Canon

SUSTAINABILITY FEATURES IN PRODUCTION INKJET

SUSTAINABILITY AT CANON

At Canon, sustainability is a force that flows through the lifecycle of our products and services, building to a better way of doing business. By improving efficiency, using resources responsibly, and minimizing waste, we're working to reduce our environmental impact, as well as that of our customers.

Driven by our Kyosei philosophy—living and working together for the common good—we center our sustainability work around three key pillars: **carbon reduction**, **resource efficiency**, and **responsible business**.

That means we are working to lower emissions, continually pushing for circularity, and forging responsible partnerships and initiatives. From beginning to end, again and again, sustainability helps us progress.

OUR COMMITMENT TOWARD CO_2 EMISSIONS

- We are working toward a 3% average annual improvement in the index of lifecycle CO_2 emissions (per product unit), realizing a cumulative improvement of **50% by 2030** compared to 2008.
- We aim to achieve **net-zero CO_2 emissions** for the whole product lifecycle by 2050.

ENERGY EFFICIENCY

- We design products to have **low power consumption**.
- We use **energy-saving technologies** when manufacturing our products to help reduce carbon emissions.

CIRCULAR ECONOMY APPROACH

- We design products with **longevity** and **recyclability** in mind.
- We **extend the life** of our presses through reuse and on-site refurbishment.
- We design **recycling programs** for consumables and products.

SOCIAL RESPONSIBILITY

- We use **no hazardous solvents**.
- We participate in **community initiatives.**
- We **empower young people** by developing programs and investing in future generations.
- We are **recognized** by global environmental organizations (outlined to the right).

RESOURCE EFFICIENCY

- We design and create products to help **minimize** the use of consumables like ink and paper in print production.
- We are reducing the amount of **waste** originating from operations sites, as outlined in our latest Sustainability Report.
- Our ink packaging **weighs less** and takes up less space in trucks, warehouses, and shipping containers, compared to our previous packaging.

OUR SUSTAINABILITY CERTIFICATION

When reducing our environmental impact, we believe accountability is important. That's why we undergo stringent assessments from independent organizations, ensuring our products and business operations support our wider sustainability vision.

We are proud to have been recognized for our sustainability initiatives at a global and regional level. Here are some of our awards and certifications:

ISO14001

As of 2023, ISO 14001 consolidated certification covers Canon Inc. as well as 120 Group companies in 40 countries (553 operational sites) and regions around the world.

Blue Angel UZ195

The Blue Angel UZ195 certification covers the sustainability of printed output. We are always happy to provide recommendations and the necessary data for customers looking to secure this certification for their prints.

