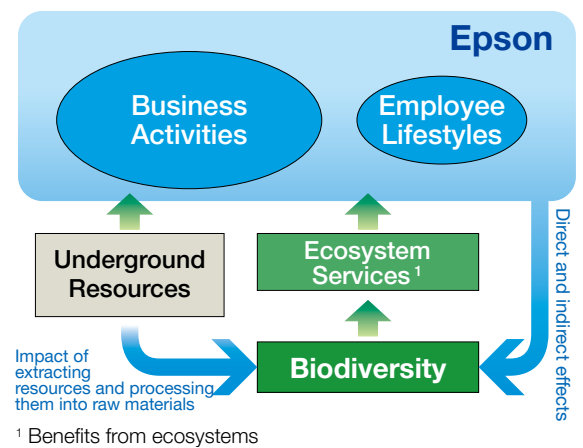


Approach

Epson's business activities and employees' lives are supported by the benefits of biodiversity (ecosystem services) [dependencies]. Additionally, our activities have both direct and indirect impacts on nature [impacts]. The global loss of biodiversity poses a significant risk to our business operations and daily lives. To prevent further loss of biodiversity, we must reduce the negative impact on nature. At the same time, as the importance of biodiversity conservation increases, we believe that our technology can contribute to solving these challenges. This also presents a business opportunity for Epson.

We are steadily mitigating the impact of five factors that cause biodiversity loss with initiatives in climate change strategy, resource recycling and conservation, and pollution prevention and chemical management. Furthermore, Epson is advancing its analysis and response to the relationship (dependencies and impacts) between nature and its own business and supply chain, as well as the risks and opportunities related to biodiversity.

Epson and Biodiversity



Factor	Relationship to Epson	Theme	Main Initiatives
Climate change	Greenhouse gas emissions	Climate change strategy	Energy-saving product designs Production and transport measures
Land use	Land alternations accompanying underground resource mining	Resource recycling Resource saving	Reduced-resource products and recycling Reduced resource inputs Waste recycling
Non-native species	Introduced along with imports of raw materials, parts, etc.		
Overconsumption	Consumption of timber resources		
Pollution	Release of chemicals into the environment due to insufficient control	Pollution prevention and chemical management	Reduced inclusion in products and use during manufacturing of hazardous substances

Commits to TNFD-Aligned Disclosure

Epson has expressed its support for the public disclosure recommendations published by the Taskforce on Nature-related Financial Disclosures (TNFD) in September 2023 and registered as a “TNFD Adopter” (June 2024). Going forward, Epson will continue to develop plans in accordance with the TNFD framework and plans to disclose information from 2025 onwards, updating the content progressively.



Case Study

Forest Conservation Activities (Global)

Epson has launched a three-year international partnership with the World Wide Fund for Nature (WWF), a global conservation organisation, to support WWF’s forest conservation and nature restoration activities at the “Deforestation Fronts” worldwide. Epson shares WWF’s vision of “build a future in which people live in harmony with nature” and contributes to the preservation and restoration of forest biodiversity through its support of WWF’s conservation activities.

1	Mekong region	Protects forests in tiger habitats from agricultural expansion and poaching.
2	Sumatra, Indonesia	Saves the remaining forests from agricultural expansion and poaching.
3	Borneo, Indonesia	Helps 800 households practicing environmentally friendly oil palm cultivation.
4	Australia	Strives to moving away from the “deforestation front” and revitalizing koala habitats.
5	Brazil	Reforests in 70 hectares of degraded pasturelands, among other areas.
6	Ghana	Implements agroforestry practices on a 300-hectare cocoa plantation.
7	Japan	Reduces deforestation risks for companies sourcing agricultural and forestry products.

Forest conservation projects supported by Epson in partnership with WWF

In May 2024, Yasunori Ogawa, global president of Epson, visited a project in Sumatra, Indonesia, and observed WWF’s local activities, including the following:

- Forest and wildlife monitoring and patrols
- Promotion of sustainable agriculture and forest restoration (agroforestry) in cooperation with local communities
- Support for local communities (agriculture, education, healthcare, etc.)



