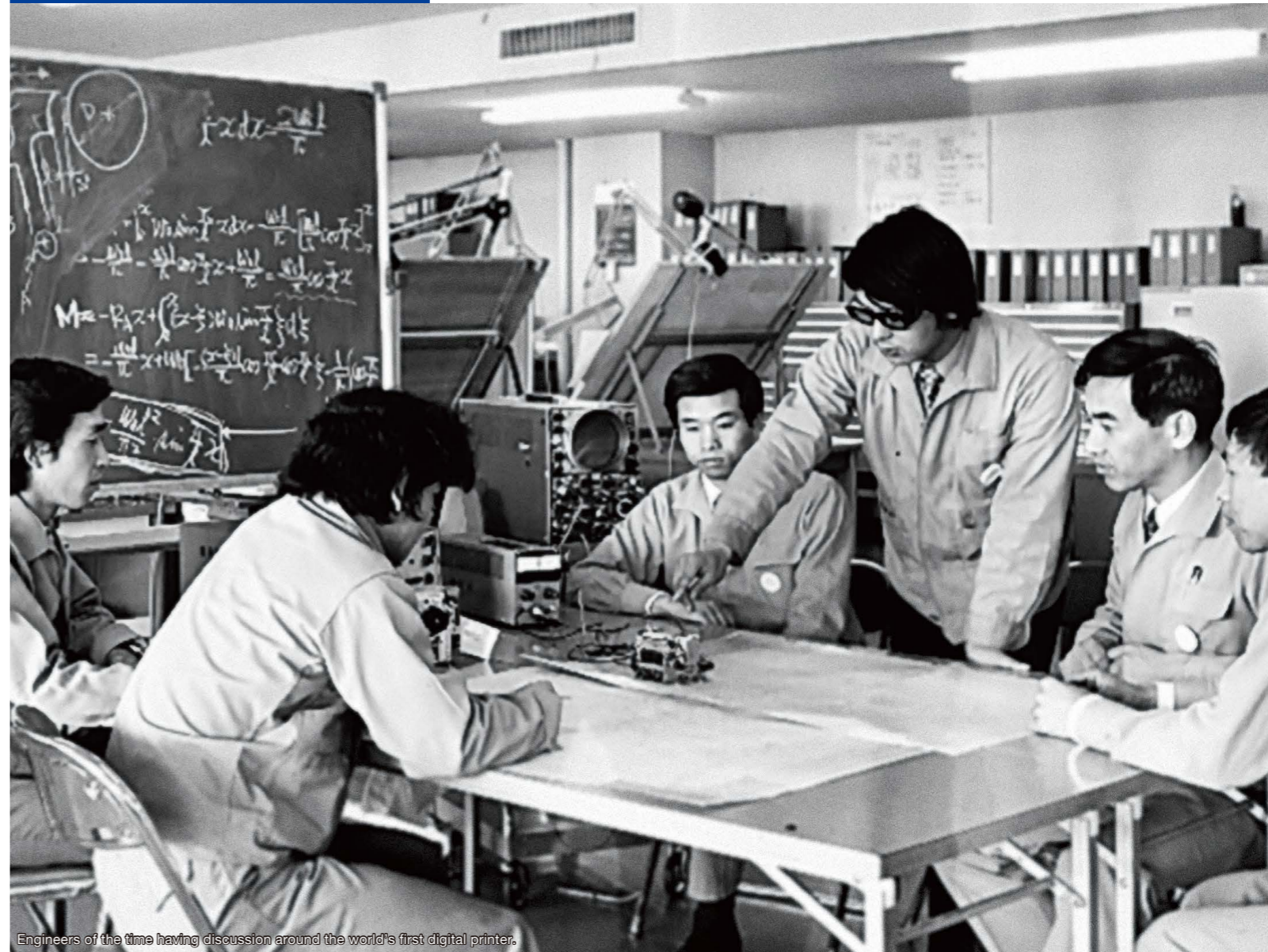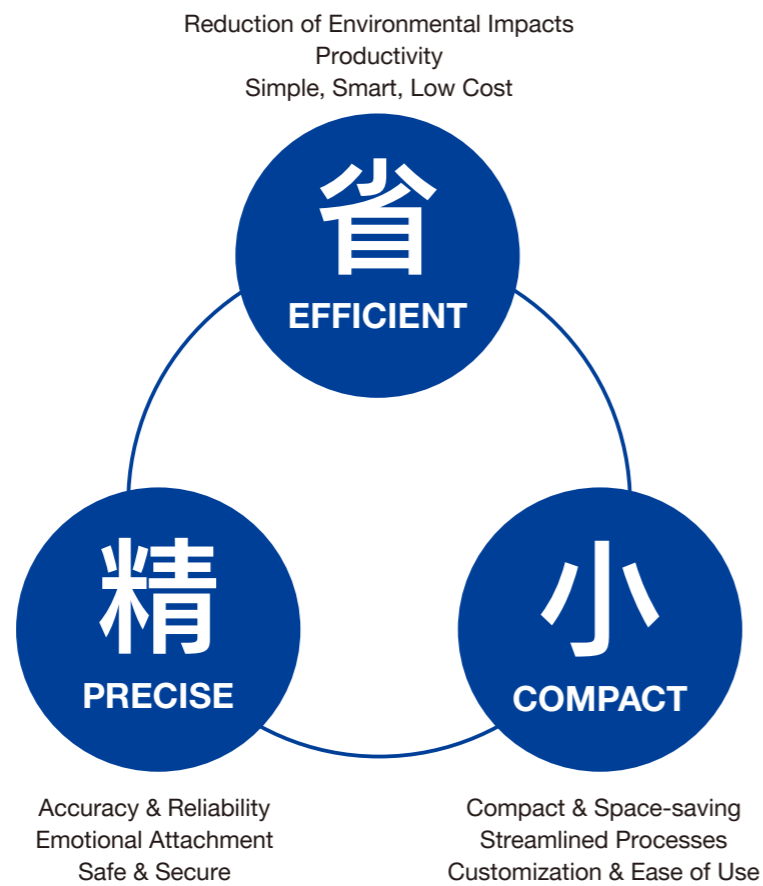EPSON