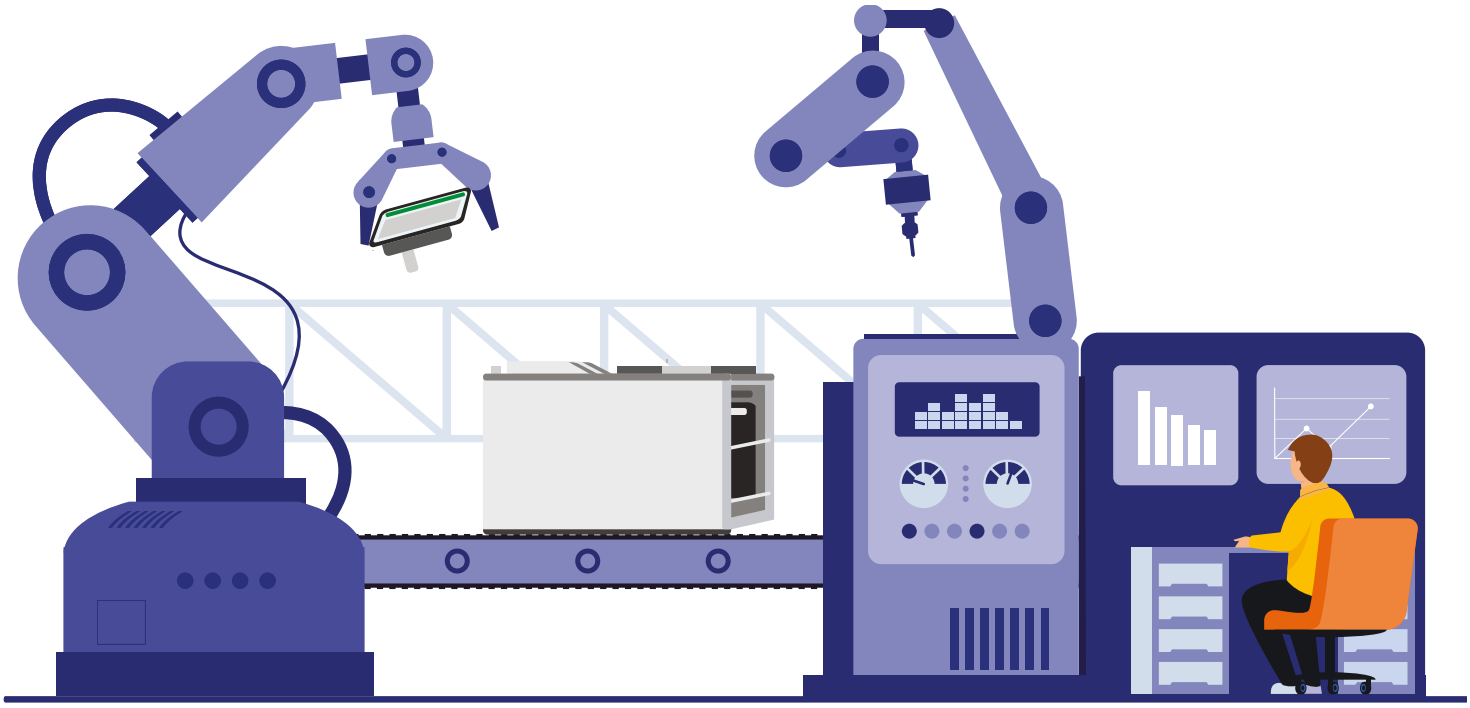
Global ISO 9001 accredited quality management system

Canon follows a stringent in-house quality management system, exceeding ISO 9001 standards. This system prioritizes "substantial safety" and integrates quality checks throughout product commercialization. Canon's HQ divisions implement tailored QA systems based on this framework, helping to ensure compliance with global regulations.

EcoVadis

Canon has been recognized with the EcoVadis Gold Rating for its sustainability efforts, which places Canon within the top 5% of companies assessed globally, with an overall score in the 98th percentile.

The EcoVadis recognition and achievement highlights Canon's strong sustainability commitment and action throughout its global business across crucial areas covering environmental, social, and governance criteria.



CANON INKJET PRESSES: SUSTAINABILITY OVERVIEW

All our inkjet presses share some key features that help reduce their environmental impact. For example:

- The inks used by inkjet presses are water-based, developed and manufactured following stringent environmental policies in Europe, and free from Substances of Very High Concern (SVHCs), mineral oil aromatic hydrocarbons (MOAH), and mineral oil saturated hydrocarbons (MOSH).
- The inks achieve good deinkability, making printed materials easy to recycle.
- All inkjet presses qualify for refurbishment, which is carried out locally to save on transport-related emissions. At least 80% of press parts can be recycled through industry-standard recycling processes.
- The ColorStream, ProStream, and varioPRINT iX3200 presses are made in our facilities in Germany and the Netherlands, which are powered by 100% renewable electricity.
- All systems are upgradeable throughout their lifetimes, so they can grow with your needs.
- Our proactive maintenance model helps support productivity and a long system life.

INTRODUCING THE CANON INKJET PRODUCTION PRINTING PORTFOLIO

Discover the technologies that help you reduce your environmental impact using Canon production inkjet presses.