Installation of equipment for wildlife research and observation, such as trail cameras



Inspection of nurseries for practicing natural restoration and agroforestry-based agriculture

Consideration for Paper

The raw material for paper, wood, is a resource obtained from forests. Epson is mindful of paper procurement and usage from the perspective of forest conservation.

■ Paper Products Procurement

Epson manages its entire supply chain from the immediate supplier all the way back to the forest to ensure the legality, sustainability and environmental safety of the paper products we procure.

■ Internal Paper Reduction Activities

Seiko Epson corporation (Japan) is working on reducing paper usage in its internal operations. By reviewing business operations that use paper, we achieved the goal of halving the average daily paper usage per employee company-wide in the first half of fiscal 2021 compared to the same period of the previous year.

■ Promoting Paper Recycling

The paper made by Epson's dry-process office papermaking machine, PaperLab, is 100% composed of waste paper and does not use any new wood. Epson actively promotes the recycle of paper used within the company through PaperLab. Additionally, Epson manufactures printer ink absorbers, sound-absorbing materials for PaperLab using parts made from recycled paper with its proprietary Dry Fiber Technology.

Coral Reef Transplant Project (Indonesia)

PT. Epson Batam (PEB) has been helping to back a coral transplant project on Abang Island since 2015 to preserve biodiversity. The project, which involves people from Indonesia's fishing and tourist industries as well as government and NGOs, is growing coral reefs (coral gardens) by transplanting about 500 coral fragments every year over a gradually larger area. Residents of Abang Island are hopeful that the transplanted coral can improve the environment for fish and increase their numbers.



Greening and Beautification Activities (Global)

Epson employees around the world participate in local greening and beautification activities to keep our communities looking nice and to foster a spirit of community volunteerism and activism.

Employees of Epson Wuxi Co., Ltd. (China) and members of their families have been participating in local tree planting events that have taken place every March since 2010. In 2024, 30 participants planted trees at the event, contributing to the ecosystem conservation and restoration of the Taihu Lake basin.



Tree planting in the Taihu Lake basin

Started in 1992, employees of Epson Portland Inc. (U.S.) volunteer their time to pick up garbage several times a year along a section of U.S. Highway 26, which runs just north of the company.



Highway clean-up

Activities in Protected Area (U.K.)

Epson Telford Ltd. (ETL) is a core production site for manufacturing ink cartridges for European market and textile ink. It was the first site within the Epson group to achieve ISO14001 and participates in many environmental preservation activities such as recycling of wastes and energy-saving. With an area of 220,000 m², the site includes a nature reserve that many rabbits have made their home.



ETL has not only reduced its production based environmental impact, but also protects and supports its local environment by:

- Setting aside about 1/3 of its land for the nature reserve,
 - Creating special areas to preserve the habitat of the crested newt and great burnet¹, which have been specified as rare species in the U.K.
 - Planting trees to offset company car emissions
 - Introducing bee hives within the site so as to improve the diversity of local living creature and preserve bee species.

Also other local species have visited or have made homes within the sites.

- Raptors: Buzzards, kestrels, owls
- Birds: Partridges, red starts, yellow hammers, green woodpeckers
- Others: Foxes, etc.

¹ Both species have been registered by the International Union for Conservation of Nature (IUCN) on the Red List (Least Concern: LC).



Bee hives introduced in the site



Pond in the special area

Eco Community

We are working to achieve new socially and economically sustainable practices through environmental community action centered on products and services.

Eco Education

Epson wants its employees to remain mindful of the environment while on the job. We feel it is important for them to consider how their conduct, both at work and at home, affects the environment and we want them to take the initiative in coming up with solutions. Toward that end, Epson provides environmental education and promotes correct understanding of ecological practices.

Epson also contributes to broader environmental preservation by sharing its knowledge and experience with outside organizations.

In-House Environmental Education

Our environmental education curriculum for employees consists of a general education program, a professional education program, and general awareness-building activities.