Our Actions

Since Epson's founding, we have continued to
challenge ourselves to provide products and services
that exceed customer expectations through our
efficient, compact, and precise innovation.

We believe that making things more efficient, compact,
and precise can lead to greater social value.

Bigger isn't always better,
and more doesn't always make one richer.
What Epson sees as true richness is not just one's
material or financial wealth, but the wealth in one's
mind and lifestyle, enrichment of the heart.

We believe that the essence of sustainability is in
the pursuit of enriching lives for all people, including
our future generations.

Reduction of Environmental Impacts
Productivity
Simple, Smart, Low Cost

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EFFICIENT

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PRECISE

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COMPACT

Accuracy & Reliability
Emotional Attachment
Safe & Secure

Compact & Space-saving
Streamlined Processes
Customization & Ease of Use

Engineers of the time having discussion around the world's first digital printer.

EP-101, world's first digital printer (Released in 1968)

We are at a point in time where we ought to reassess
"What is true richness?"

Many people greatly benefited materially and financially
as industries developed. Technological advancements,
creation of new industries, and development of
transportation and economic trade made the current
standard of living possible.

On the other hand, mass consumption resulted in systemic
resource waste and increased fossil fuel-based energy
consumption in manufacture and transportation.

These developments contribute to deforestation, droughts
and flooding, acceleration of climate change, and even
conflict over resources.

There is increasing disparity not only in wealth and resources
but also in access to education and information, leading to
worsening of work environment issues such as hazardous
working conditions and unskilled labor.

At Epson, we constantly have our eyes set on societal issues.

We continue to ask ourselves what we can do to help resolve the issues and how we can better contribute to society through our corporate initiatives.

We want to create a world where the environment and industry can co-exist. We want to improve working conditions and education environment to mitigate social inequality and enrich people's everyday lives.

We have taken on the challenge to find solutions for both the environment and people so that every individual may thrive with true richness.

