

Eco Products Guide 2009-2010



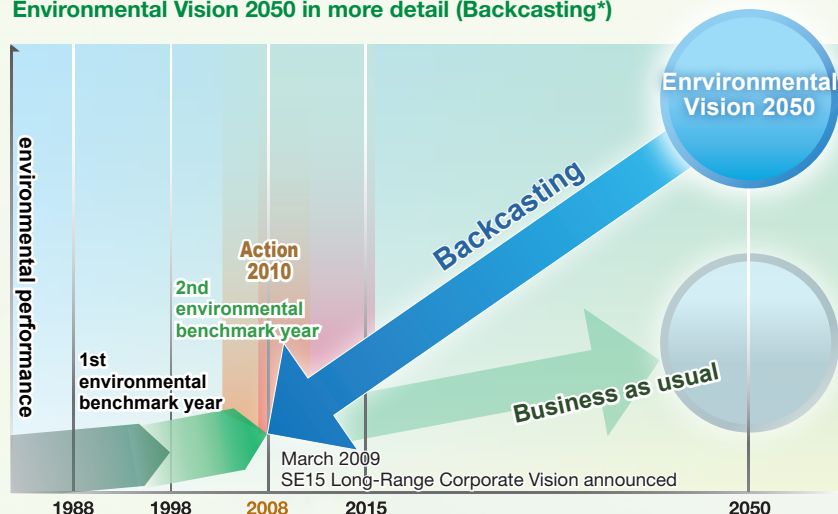
Epson is working to preserve the natural environment,
creating memories and beautiful impressions
for future generations.

Environmental Vision 2050

Recognizing that the Earth's carrying capacity is limited and believing that everyone must share responsibility for reducing environmental impacts equally, Epson is aiming to reduce CO₂ emissions by 90% across the life cycle of all products and services by the year 2050.

At the same time, as a member of the ecosystem Epson will continue to work towards restoring and protecting biodiversity together with local communities.

Environmental Vision 2050 in more detail (Backcasting*)



Backcasting

A planning technique in which a desired outcome or goal is envisioned and planned before the scenario for achieving the outcome or goal is devised.

Epson has set four key conditions in order to work towards achieving "Environmental Vision 2050"

1. Reduction of CO₂ emissions by 90% across the entire product life cycle.
2. Inclusion of all products in the resource reuse and recycling loop.
3. Reduction of direct CO₂ emissions by 90%, and elimination of global warming gas emissions other than CO₂.
4. Restoration and preservation of biodiversity as a member of the ecosystem, together with local communities.

Eco Products Guide 2009-2010

01 ... Environmental Vision 2050

03 ... The Life Cycle Approach

05 ... Eco Thinking

07 ... Eco Creation

09 ... Eco Use

11 ... Eco Recycling & Reuse

13 ... Eco Choice / Eco Delivery

14 ... Eco Products Information

Printers: Epson Stylus Photo PX710W / TX710W

Epson Stylus Photo SX610FW

Artisan 50/PictureMate PM 300 / 310

Scanners: Epson Perfection V600 Photo

Business printers: Epson Stylus Pro WT7900

Epson B-510DN/TM-T88V/LQ-690

Projectors: EB-X8 / EX51/EB-W8D / PowerLite Presenter

PCs: ST125E

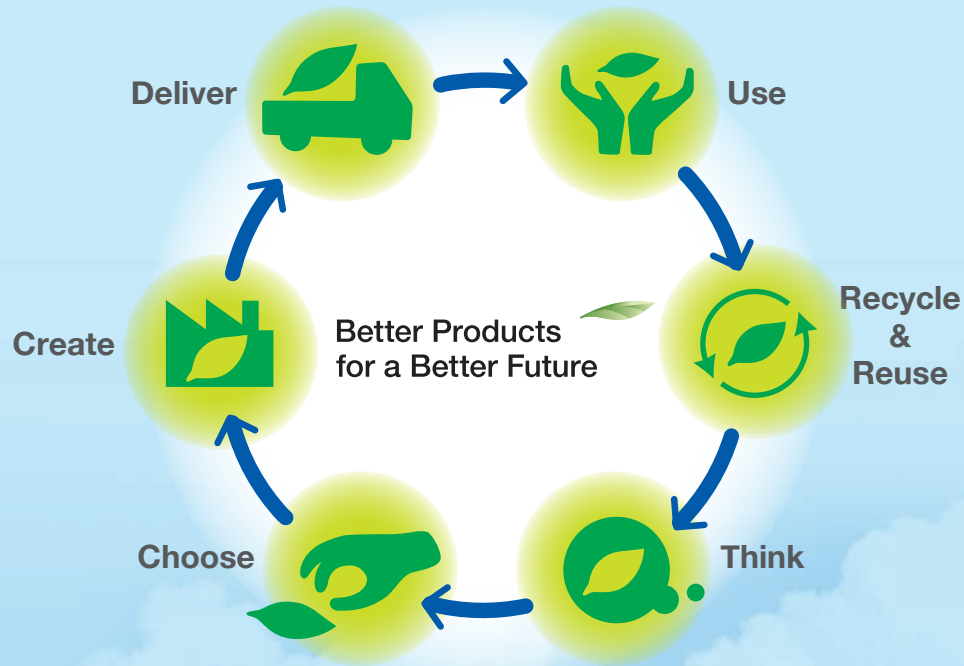
Electronic Devices: S1C17 Family/OX-6501GG series

Watches: SAEA001

29 ... Micro Piezo Technology Applications

History of Epson's Environmental Activities

Delivering low environmental impact products



Think

Consider the life of a product from the planning and design phases, and reduce its environmental impact overall.

Choose

Choose low environmental impact product parts and materials that do not contain harmful substances.

Create

Create ways to avoid using energy and emitting wastes in product manufacturing plants.

Deliver

Transport products efficiently so that energy and resources are saved.

Use

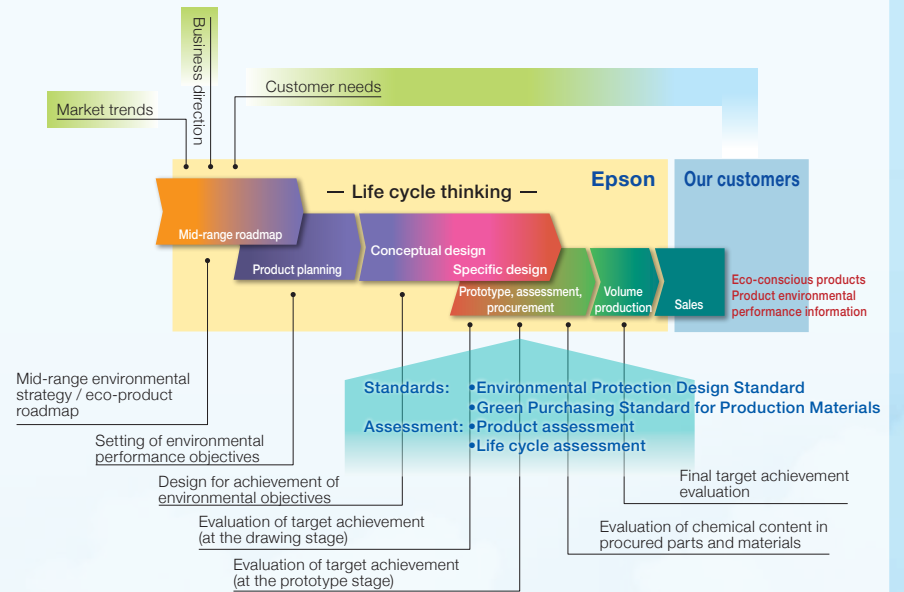
Provide small, lightweight, energy-efficient products so that customers can minimize their carbon footprint during product use.