The general education program consists of a mandatory Basic Environmental Training course as a first step, followed by echelon-based training courses in which non-management employees, managers, and executives learn what action they need to take in their respective positions to address environmental issues. In the professional education program, employees select the courses they need in their particular area in order to acquire the skills and knowledge required for environmental action. We also build general environmental awareness among all personnel in a variety of ways, including through environmental messages from management to all employees and by implementing special actions during Environmental Sustainability Month and Energy Conservation Month.

Environmental Education System (Japan)

Training		Management	Mid-level employees	General employees
General education	e-Learning	Basic Environmental Training		
	By rank	Training for new managers	Training for employees to be transferred overseas	Training for new employees
Professional training	Professional skills	ISO14001 environmental auditor training		
		Energy Star® measurement technician training		
		Pollution control officer training		
		Emissions control officer training		
Awareness		Hazardous materials management training		
		Internal notices, Environmental Awareness Month, events (best practices presentations), lectures, Websites, local clean-up projects, etc.		

FY2023 Environmental Education (Japan)

Training	Participants (Certification Recipients) ¹
Basic Environmental Training (2023 Edition)	19,042
ISO14001 environmental auditor training	126 (1,370)

¹ This is the number of persons who took Basic Environmental Training during the period it was offered (July 2023 to March 2024). ISO 14001 figures show the number of certified person as of the end of March 2024.

Development of Local and Social Environmental Human Resources

Support for Local Environmental Education and Glocal Human Resource Development (Japan)

- Topic 1

In Suwa City, Nagano Prefecture, where Epson is headquartered, the Suwa Future Creation “Children’s Dream Project” is being promoted as an opportunity for elementary and junior high school students to think about local community development. Epson helped implement an environmental education program as part of the project’s fiscal 2023 activities under the theme “Achieving a Zero Carbon City.” An Epson employee served as one of the lecturers to introduce participants to the current state of global environmental issues and the company’s environmental initiatives. Suwa City, the host of the event, also introduced its efforts to improve the environment of Lake Suwa and reduce and recycle food waste. Participants listened with great interest and had a lot of questions.



Environmental Education for elementary school Students (China)

In October 2023, Tianjin Epson Co., Ltd. collaborated with the Tianjin Society for the Promotion of Ecological Ethics and Tianjin Nankai Ecology and Environment Bureau to educate approximately 200 elementary school students about everyday garbage separation and recycling.

Our employees shared the knowledge and expertise on waste sorting and resource utilization that Epson has accumulated through its business activities, aiming to raise the students’ awareness of environmental protection.



Eco Communication

Introduction of communications on environmental topics.

Environmental Management Seminar (Japan)

In January 2023, Epson Sales Japan hosted an environmental management seminar entitled “Future Supplier Engagement as Seen by Sustainable Companies.” It was open to companies interested in eco-conscious initiatives in their supply chains. In addition to members of Kokuyo Co., Ltd. and Seiko Epson Corporation who are responsible for promoting those companies’ sustainability efforts, the seminar featured an expert speaker, Mitsuru Omori, Senior Manager at The Japan Research Institute, Limited. The two companies introduced their past efforts and discussed market trends and the environmental responses that will be required of supply chains in the future and shared with participants the current status and prospects of supplier engagement in the decarbonization trend.



Epson Wins Third Consecutive Award at ESG Finance Awards Japan

The ESG Finance Awards Japan, organized by the Ministry of the Environment, recognizes progressive, exemplary initiatives driven by investors, financial institutions, financial services providers, and companies that have made an impact by actively engaging in ESG financing or environmental and social enterprises with the goal of encouraging the spread and expansion of ESG financing. In the Environmentally Sustainable Company category, companies are evaluated on the quality of their information disclosures concerning things such as risks, business opportunities, and strategic opportunities related to environmental issues that could have a substantial impact on corporate value and on the effectiveness that the initiatives they have disclosed have had on corporate management.