Social Values that Epson Provides

Co-existing with the Natural Environment

Improving Working and Educational Environments

Enrich Lives
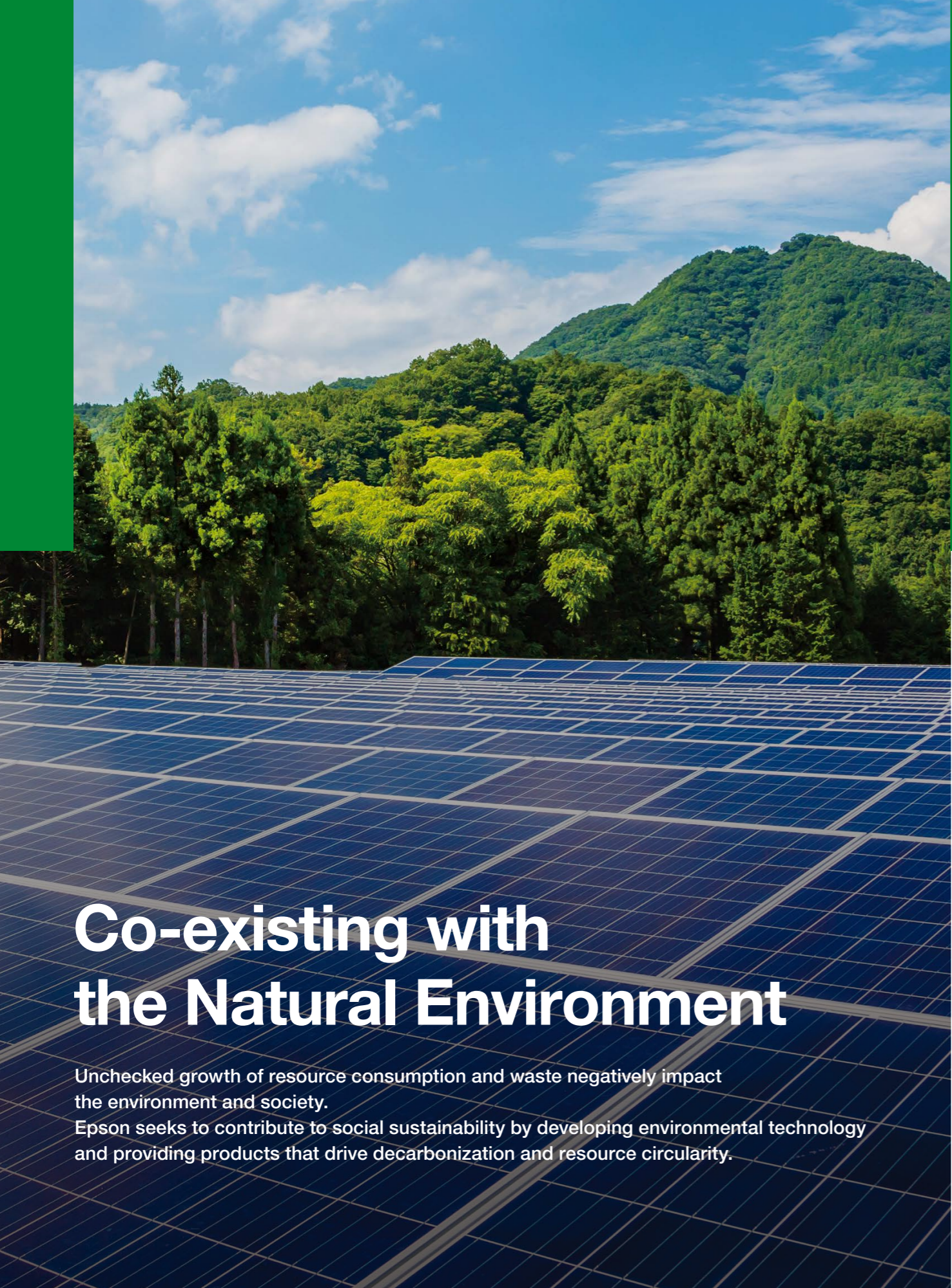
Co-existing with
the Natural Environment

Unchecked growth of resource consumption and waste negatively impact
the environment and society.
Epson seeks to contribute to social sustainability by developing environmental technology
and providing products that drive decarbonization and resource circularity.

Home & Office Printing with Reduced Resource Consumption

Epson's high-capacity ink tank
printers are cartridge-free and can
reduce ink replacement frequency.
This helps reduce the resource
consumption involved in printing,
thus reducing the impact on global
warming (in terms of CO_2).
In addition, Epson's inkjet printers
are equipped with proprietary
Heat-Free Technology, which ejects
ink without generating heat, reducing
power consumption during printing.

Printing that Flexibly Adapts to Demand Fluctuations

In commercial and industrial printing, goods are often centrally produced in bulk and transported to far off destinations where they are consumed, resulting in increased environmental impact. Furthermore, bulk production might end up as waste due to changing market needs or demand forecasts that missed the mark. Epson's inkjet technology addresses this challenge head on.

For instance, we have large-format printers for posters and billboards, digital label printers for packaging and labels, and digital textile printers for patterned fabric. None of these require plates as in traditional printing, which simplifies the printing process and enables short-run jobs.