Recycle & Reuse

Recycle and reuse end-of-life products as resources.

Product commercialization flow for generating eco-conscious products

Eco-conscious product commercialization flow



A product's environmental specifications are identified at the product planning stage, and are translated into a tangible format at the design stage. Product design reviews are conducted at each step during the product development and commercialization phase to ascertain the degree to which environmental specifications are satisfied. A variety of different environmental labeling programs are used in different countries and regions around the world, and acquiring these environmental labels is itself an important consideration in terms of a product's environmental specifications. Epson develops and commercializes eco-conscious products in accordance with operating procedures that provide the internal standards and tools needed to evaluate eco features.



A reconditionable, new-concept inkjet printer

Inkjet printer with high-volume ink built in **EC-01**



Heightened environmental awareness has helped focus attention on low-power inkjet printers that have a low environmental impact across their life cycle.

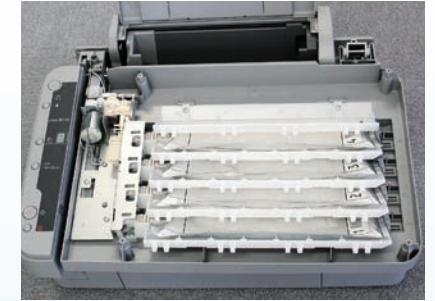
The EC-01, which takes the inherently good environmental performance of inkjet printers and makes it even better, may be the shape of inkjet printers to come.

Integrated high-capacity ink packs

Conventional wisdom holds that inkjet printers require periodic replacement of ink cartridges. Epson has turned this conventional wisdom on its head by pre-filling the EC-01 with enough ink to yield approximately 8,000 pages*¹. That's the equivalent of about 80 standard Epson ink cartridges.

The EC-01 relieves customers of the bother of replacing cartridges while also making a big dent in the environmental impacts associated with used ink cartridges.

*¹ Determined in accordance with ISO/IEC 24711

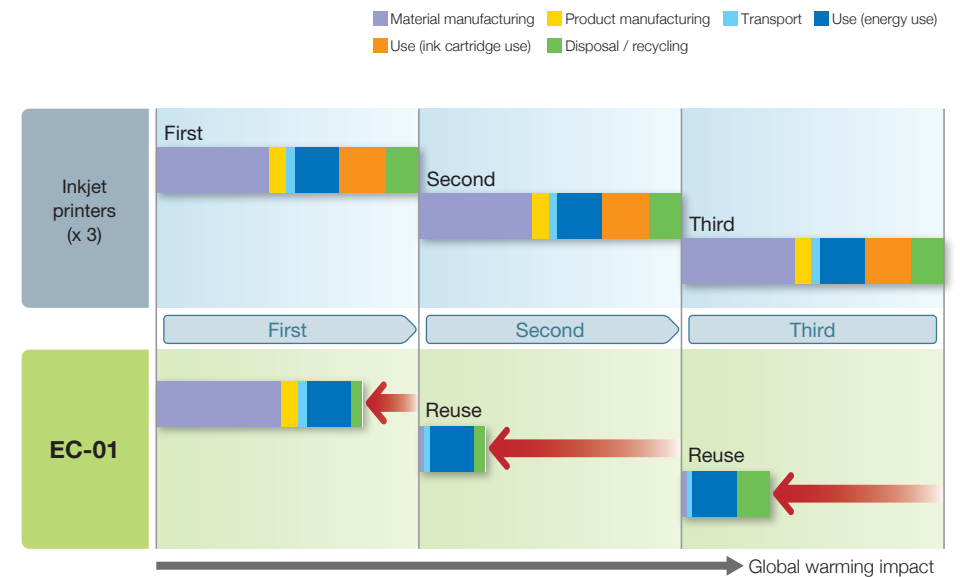


High-capacity built-in ink packs

Reconditioning service enables reuse up to three times

In the countries and regions where the EC-01 is currently being sold, a new service allows customers to return their EC-01 printer once the ink runs out. The returned printer is then refurbished and reused up to two more times.

Conceptual illustration of how the EC-01 reconditioning service reduces global warming impacts across the life cycle



NOTE: The global warming impact of the ink built into the EC-01 is included in material manufacturing.



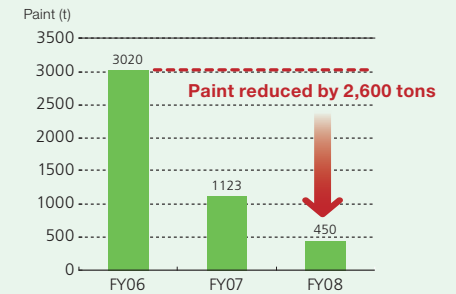
Eco Creation

Using glossy molding to reduce environmental impacts while producing a high-end feel

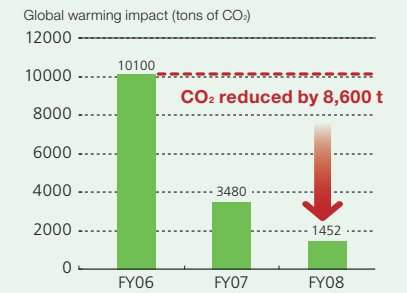


Glossy molding eliminates the painting process—and non-painted plastics provide a higher grade of recyclable material.

Amount of paint used by year

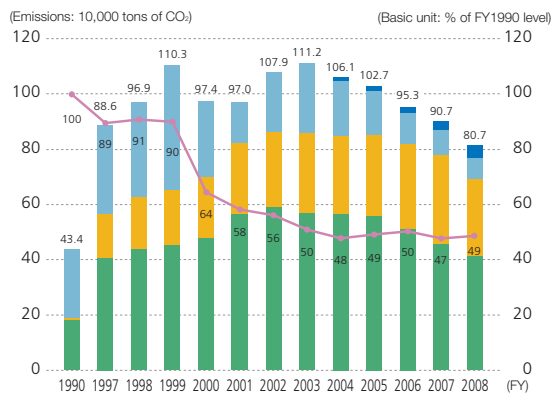


Global warming impact of painting



Global warming prevention

- Greenhouse gases (overseas)
- Greenhouse gases (Japan)
- Emissions from energy use (overseas)
- Emissions from energy use (Japan)
- Per unit of sales



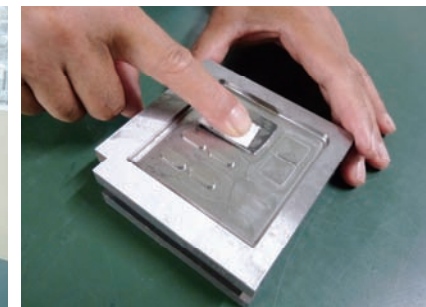
Epson is reducing global warming gas emissions at its sites around the world through core initiatives to (1) reduce CO₂ emissions by conserving energy; and (2) reduce emissions of greenhouse gases other than CO₂.

* Fiscal 1990 greenhouse gas emissions from sources other than energy use are calculated using the corresponding emissions in 1995.
 * In Japan we used an average value published by the Federation of Electric Power Companies as a conversion factor to calculate equivalent CO₂ emissions from energy consumed. Outside Japan we used national emissions factors provided by the Japan Electrical Manufacturers' Association (JEMA).

To calculate CO₂ emissions from fuels both in Japan and abroad, we used the CO₂ conversion factors published jointly by the Japanese Ministry of the Environment and Ministry of Economy, Trade and Industry in Version 2.4 of a global warming gas emissions calculation and reporting manual. To calculate the CO₂ equivalent of emissions of greenhouse gases other than CO₂, we used conversion factors published by the Intergovernmental Panel on Climate Change (IPCC) in 2001.