Epson was selected as an “Environmentally Sustainable Company” and was awarded Silver, making this the third consecutive year that Epson has been recognized in the Environmentally Sustainable Company category. (February 2024)

Excerpts of Reasons Given for Selection

The following points were acknowledged:

- The establishment of the Purpose “Our philosophy of efficient, compact, and precise innovation enriches lives and helps create a better world”.
- A review of materiality starting from social issues, based on the “Epson 25 Renewed Corporate Vision”.
- Completion of setting KPIs corresponding to each materiality.
- The development of mechanisms and structures related to sustainability management is steadily progressing.

Looking ahead, there is anticipation towards launching new environmental businesses and aligning them on track for further environmental contribution and enhancement of corporate value.



Eco Technology

Introduction of corporate citizenship programs that leverage Epson’s technologies.

Loggerhead Sea Turtle Protection Project

Epson has been working with Kamogawa Sea World and the Japanese government since June 2010 in a project to help protect and preserve endangered loggerhead sea turtles. The project is part of the company’s ongoing desire to preserve biodiversity and to test its sensing technology in the field.



Hatchlings headed for the ocean

Release of a Simple Tool for Measuring PFCs

Perfluorocarbons and some other gases used in semiconductor and LCD fabrication have extremely high global warming potential—a level that is about 10,000 times greater than that of CO₂. But measuring PFC gases was difficult until 2000, when Epson independently developed a simple method for measuring PFCs¹ that enables easy and accurate measurement using Fourier transform infrared spectroscopy (FT-IR). This method enabled Epson to sharply reduce PFC gas.

Epson patented the simple method for measuring PFCs but grants a free license, subject to certain conditions, to others. This method is now being used by numerous enterprises to reduce PFC gas.

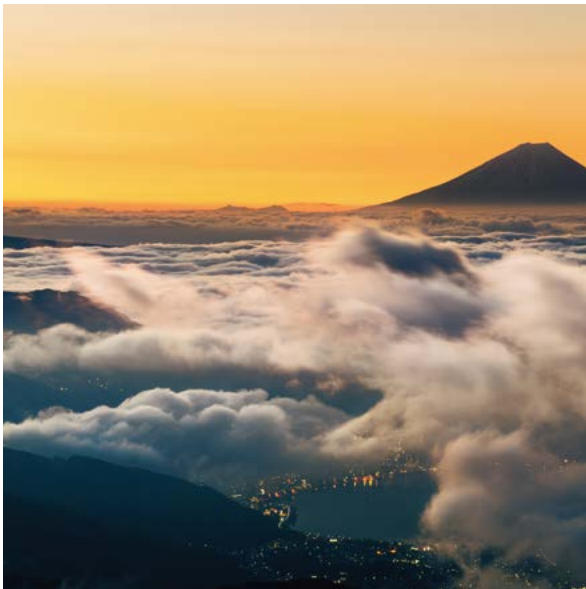
¹ Formerly called the "Epson Method"

Environmental Message



Engineering Precision. Innovating Sustainability.

Here at Epson, our technology is driven by our commitment to society and the environment. We focus on the essential and eliminate the unnecessary to create greater value. With this philosophy at our core, Epson has always strived to meet sustainability needs and will continue to do so.



“Engineering Precision. Innovating Sustainability.”

This message expresses Epson’s commitment as a manufacturer to realizing a sustainable future by driving technological advances based on a philosophy of efficient, compact, and precise innovation. The pursuit of ever greater efficiency, compactness, and precision that we have embraced for so long goes well beyond technology. “Efficient, compact, and precise” encompass a philosophy for eliminating waste, reducing dimensions, and increasing precision. We believe that this approach can enable us to create even greater social value. In other words, it is the idea that less is more. More and bigger by themselves do not equal enrichment. After all, bigger is not always better. Epson considers spiritual and cultural enrichment to be as important as material and economic enrichment. We believe that enriching the lives of current and future generations lies at the crux of sustainability. We at Epson respect the natural environment as something that helps to enrich lives and thus seek to strike a harmonious balance between our business activities and the environment. And we will continue to challenge ourselves to realize a sustainable future.