Our customers can respond flexibility to demand fluctuations, reducing waste loss. Furthermore, our remote quality-control software makes nearshore printing or distributed printing possible.
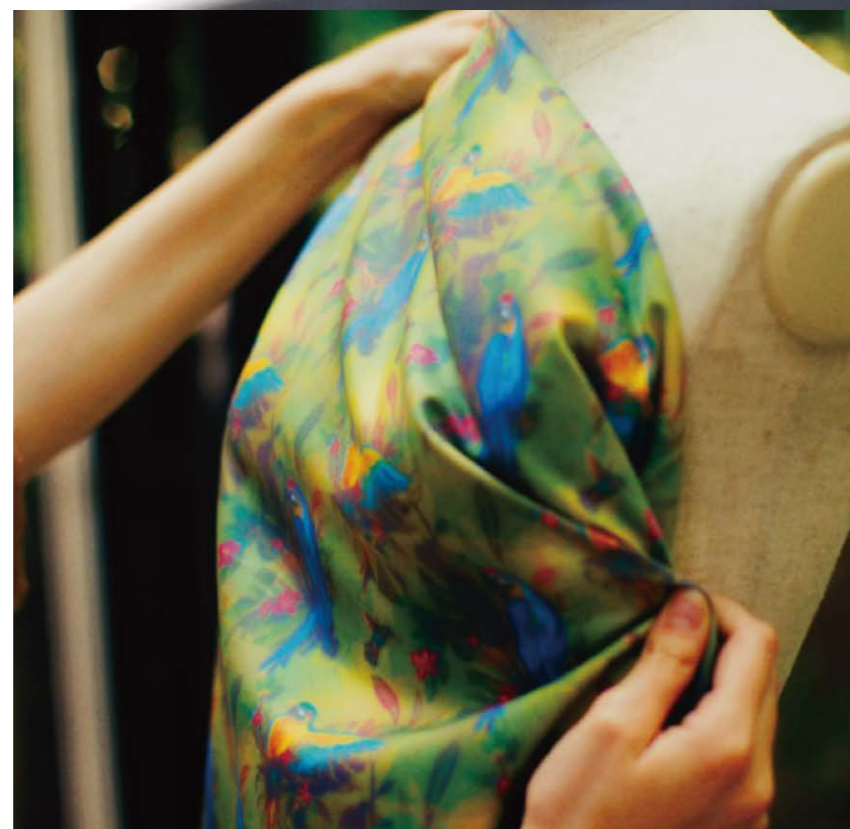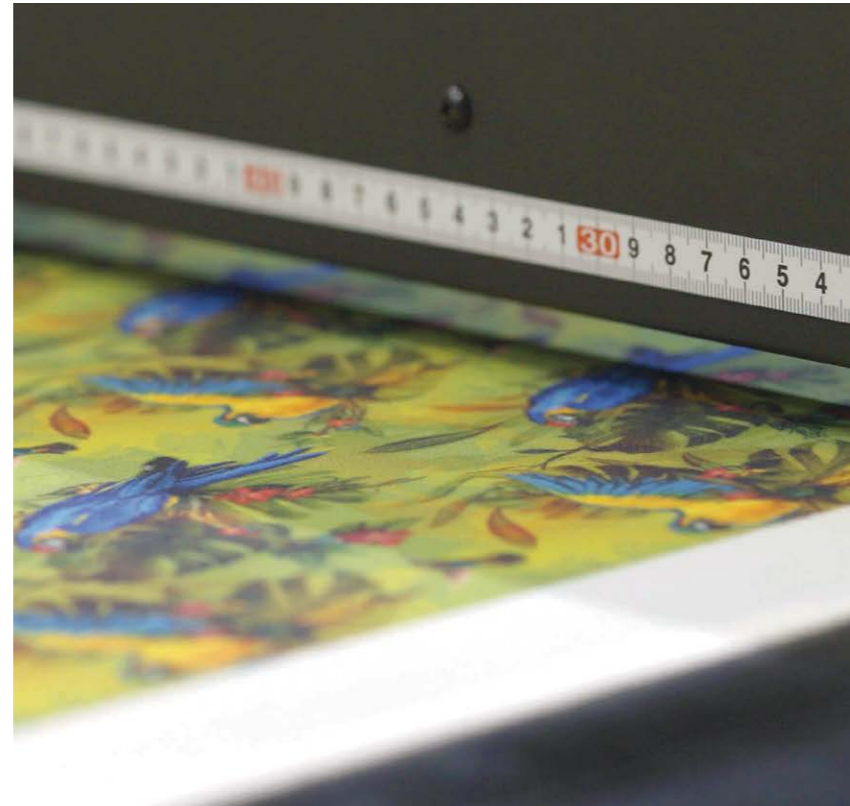
**Reduced Loss from Disposal of Unsold Goods**

Lower Transportation Cost & Impact

Technology that Turns Fiber into Valuable Goods

Epson's Dry Fiber Technology turns fiber into valuable goods by defibrating,binding, and forming fibrous material as needed depending on the application. The hallmark of this proprietary technology is that it does not require water[1]. We created the PaperLab, a machine that can reproduce paper on the spot from used paper with this technology. Unlike commercial paper, PaperLab paper production does not require a large volume of water[1] or wood. Moreover, it reduces the need for purchasing new paper and for the logistics involved in the disposal of used paper.