Molds polished with consummate skill

The secret to Epson's glossy molding technology lies in molds that are painstakingly polished by Mr. Takashi Iimori, an employee recognized as a Contemporary Master Craftsman. Extremely accurate molds are essential for obtaining plastic components that are glossy after just the injection molding process. This skilled master who can control accuracy to 1/1000th of a millimeter underpins this advanced technology and helps mitigate environmental impacts.





Eco Use



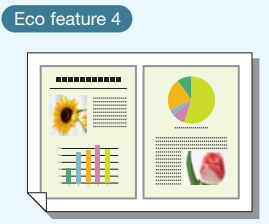
Eco feature 1
Scan images directly to a memory card and transfer them to a PC. Saves paper, since printing is not required.



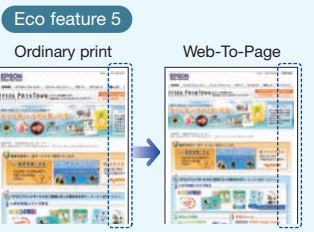
Eco feature 2
Direct printing. Print directly from a memory card to save energy (no PC needed).



Eco feature 3
Duplex printing. Reduce paper use by up to 50% by printing on both sides of sheets*1



Eco feature 4
Save paper by using double-sided copying, 2-up copying*2, and multi-page printing. (Lay out up to four originals per sheet of paper.)



Eco feature 5
Reduce waste with Web-To-Page, a software utility that automatically adjusts web pages to fit the printed page so that edges are not cut off.

*1 Available as an option
*2 Supports file sizes up to 128 MB

List of All-in-one inkjet printers Eco Features

Epson's All-in-one inkjet printers provide a host of convenient features that allow you to reduce your carbon footprint.

Eco feature	Auto duplex printing	Manual duplex printing	Multi-page print	Multi-page copy	Scanning to a PC	Scanning to a PC as a PDF	Scanning to e-mail	Scanning to a memory card
Eco benefits	Reduces the amount of paper used							Saves energy because PC startup is not required
Artisan 800	○ (Option)	○	○	○ (supports double-sided copying)	○	○	○	○
Artisan 810	○	○	○	○ (supports double-sided copying)	○	○	○	○
Artisan 710	○	○	○	○ (supports double-sided copying)	○	○	○	○
WorkForce 610/615	-	○	○	○	○	○	○	○
Epson Stylus NX510/515	-	○	○	-	-	-	-	-
Epson Stylus NX110/115	-	○	○	-	-	-	-	-

Communicating product eco features with a new mark

Watch for this mark to learn about eco features on future Epson products.



Eco Features

- Total power consumption reduced by XX%

Sample of Epson's Eco-label

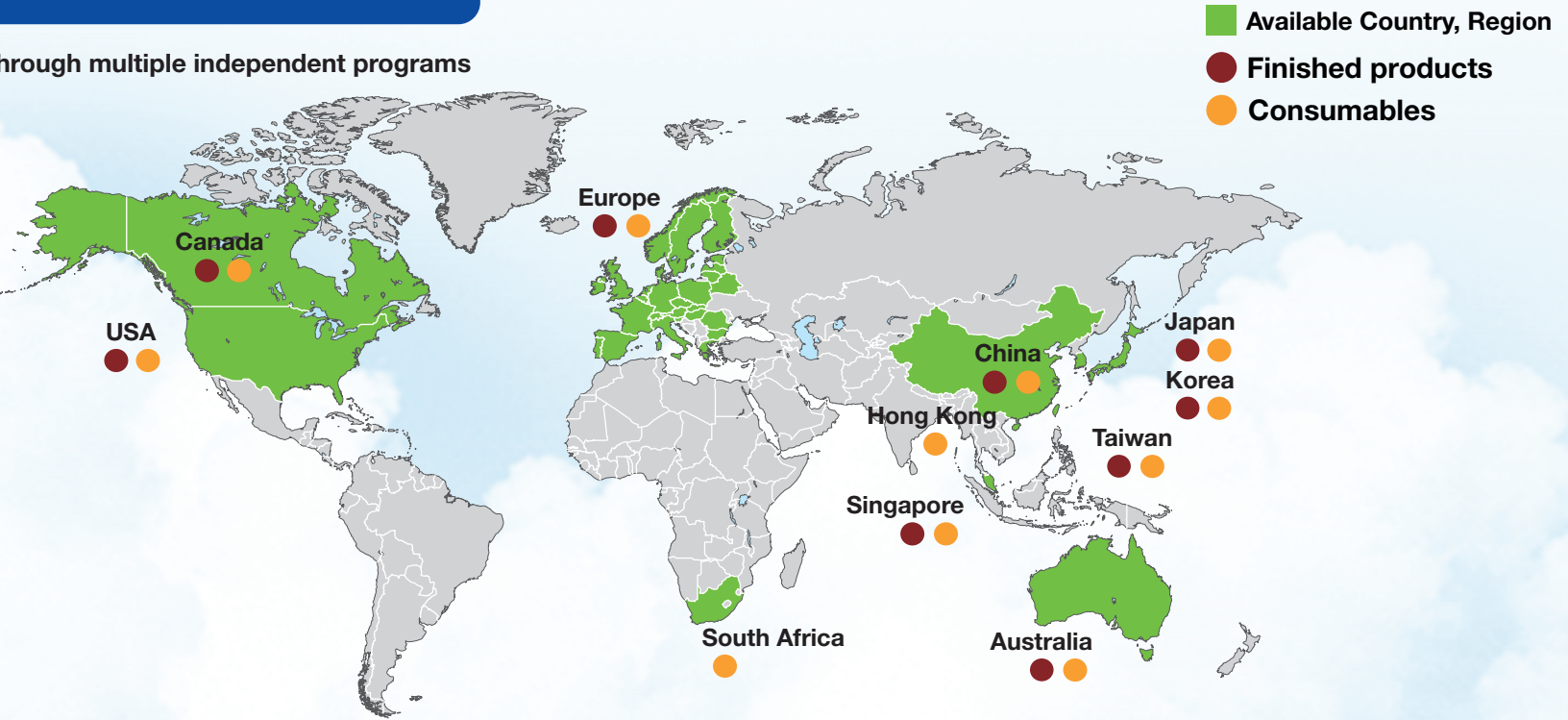
NOTE: A Type II (self-declared environmental claims) environmental label as defined by ISO 14021



Eco Recycling & Reuse

Promoting collection and recycling through multiple independent programs

Building a recycling-oriented society requires businesses, government and consumers to cooperate in processing used products. Epson monitors local and international legal and regulatory trends, keeps an eye on consumer needs, and is continuing to build a system for collecting and recycling Epson products at the end of their useful lives.



Persons with disabilities employed in ink cartridge collection and sorting

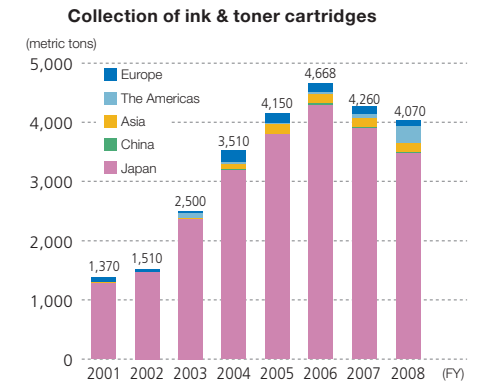
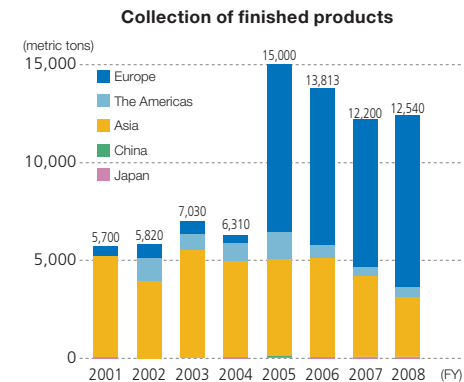
Epson Mizube Corporation, a special subsidiary of Seiko Epson in Suwa, Japan, employs a high percentage of persons with disabilities to handle the collection and sorting of ink cartridges. So, besides being good for the environment, this recycling effort contributes to the community by expanding employment opportunities for persons with disabilities.