ColorStream

Designed to deliver high production efficiencies and low operational costs across a diverse set of applications. Transform your business with great print quality and outstanding productivity you can count on.

- **Reduced consumables use:** The ColorStream 8000 series saves up to 30% ink compared to previous models. Operator maintenance is highly automated to avoid wasting wipers and liquids.
- **Smart energy optimization:** The direct drying system adapts the temperature to the paper type to use less energy than infrared or hot air.
- **Seamless integration:** The ColorStream seamlessly integrates into existing environments and helps ensure uninterrupted productivity and reduce waste by automatically adapting to changing conditions.

ProStream

Close the gap between toner and offset printing with this high-performance webfed inkjet press.

- **Designed for automation:** Automated production can reduce wasteful downtime and production line stoppages. Inline quality control automatically initiates countermeasures during printing, for fewer misprints.
- **High productivity:** The ProStream can produce top-quality printouts right away with less ramp-up needed. The automatic splice handling helps further minimize paper waste.
- **Efficient job setup:** Arrange jobs efficiently and optimize impositioning thanks to 556mm print and 558mm paper width and zero gap, saving paper.

varioPRINT iX3200

Combine stunning image quality and a wide media range with the high productivity and attractive cost-efficiency of inkjet.

- **Ink with less environmental impact:** Our proprietary water-based ink has good deinkability for easier recycling of output.
- **Minimized waste:** Fewer manual touchpoints and mixed mono/color printing helps reduce errors and waste. Innovative plastic ink bags can help reduce plastic use up to 60% per kg of ink vs. cartridges.
- **Improved working environment:** No ozone emissions, and non-hazardous ink helps eliminate pollution of the immediate environment.

INKJET SUSTAINABILITY WITH THE PRISMA SUITE

A Canon inkjet printer displays its full digital capabilities when combined with our PRISMA solutions.

PRISMA is Canon's distinctive technology brand for production workflow solutions. With PRISMA, we help you automate and simplify your print operations. That includes optimizing your workflows to support sustainable and efficient print operation initiatives by minimizing waste, enhancing accuracy, and ensuring resources are used effectively.