In addition, this technology can also be applied to the repurposing of textile scraps from the production process and materials that are difficult to process. Development work on practical new applications is underway to enable the transformation and utilization of these materials into higher value for a given application.
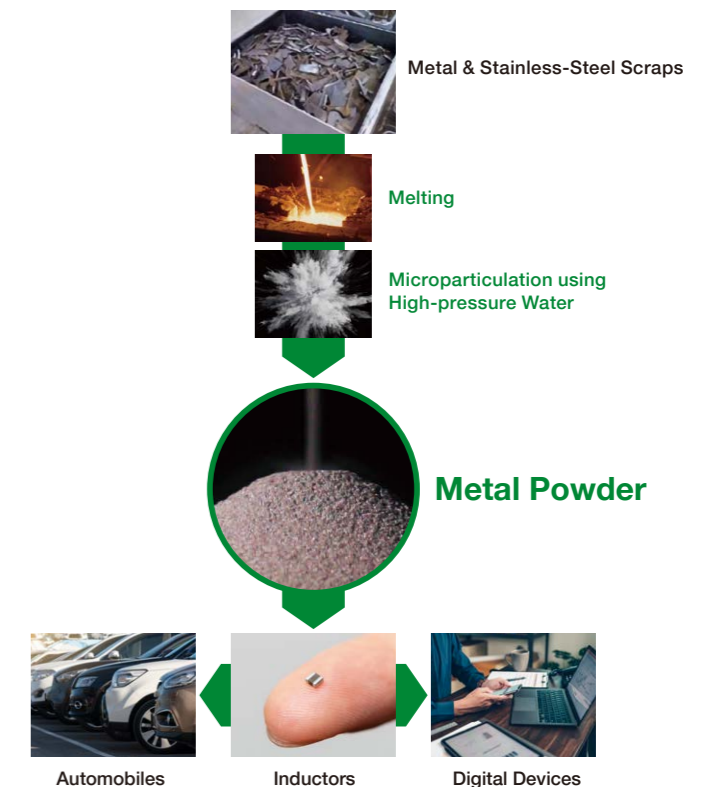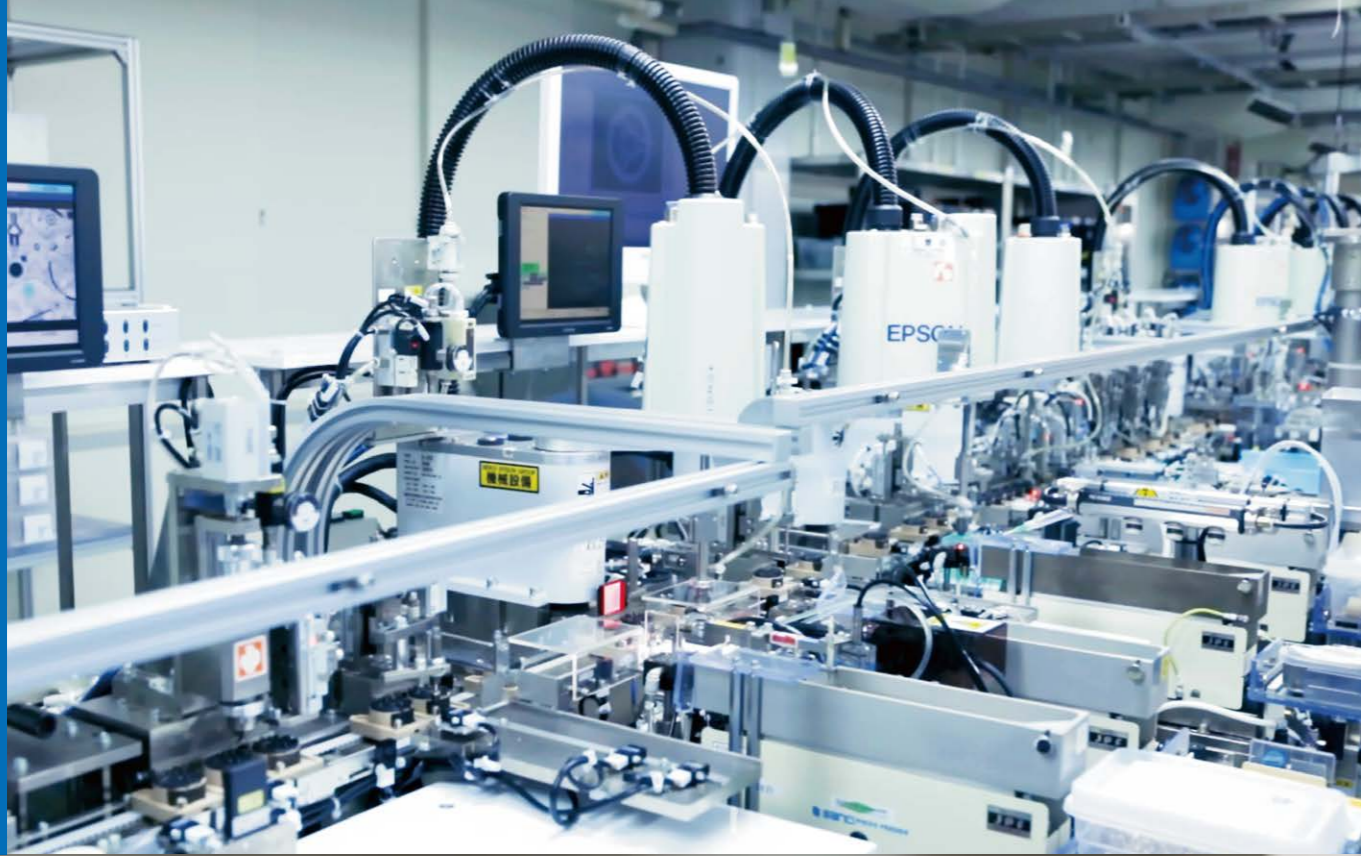
[1] Moderate humidity required.
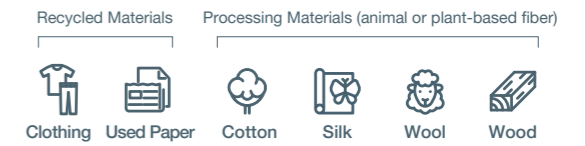
Metal Powder that Closes the Metal Resource Loop

Epson Atmix Corporation has been leading the development of metal powder manufacturing technology in an effort to close the resource loop for metals.