See <http://www.epson.com/recycle/> for details regarding Epson's collection service.

Product collection figures

Recycling legislation around the world is being amended. Epson has responded by installing a global system that enables us to remain informed of and compliant with requirements in every region.





Eco Choice

Green purchasing across the supply chain

In line with our environmental action policy, we seek to create and provide products that demonstrate harmony with the environment. So, when choosing the parts and raw materials that make up our products, we give preference to lower-impact alternatives. We also work with our suppliers to enable us to purchase green production materials.

Flow of green purchasing of production materials

Supplier part approval

[Approval conditions]
Supplier agrees to maintain a system that assures compliance with product content restrictions.

- Provide declaration that delivered product does not contain banned substances
- Agree not to use substances banned from manufacturing processes
- Agree to build and maintain a system to assure compliance with product content restrictions



Production material approval

[Approval conditions]
Provide information on substances included in products.

- Information on controlled substances included in products
- Information on the elimination of substances to be eliminated from products



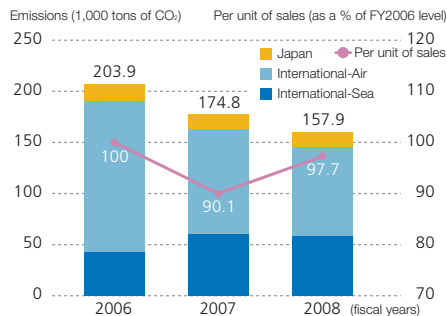
Procurement



Eco Delivery

Transport CO₂ emissions

CO₂ emissions from domestic and international transport



Epson, with the cooperation of its affiliates and subsidiaries around the world, has been improving transport efficiency in a number of ways, most notably by shifting modes of transport from air to sea and from truck to train, using consolidated shipments, and joining other companies in cooperative distribution systems.

All-in-one inkjet printer

Epson Stylus Photo PX710W / TX710W

A slim inkjet printer that looks good in any room

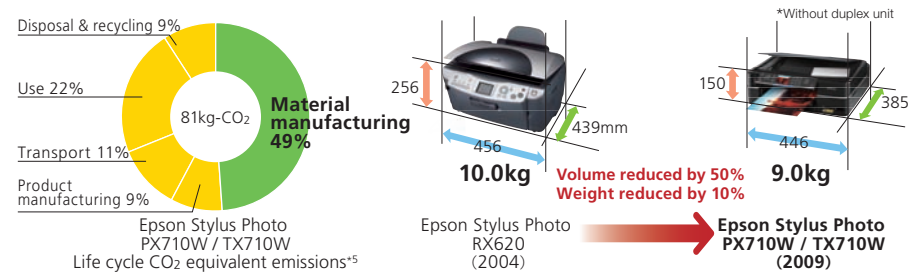


Eco Features

- Space-saving body is 50% smaller and 10% lighter than the comparative 2004 model (Epson Stylus Photo RX620)¹
- Energy-efficient and economical. Uses the same amount of power in one day as a 40 W fluorescent tube does in one hour²
- Saves up to 50% of your paper supply with automatic, two-sided printing³
- Saves even more by printing multiple pages on a single sheet
- Unpainted plastic housing reduces the environmental impact⁴
- Mercury-free LEDs used for LCD panel and scanner light sources

Slim, compact design

Material manufacturing is the largest source of greenhouse gas emissions in the life cycle of an all-in-one inkjet printer. To mitigate these emissions in the Epson Stylus Photo PX710W / TX710W, we arranged the ink cartridges off-carriage. We shrunk the back-pressure control unit, which regulates ink pressure, and reduced the size of the print head, thereby nearly halving the space required for head movement inside the printer.



¹ Epson Stylus Photo RX620 (launched in 2004) chosen for comparison based on the typical customers' upgrade cycle. ² Total power consumption compared to an ordinary 40 W fluorescent tube. Calculated under Epson's test conditions, based on five A4-size color copies per day, with power on for 8 hours/day and off for 16 hours/day. 230V is used for calculation. Power consumption will vary according to actual usage conditions. ³ With optional automatic two-sided printing unit. ⁴ Except for operation panel markings and design detail. Minimizing paint makes it easier to recycle higher-quality plastics. Also, energy is saved, since painting processes are almost eliminated. ⁵ CO₂ emissions are estimated based on Epson's test conditions. 230V is used for calculation, based on European specifications. A life cycle assessment is used to calculate the global warming impact of a product at each phase of its life cycle and express this as a CO₂ equivalent. The life cycle includes material & product manufacturing, transport, use by customer (assumed 3-year usage), and disposal/recycling of end-of-life products. Calculations based on five A4-size color prints per day, with printer power on for 8 hours/day and off for 16 hours/day for 20 days a month. CO₂ emissions will differ depending on customer printer use (e.g. number of prints, frequency of use, documents printed, number of hours printer is powered on, days used).

All-in-One inkjet printer

Epson Stylus SX610FW

A multifunction printer with energy-saving performance that is great for businesses too

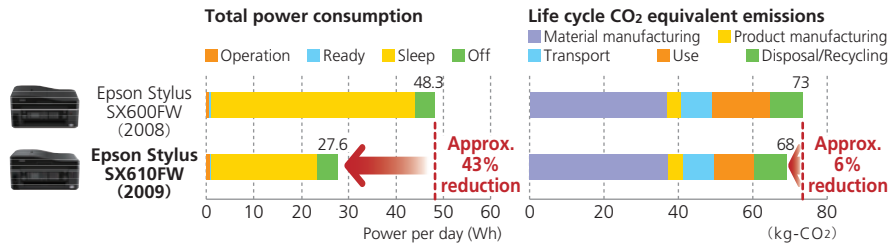


Eco Features

- Uses 43% less total power than the previous model (Epson Stylus SX600FW) and generates 6% fewer life cycle CO₂ emissions*¹
- Features such as multi-page printing and direct fax transmission from PC reduce paper consumption, helping to lower costs and reduce the environmental footprint
- Unpainted plastic housing reduces the environmental impact*²
- Mercury-free LEDs used for LCD panel and scanner light sources

Lower total power consumption and life cycle CO₂ emissions*¹

As well as being engineered with low-power design that limits the number of points to which power is supplied during sleep mode, the Stylus SX610FW further reduces total power consumption with a low-power ASIC chip and a high-efficiency power supply. These features have reduced CO₂ emissions by 6% across the product life cycle.



*¹ Figures calculated under Epson's test conditions. 230V is used for calculation, based on European specifications. A life cycle assessment was used to calculate the global warming impact of the product at each phase of its life cycle and express this as a CO₂ equivalent. The life cycle includes material & product manufacturing, transport, use by customer (assumed 3-year usage), and disposal/recycling of end-of-life products. Total power consumption is calculated based on 5 A4-size color copies per day, with printer power on for 8 hours/day and off for 16 hours/day for 20 days a month. Power consumption and CO₂ emissions will differ depending on customer printer use (e.g. number of prints, frequency of use, documents printed, hours left on, days used).
*² Except for operation panel markings and design detail. Minimizing paint makes it easier to recycle higher-quality plastics. Also, energy is saved, since painting processes are almost eliminated.

Inkjet printer

Artisan 50

Standout energy performance in a sleek and stylish design

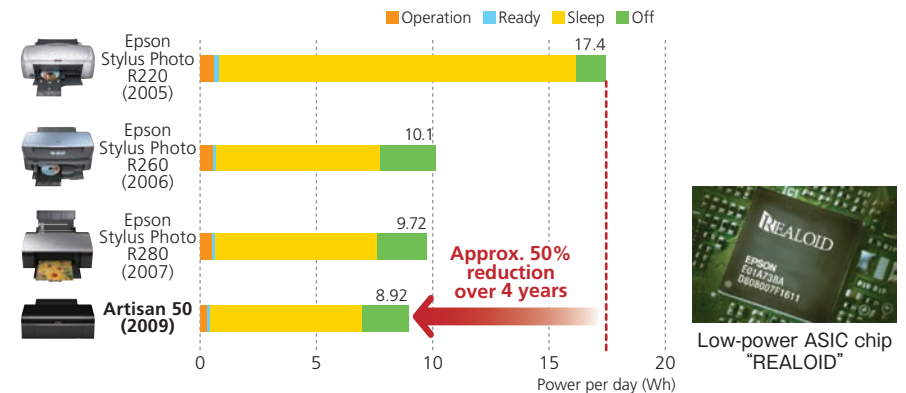


Eco Features

- Uses approx. 50% less total power than the comparative 2005 model (Epson Stylus Photo R220) and 8% less than the previous model (Epson Stylus Photo R280)*¹
- Unpainted plastic housing reduces the environmental impact*²

Reduction of total power consumption

Epson has continued to engineer effective ways of reducing power consumption, including limiting the number of points in the printer to which power is supplied in sleep mode, and shifting the printer into sleep mode faster. Total power consumption is further reduced with a low-power ASIC chip "REALOID" and a high-efficiency power supply.



Low-power ASIC chip "REALOID"

*¹ Figures calculated under Epson's test conditions, based on five A4-size color prints per day, with printer power on for 8 hours/day and off for 16 hours/day. Power consumption will vary according to actual usage conditions. 115V is used for calculation, based on U.S. specifications. *² Except for operation panel markings and design detail. Minimizing paint makes it easier to recycle higher-quality plastics. Also, energy is saved, since painting processes are almost eliminated.

Digital Frame / Compact Photo Printer

Epson PictureMate PM 300/310

A new, low-power way to enjoy photos economically

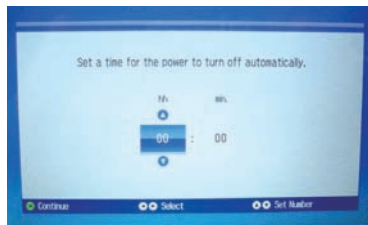


Eco Features

- Doubles as both printer and digital photo frame
- Reduces power use with automatic power on/off
- Uses just 1.8 kWh of power per month for slideshows^{*1}
- Mercury-free LEDs used for 7-inch color LCD monitor backlight

Automatic power on/off

The Epson PictureMate PM 300/310 has a built-in feature for scheduling power-on and power-off times. It automatically shuts down when the set time is reached, so no power is wasted while you sleep^{**}.



Automatic power on/off scheduler

^{*1} The cost of energy for a photo slideshow is calculated under Epson's test conditions, based on 10 hours of use per day for one month (31 days).
^{**2} The main power supply is not switched off.

Home & Professional Photo Scanner

Epson Perfection V600 Photo Scanner

The scanner that has it all: speed, image quality, and fantastic energy performance

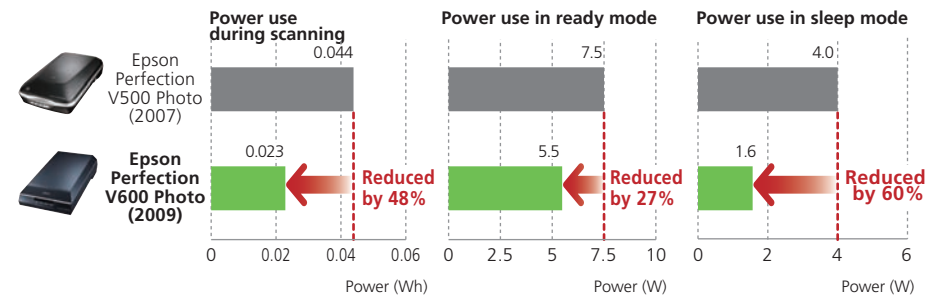


Eco Features

- Scans at twice the speed of the comparative 2007 model (Epson Perfection V500 Photo) and uses 48% less power during scanning, 27% less power in standby mode, and 60% less in sleep mode^{*1}
- Uses mercury-free LEDs for the scanner's light source

Improved energy performance

Actual energy use during scanning was sharply reduced by doubling the scanning speed. The energy used in ready and sleep modes was reduced by using low-power ASIC chips and by limiting the number of points in the scanner to which power is supplied.



^{*1} The Epson Perfection V600 Photo scans an L-size photo in 300-dpi color in 5 seconds, whereas the Epson Perfection V500 Photo (launched in 2007) takes 10 seconds.

Large Format Inkjet Printer

Epson Stylus Pro WT7900

A proofing inkjet printer equipped with the industry's first water-based white ink. With no need for a special operating environment, the Epson Stylus Pro WT7900 helps reduce the burden on the environment while offering improved operational flexibility and efficiency

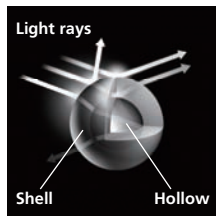


Eco Features

- Employing ultra low-odor water-based inks, the Epson Stylus Pro WT7900 does not require a special operating environment
- ENERGY STAR® qualified. Low-power because there is no need for heaters, lamps, or ventilation equipment used with solvent-based or UV-curable ink printers
- Inkjet technology prints using precise amounts of material exactly where it's needed, which limits waste and uses resources efficiently

Newly developed water-based white ink enables an environmentally low-impact and efficient proofing process

Epson's newly developed white ink is made using special hollow resin particles. As well as having a low environmental impact thanks to being water-based, this ink is also easier to handle because it is lighter and less prone to settling than conventional white inks, which use titanium dioxide for color.



Using all water-based inks saves energy because, unlike their solvent-based or UV-curable counterparts, there is no need for heaters, lamps, or ventilation equipment. Being low-odor they are also suitable for use in office environments, enabling a low environmental impact and efficient proofing process.

Ink types	Factors that increase power consumption		
	Heaters	Lamps	Ventilation
Water-based	No	No	No
Solvent-based	Yes	-	Recommended
UV-curable	-	Yes	Recommended

Business color inkjet printer

Epson B-510DN

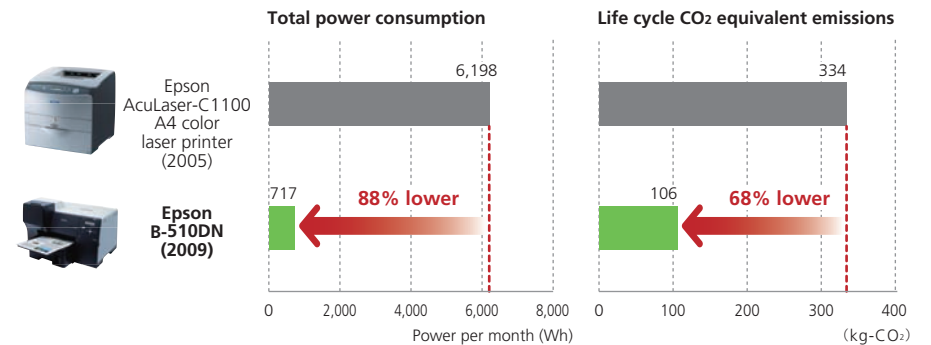
A business-ready inkjet printer, with eco-consciousness as a standard feature