We began to turn used silicon wafers from IC manufacturing into metal powder and reuse that as a raw material for our semiconductor business. In addition, we are constructing a new factory with a refining process that will allow us to recycle metal wastes from Epson businesses and the city into powder, which will be reused as raw material.

Recycled Materials | Processing Materials (animal or plant-based fiber)

Clothing | Used Paper | Cotton | Silk | Wool | Wood

Dry Fiber Technology
Defibrates through Impact

Recycled Paper | Cushioning | Insulation | Sound Absorbing Material

Recycled Yarn | Recycled Fiber | Plastic

Metal & Stainless-Steel Scraps

Melting

Microparticulation using High-pressure Water

Metal Powder

Automobiles | Inductors | Digital Devices

Technology driving Manufacturing Transformation

By combining robots and force sensors, Epson can automate tasks that previously relied on human experience and skills. Our technology can stabilize quality and improve productivity. Vibration sensors can optimize equipment settings and simplify daily maintenance work, alleviating issues caused by a shortage of engineers and maintenance personnel who underpin factory operations.
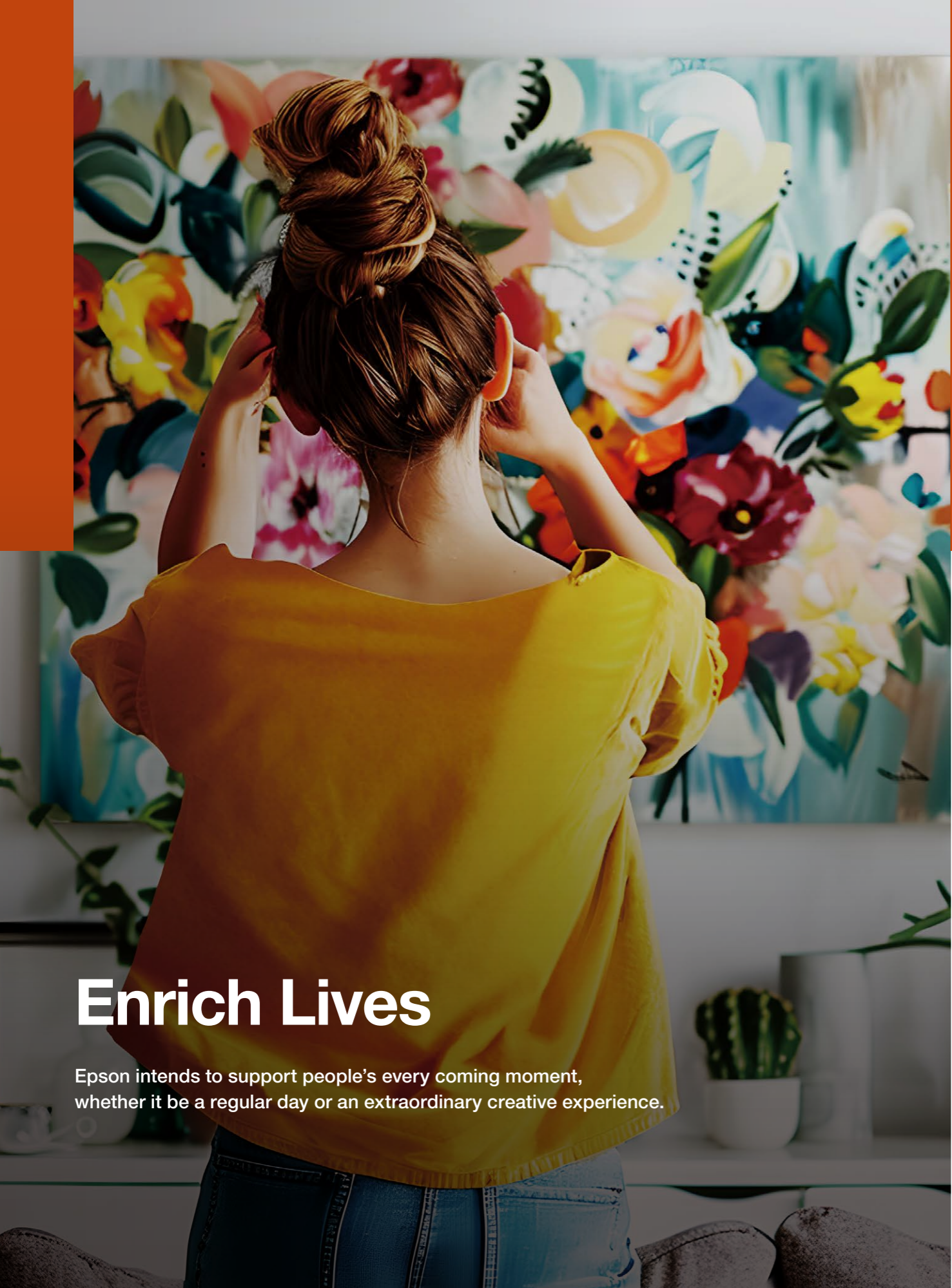
Improving Working and Educational Environments

At Epson, we strive to create a society where each person can thrive in their own way by improving people's surrounding environment.