Eco Features

- Saves energy in the office, generating 68% fewer CO₂ emissions than a laser printer and using 88% less total power¹
- Uses 31% less total power than the previous model (B-500DN)¹
- Saves up to 50% of your paper supply with automatic, two-sided printing
- Saves even more by printing multiple pages on a single sheet
- Outstanding durability. Get up to 100,000 total prints² and enhanced productivity
- Uses fewer cartridges and saves resources with high-capacity (L & LL) ink cartridges

Lower total power consumption and life cycle CO₂ emissions¹



¹ Figures calculated under Epson's test conditions. 230V is used for calculation, based on European specifications. A life cycle assessment was used to calculate the global warming impact of the product at each phase of its life cycle and express this as a CO₂ equivalent. The life cycle includes material & product manufacturing, transport, use by customer (assumed 3-year usage), and disposal/recycling of end-of-life products. Total power consumption is calculated based on 50 A4-size color prints per day, with printer power on for 8 hours/day and off for 16 hours/day for 20 days a month. Power consumption and CO₂ emissions will differ depending on customer printer use (e.g. number of prints, frequency of use, documents printed, hours left on, days used). ² Total number of prints from front and rear on ordinary paper. The total number of prints will vary depending on paper type, printing conditions, image content, and other factors.

Thermal Receipt Printer

TM-T88V

Supplementing Superior Functionality as a Business Printer with Environmental Performance

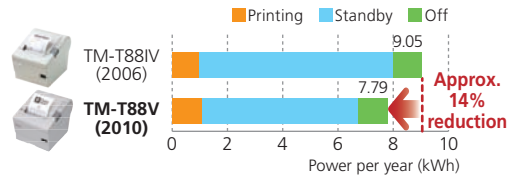


Eco Features

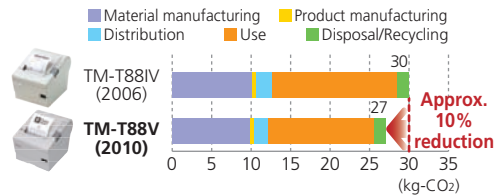
- Generates 10% fewer life cycle CO₂ emissions than the previous model (TM-T88IV) and uses 14% less total power^{*1}
- Saves up to approx. 30% of paper supply with paper-saving functions^{*2}
- ENERGY STAR[®] qualified

Reduction of total power consumption^{*1}

The move to a high-efficiency AC adapter and the use of a low-power ASIC chip that controls power so that it is supplied only when and where needed, help minimize power usage.

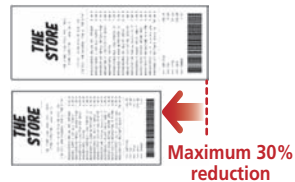


Lower life cycle CO₂ emissions



Paper-saving functions^{*2}

- **Top Margin-less function**
Through printing the top logo of receipts before cutting, the top margin has been reduced by 12mm.
- **Automatic paper reduction function**
The amount of receipt margin reduction is specified and memorized on the printer side, and actual receipt length is reduced without altering the printing data.



Dot Matrix Printer

LQ-690

Further evolved compactness, lightness, and energy-saving features are fused with improved print speed, durability, and copying capability to meet the needs of a wide range of businesses



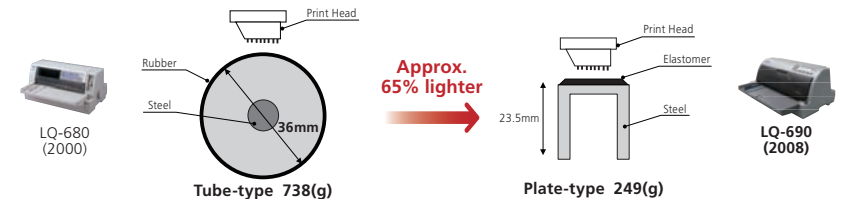
Eco Features

- 24% lighter and 16% smaller than the previous mode (LQ-680)^{*1}
In particular, a 9% height reduction offers the customer more freedom when it comes to installation location
- ENERGY STAR[®] qualified energy-saving design^{*2}

Compact, lightweight design^{*1}

Being compact and lightweight are important considerations for printers, whether it be from an environmental impact perspective or in terms of installation flexibility. The LQ-690's platen unit is no less than 65% lighter than the previous model (LQ-680), achieved by changing from a tube-type to a plate-type platen, and by revising the materials used. We also reduced metal frame area by shifting the circuit boards from the bottom to the rear of the printer.

Section of Platen unit



Energy-saving design^{*2}

Epson dot matrix printers, including the LQ-690, are engineered with a feature for effective power use that sends electromotive force from the coil during printing back to the power supply. Moreover, at 2.6 W, the LQ-690 consumes 30% less power than the previous model (LQ-680) while in sleep mode.^{*3}

^{*1} Figures calculated under Epson's test conditions. 230V is used for calculation, based on European specifications. A life cycle assessment was used to calculate the global warming impact of the product at each phase of its life cycle and express this as a CO₂ equivalent. The life cycle includes material & product manufacturing, transport, use by customer (assumed 5-year usage), and disposal/recycling of end-of-life products, but not paper used. Total power consumption is calculated based on 300 receipts per day, with printer power on for 16 hours/day and off for 8 hours/day for 365 days per year. CO₂ emissions and power consumption will differ depending on customer printer use (e.g. number of prints, frequency of use, etc.) ^{*2} Top margin, line space, line feed and barcode height reduction functions.

^{*3} Sleep mode power consumption at 230 V, 50 Hz

3LCD projector

EB-X8 / EX51

Outstanding main specifications and ease-of-use make this projector the office standard

Bright and lightweight with performance-boosting features built-in

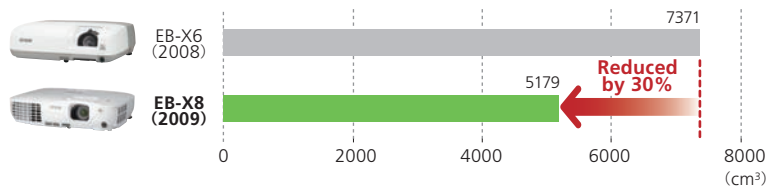
Outstanding main specifications and ease-of-use in a compact A4-size body weighing only 2.3 kg. Portable enough to carry with one-hand, its compact footprint makes it ideal for any conference room table. And with 2500 lumens of brightness, there's no need to turn off the lights. Quickly and easily make big-screen presentations, anywhere.



Eco Features

- No chlorine- or bromine-containing halogen flame retardants used in plastic housing
- Unpainted plastic housing reduces the environmental impact¹
- Projector optics employ lead-free lenses
- Equipped with an E-TORL lamp, engineered to maximize light usage efficiency
- Uses just 0.3 W of power in standby mode²
- Space-saving body is 30% smaller than the previous model (EB-X6)

Projector miniaturization



Sliding lens cover saves energy and dampens noise

When the lens cover is slid shut to temporarily pause a presentation for discussions, lamp output and fan noise are reduced to limit distractions. The presentation immediately resumes when the cover is reopened. Since lamp output drops when the cover is closed, less power is used and the lamp lasts longer.



¹ Except for exhaust port parts. Minimizing paint makes it easier to recycle higher-quality plastics. Also, energy is saved, since painting processes are almost eliminated.
² This shows the value when using it with 100V power supply voltage.

3LCD projector

EB-W8D / PowerLite Presenter

Not pitch dark? Not a problem. A projector with powerfully bright light and high image quality.

Bright enough for comfortable viewing even during the day

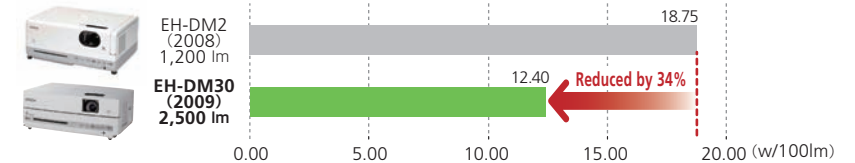
Enjoy vivid, natural-looking big-screen entertainment even without pitch-dark conditions. Epson's original high-performance E-TORL lamp and new generation of high-aperture ratio panels deliver 2500 lumens of brightness in high definition.



Eco Features

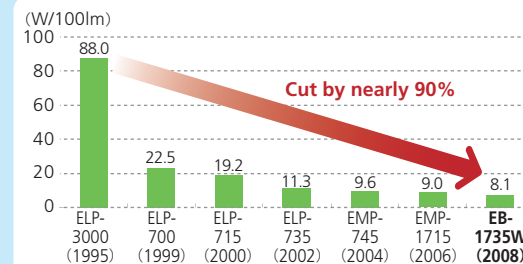
- No chlorine- or bromine-containing halogen flame retardants used in plastic housing
- Projector optics employ lead-free lenses
- Equipped with an E-TORL lamp, engineered to maximize light usage efficiency
- Uses just 0.3 W of power in standby mode¹
- Uses 34% less power per 100 lumens than the previous model (EH-DM2)

Reduction in power consumption per 100 lumens¹



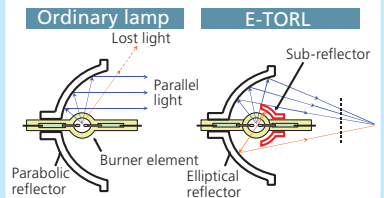
¹ This shows the value when using it with 100V power supply voltage.

Power consumption per 100 lumens of brightness



This shows the value when using it with 100V power supply voltage.

Epson redesigned the reflector and added a sub-reflector unit to improve the collection of light from its E-TORL lamps by 20%.



Desktop PC

Endeavor ST125E

Compact desktop PC uses "MoDT" to save energy, space, and noise

Saves energy

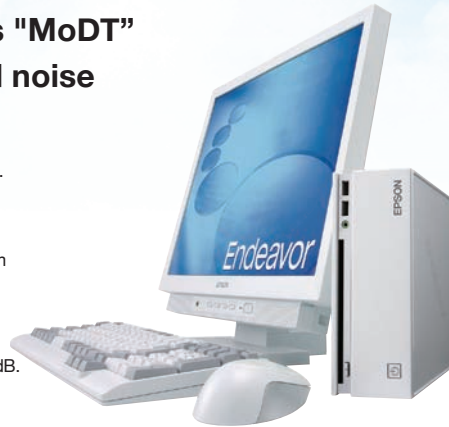
Compliant with International ENERGY STAR Program. Consumes just 22 W of power during normal use.

Saves space

Compact body measures 75 mm x 185 mm x 195 mm (WxDxH). Can be used either flat or upright.

Quiet

A quiet and efficient cooling system gives the ST125E a laptop-like operating noise of 22 dB.



Eco Features

- Compact body is 77% smaller than that of the Endeavor AT971E (2009)*1

*1 Endeavor AT971E(2009) : W99mm x D383mm x H310mm

*LCD monitor, keyboard and mouse are options.
*Marketed in Japan only.

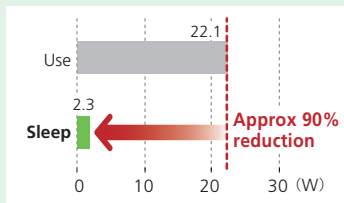


Eco Use

Use the sleep (standby) function to conserve energy in a smart way

The ST125E's sleep (standby) function is an effective way to reduce PC energy use. The sleep function is simple to activate, and the computer wakes up quickly when you want to use it. The Endeavor ST125E draws about 22.1 W during normal use. This drops to 2.3 W in sleep mode, for energy savings of about 90%.

*Energy consumption will vary according to use. Instructions for using the sleep function are provided in the user's manual. Data should be saved as a precaution when using the sleep function.



MoDT (Mobile on Desktop)

A computer with the flexibility of a desktop PC yet built from notebook PC parts such as a mobile Intel processor engineered for low power consumption and low heat generation. The Endeavor ST125E truly is the eco-conscious personal computer of the future, as the use of MoDT curbs its appetite for power to that of a notebook PC while enabling it to be used freely like a desktop PC.

16-bit Flash Microcontroller

S1C17 Family

Low-power 16-bit Flash microcontroller with the power draw of an 8-bit chip



Eco Features

- Saves resources with a core size the same as an 8-bit CPU
- Power draw equivalent to that of an 8-bit Flash microcontroller

This microcontroller is used in a variety of devices and LCD displays, including remote controls, pedometers, and household electronics.

High performance with low power

This high-performance 16-bit Flash microcontroller has the core size of an 8-bit CPU and a power draw equivalent to that of an 8-bit Flash microcontroller.

Power consumption comparison of 16-bit Flash microcontroller and 8-bit Flash microcontroller (mass produced in 2002)

	8MHz operation	32kHz Halt mode
S1C17701 16-bit Flash microcontroller	1800μA	2.6μA
S1C8F626 8-bit Flash microcontroller	1800μA	2.5μA

*1 Power consumption comparison made between representative 16-bit Flash microcontroller and 8-bit Flash microcontroller (launched 2002) models.

Elimination of substances (materials containing PFOS)

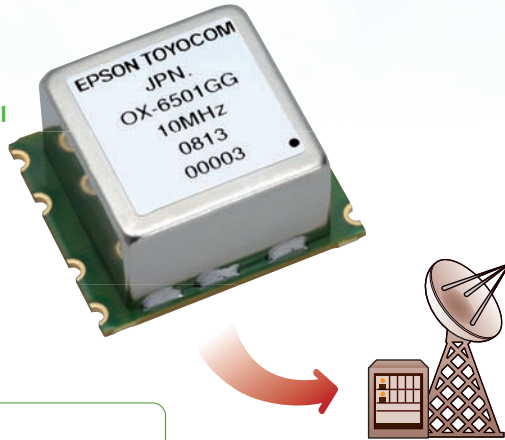
PFOS was recently listed as a persistent organic pollutant (POP) under the Stockholm Convention and is targeted for control and elimination. In Japan it will be classified (in April 2010) as a Class 1 substance under the Chemical Substance Control Act. Photoresists used in semiconductor fabrication contain PFOS. Although semiconductor manufacturing applications are currently exempted from the ban, Epson has adopted alternative materials and eliminated all materials that contain PFOS from its semiconductor manufacturing processes (except some that are outsourced).

Oven-controlled crystal oscillator OX-6501GG series

Eco performance is a critical feature of crystal devices

Produces 75% less CO₂ during use than previous model

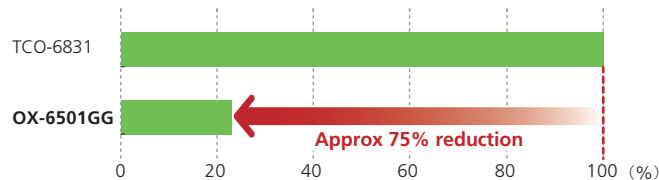
High-stability crystal oscillators are used as signal sources in wired and wireless core network equipment such as cellular base stations.