Enabling Fair Access to Education

To support quality education efforts in developing areas, Epson created an easily portable projector that can provide a big-screen audio-visual experience. We strive to help level the disparities in access to education and information by supporting touring education programs in areas with limited or no access to electricity.

## Innovation that Inspires Creativity and Delight

Epson's inkjet technology is used across the printing spectrum, from printers for the home to those for industrial use. The absence of heat during ink ejection enables our printers to print on a wide variety of materials besides paper, such as textile, wallpaper, metal, and 3D objects. Our projectors can create vibrant visual experiences not only for at-home movie nights, but also for large-scale projection mapping and digital art installations.

teamLab, teamLab Borderless: MORI Building DIGITAL ART MUSEUM, Tokyo © teamLab

Enrich Lives

Epson intends to support people's every coming moment, whether it be a regular day or an extraordinary creative experience.

Technology for a More Convenient, Safe, and Secure Society

One of Epson's sensing technology is motion sensing.
Application of sensing technology, such as IMUs (Inertial Measurement Units) and acceleration sensors, help solve social infrastructure issues (predictive maintenance, disaster monitoring, deterioration diagnosis, manpower-saving and efficiency improvement), making the world safer, more convenient, and more secure.

Better Efficiency

Predictive Maintenancee

Convenient — Safe

Secure

Stable Operation
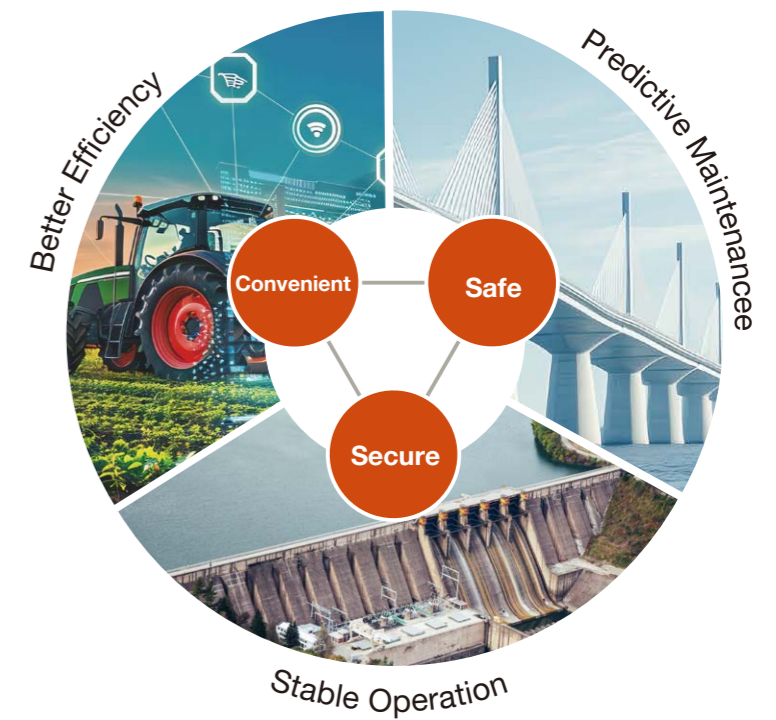
The society envisioned by Epson

We have continued to develop technologies and programs that contribute to the environment.

We are working to achieve our vision of a manufacturing ecosystem in which we close resource loops, bring supply nearer to demand, and make only what is needed where and when it is needed.

省 EFFICIENT

精 PRECISE

小 COMPACT

Co-existing with the Natural Environment

Improving Working and Educational Environments

Enriched Lives

Closed Resource Loop

Localized production for Local Consumption
- Flexible, on-demand manufacturing
- Reduced disposal loss
- Lower transportation costs

Lower Environmental Impact through Better Energy & Resource Efficiency

Low Environmental Impact Manufacturing Process

Low Environmental Impact Office

Reuse Resources

High-efficiency Production

Social Values that Epson Provides

Higher Quality Education

Fair and Equal Education

Making Social Infrastructure Smarter with Microdevices

A World Enabled by Epson Technology

Microdevices

Safe & Secure Living

Supporting Artistic Expression

Diverse Lifestyles

Our vision is more than just words, it is a blueprint to the future.
We have the track record and the ability to turn a vision into action.
We are committed to becoming carbon negative and underground resource[1] free by 2050.

As one of the steps toward that goal, Epson transitioned to 100% renewable electricity at all Group sites[2] in Japan by 2021 and all Group sites worldwide by the end of 2023, making Epson the first Japanese manufacturer to do so.[3]
We act upon what we believe to be right and adapt as we go.