Eco Features

- Produces 75% less CO₂ during use than previous model^{*1}

Reduction in CO₂ emissions arising from use



^{*1} According to tests performed under conditions established by Epson Toyocom. A life cycle assessment (LCA) was used to calculate the product's impact to global warming during customer use. The impact is expressed as a CO₂ emissions equivalent.

Contributing to the environment with high performance in small packages

- Providing compact and high-performance products with QMEMS (conserves resources and reduces CO₂ from shipping)
- Reducing the environmental impact of the manufacturing process by improving processing accuracy and mass production efficiency

What is QMEMS?



QMEMS is a combination of "Quartz," a crystalline material that has excellent stability and precision, and "MEMS," micro electro-mechanical systems engineered using microfabrication technology. QMEMS devices are created using quartz material instead of the semiconductors usually used in MEMS.

Spring Drive

Seiko Brightz Ananta SAEA001

Epson's "saving" technologies, an outgrowth of the company's precision machining and assembly technologies for watches

Equipped with "Spring Drive", a mechanism powered by a mainspring, but combined with quartz accuracy

Designed to embody the aesthetic sense of beauty of the Japanese sword, the Seiko Brightz Ananta was the first Seiko watch to be launched simultaneously on the luxury watch market of 48 countries and regions worldwide when it was announced in September 2009.



Eco Features

- Battery-less, high accuracy wristwatch (±1 sec/day)

This movement for wristwatches represents Epson's hopes for a greener future.

Spring Drive

The Spring Drive is a unique drive mechanism that is powered by the unwinding of a mainspring even as it maintains accuracy by using precision signals from a crystal resonator. With no batteries or motors, this self-contained eco-mechanism relies on the wearer to generate the energy needed to keep time.



Micro Piezo technology and the creation of

What is Micro Piezo technology?

Micro Piezo technology forms the basis of Epson's inkjet technology for firing ink droplets. Piezo elements in a print head change shape under an applied voltage, creating mechanical pressure that ejects the droplets.

Attributes of Micro Piezo technology

Ink controllability

The size and landing position of ink droplets can be precisely controlled.

Ink compatibility

Wide selection of ink materials can be used.

Head durability

Micro Piezo print heads are highly durable.

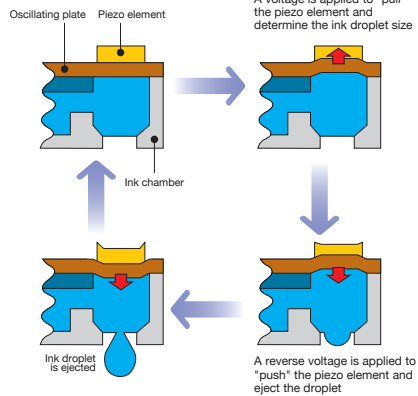
High accuracy

Wide range of uses

Stable output

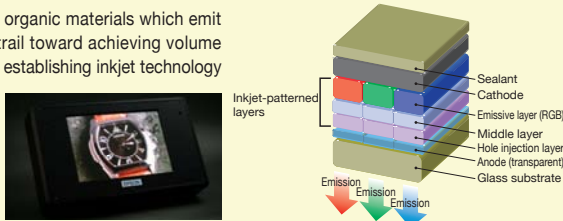
Wide range of potential consumer and industrial applications

How the piezo system works



Epson Inkjet Technology Enables Uniform Layers for Big-Screen OLED TVs

OLED displays are next-generation displays that use organic materials which emit light under an applied voltage. Epson has blazed a trail toward achieving volume production of OLED displays on large-sized panels by establishing inkjet technology that enables uniform layers to be deposited over large areas. This technology is gathering attention for its ability to mitigate environmental impacts by, for example, saving energy as it shortens manufacturing processes and dramatically reducing the amounts of materials used.



energy-efficient factories of the future

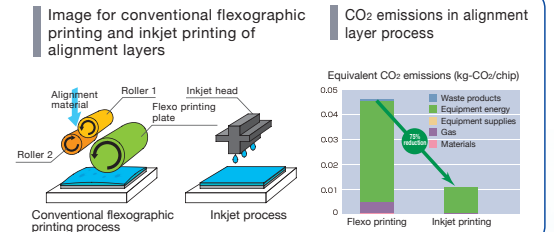
Yielding practical applications to drive innovations in manufacturing

Inkjet technology is used to accurately eject liquid materials when, where and in the amounts needed. Commercially viable technology has been developed that enables an inkjet method to be used to create liquid crystal panel color filters and circuit boards. This technology enables the size of production plants to be reduced and curtails wasted materials and energy. Because production efficiency is improved while environmental impacts are reduced, the hopes for this technology are very high.

Uniform coating

Advantages of inkjet technology

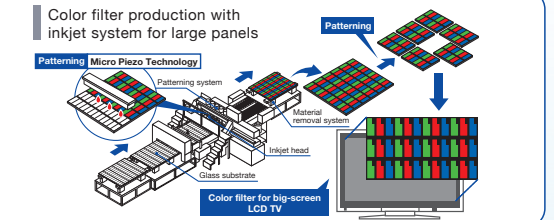
- A uniform alignment layer is formed using a contact free method
- Materials are used efficiently and manufacturing time is reduced
- Process is clean and virtually free of liquid wastes



Selective coating

Advantages of inkjet technology

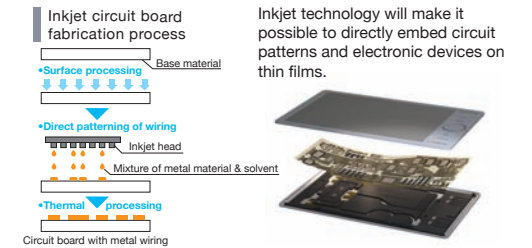
- Far shorter process and sharply reduced cost and material waste
- Superior color characteristics



Direct printing

Advantages of inkjet technology

- Dramatically fewer process steps, lower costs, and reduced resource and energy use
- Reduce device size by using direct patterning and layer stacking techniques to shrink complicated circuit boards



Epson's Environmental History

Epson's initiatives

- CFC-free initiatives launched (1988)
- Environmental Benchmark Year (1988)
- Eliminated all CFCs (1992)
- Began collection and recycling of used toner cartridges in Germany (1993)
- Established Environmental Philosophy and Major Activities (1994)
- Began collection and recycling of used toner cartridges in Japan (1995)
- Zero Emissions Level 1 launched (1997)
- Established independent standards that exceed legal and regulatory requirements

- Second Environmental Benchmark Year (1998)
- Established General Environmental Policy (1998)
- Began collection and recycling of used products in Europe (1999)
- Began collection and recycling of used ink cartridges in Japan (1999)

- Zero Emissions Level 2 launched (2002)
- Established Green Purchasing Standard for Production Materials (2003)
- Joined Bellmark program with used cartridges in Japan (2004)
- All sites achieved Zero Emissions Level 1 (2004)

- Established Action 2010 (2006 onward)
- Environmental Vision 2050 (2008)
- Ink Cartridge Home-Coming Project launched (2008)

1980s

Hole in ozone layer

1990s

Tropical rainforest destruction

Acid rain

Ecosystem destruction

Global warming

Chemical substances

2000s

Global events

Montreal Protocol (1988)
Basel Convention (1989)

Convention on Biological Diversity (1992)

Kyoto Protocol (1997)

Basic Law for Establishing a Recycle-based Society in Japan (2000)

EU WEEE Directive (2003)
EU RoHS Directive (2006)



Better Products for a Better Future

At Epson, we know that planning for the future requires a strong commitment to the environment. That is why we strive to create innovative products that are reliable, recyclable, and energy efficient.

Better products that use fewer resources help ensure a better future for us all.

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Sustainability Report 2009

<http://www.epson.co.jp/e/community/sr/>