This is the attitude with which we face environmental and human challenges.
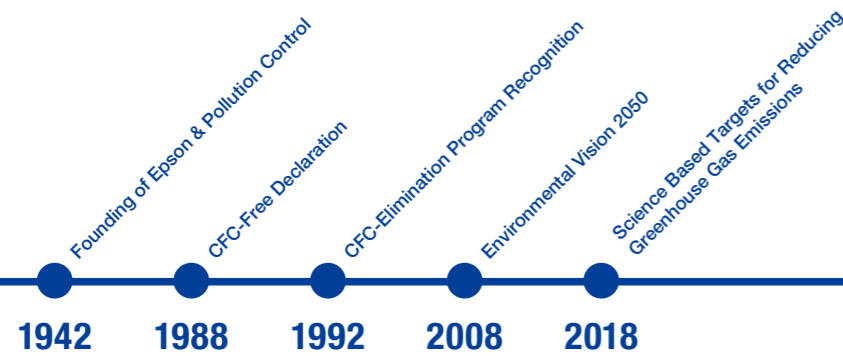
[1] Non-renewable resources such as oil and metals.
[2] Excludes some sales sites and leased properties where the amount of electricity consumed cannot be determined.
[3] Among Japanese companies that have joined the RE100. Current as of January 9, 2024, per Epson research.

Environmental Pathway

Founding of Epson & Pollution Control
CFC-Free Declaration
CFC-Elimination Program Recognition
Environmental Vision 2050
Science Based Targets for Reducing Greenhouse Gas Emissions

2021
2023

1942 1988 1992 2008 2018

Revision of Environmental Vision 2050

Epson's Environmental Vision was revised to set concrete goals to become carbon negative and underground[1] resource free by 2050.

Switch to 100% Renewable Electricity at All Group Sites[2] Worldwide

Epson is the first company in the Japanese manufacturing industry to switch to 100% renewable electricity at all sites globally.

Driving Environmental Innovation with Epson's Proprietary Technology

Through co-creation with partner institutions, we aim to put our proprietary Dry Fiber Technology to use in real-world applications. Dry Fiber Technology makes it possible to defibrate hard-to-recycle functional clothing and helps drive the R&D on fiber composite bioplastics and recycled plastics. In addition, we are developing membrane separation that prioritizes CO_2 transmission based on thin film technology originally developed for our inkjet printheads. We envision this technology helping to achieve highly efficient CO_2 separation and recovery in a compact, low-energy system.

High Pressure   Low Pressure

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

CO_2 separation
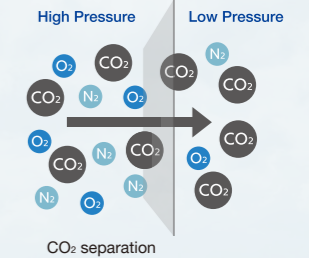
Accelerating Epson's Internal Initiatives

As part of our continuing efforts to promote the use of renewable energy both internally and externally, we have begun drafting the blueprints of our first in-house biomass power plant. Furthermore, we are working with our suppliers, with support from partners, to reduce their environmental impact by assisting their logistics and transition to renewable energy.

Here, in Suwa, Nagano, is where Epson was founded,
and this is where we made the promise to "exist in harmony with the local community."

Here is also where we commit ourselves to our new environmental vision,
and head for the future.

We cannot achieve this all by ourselves.
By working closely with our partners, customers, and people who share the same vision,
we hope to enrich lives and help create a better world.

2030

Zero Scope 1 & 2 Emissions[1] Sustainable Resource Ratio[2]: 50%

We have committed to invest 100 billion yen over the 10 years to 2030 to reduce GHG emissions[3] in our supply chain by 55% (over 2 million tons) compared to FY2017, in line with the 1.5°C scenario.
We will increase the feasibility of decarbonization by driving innovations in production and upgrading equipment at our manufacturing sites, including by switching to low-carbon fuel, adopting renewable electricity, and replacing technologies that use fossil fuels with those that use electricity.
We will utilize previously mined underground resources as existing above-ground resources (circular resources) to reduce consumption of new underground resources.

[1] Scope 1: Direct emissions (from LPG, LNG, natural gas, kerosene, fuel oil, gasoline, PFC gas, etc.)
Scope 2: Indirect emissions (from electricity, steam, etc.)
Scope 3: GHG emissions from the company's entire value chain based on the GHG Protocol
[2] The ratio of sustainable resources (renewable resources + circulated resources + less-depletable resources) to raw materials
[3] GHG scope 1, 2 and 3 emissions

2050

Carbon Negative[4] and Underground Resource[5] Free

To become not just carbon neutral but to become carbon negative, we will sharply reduce the amount of energy used for production, raw materials processing, and other business activities while also transitioning to renewable electricity and working with partners to avoid GHG emissions in manufacturing. We are also seeking to establish technology for capturing and absorbing CO_2 to offset our own residual CO_2 emissions.
We are endeavoring to reduce total resource inputs, eliminate wastes, and attain a sustainable resource rate of 100% to become underground resource free.

[4] Carbon negative is a state where an entity removes more scope 1, 2 and 3 greenhouse gases from the atmosphere than it emits. This goes beyond achieving carbon neutrality, where emissions are offset to net zero. In a carbon-negative state, after reducing emissions as much as possible, the entity offsets any remaining emissions and then removes additional CO_2 from the atmosphere, resulting in a net-negative carbon footprint.
[5] Non-renewable resources such as oil and metals