OPTIMIZED USE OF RESOURCES

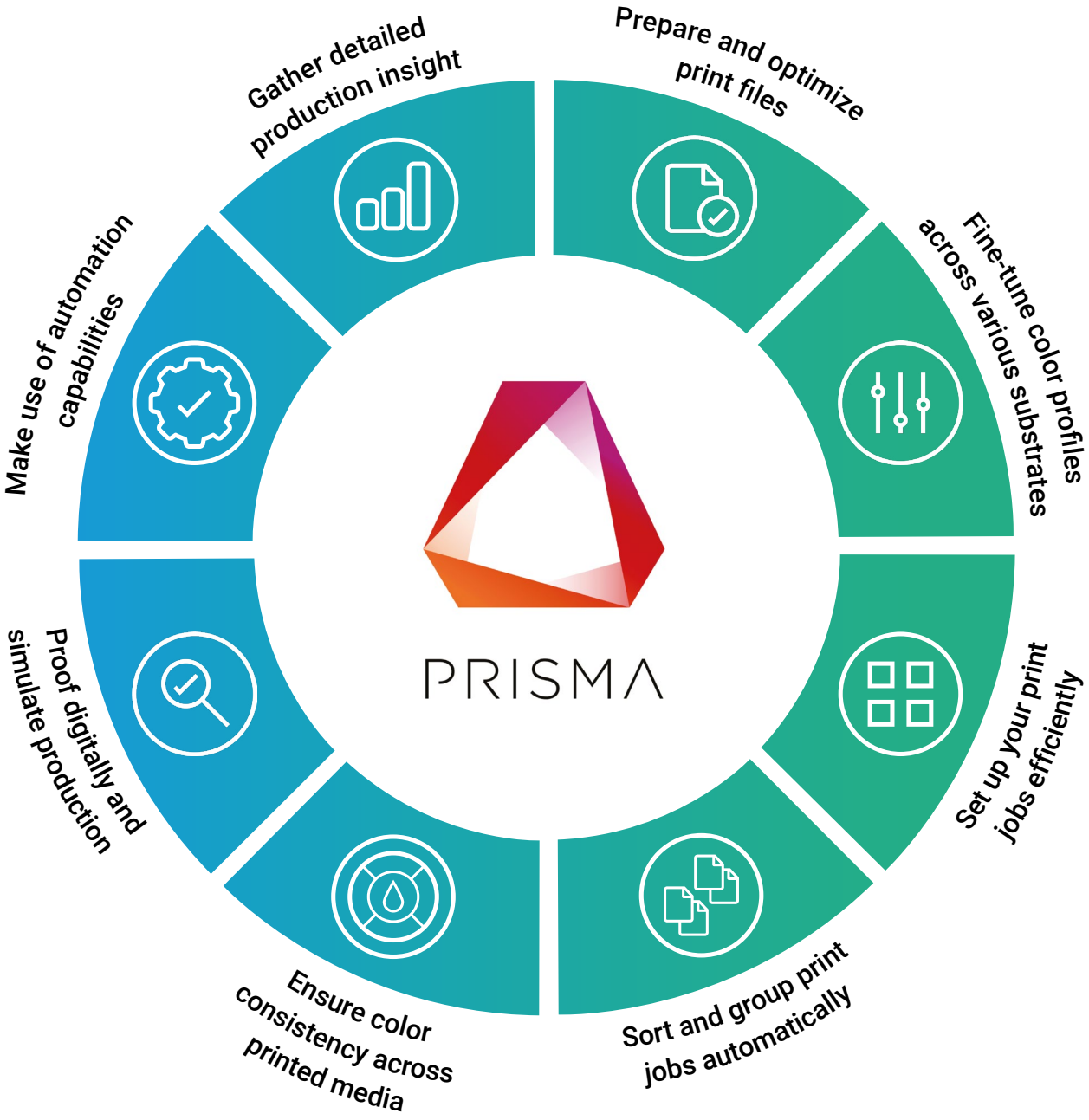
Improve resource efficiency by fine-tuning color profiles, optimizing layouts, and automating processes to conserve resources without compromising on quality.

REDUCED WASTE

Prevent errors, misprints, and redundant production steps with preflighting, color validation, simulation, and job batching to minimize material waste.

IMPROVED ENERGY EFFICIENCY

Reduce energy consumption across the production process by streamlining workflows with automation, data analysis, and process optimization.


Gather detailed production insight
Prepare and optimize print files
Fine-tune color profiles across various substrates
Set up your print jobs efficiently
Sort and group print jobs automatically
Ensure color consistency across printed media
Proof digitally and simulate production
Make use of automation capabilities
PRISMA

DIGITAL PRINTING: SUSTAINABILITY FEATURES

Compared to traditional offset printing technologies, digital printing can help businesses use resources more efficiently and reduce waste.

By integrating solutions such as our PRISMA portfolio, print companies can achieve smarter, automated workflows to help conserve energy, ink, and media.

Previews and assisted layout functions enable first-time-right printing without wasteful test prints, while Canon production presses are designed to produce no ozone.

UNLOCKING SMARTER BUSINESS MODELS

Digital printing can help innovative business models, such as print on demand and programmatic print. These help to significantly reduce waste by supporting print businesses to produce the exact quantity ordered by their customers—and not a page more.

SMART PUBLISHING

Applied to the example book, digital printing helps publishers and book producers meet the challenges of shorter print runs and declining page volumes. At the same time, they're developing new types of books and creating a less wasteful value-chain.

PROGRAMMATIC PRINT

Programmatic print opens up countless opportunities for marketers and print service providers (PSPs) to collaborate on multichannel campaigns that combine the advantages of print and digital performance marketing—such as instantly addressing selected consumers with personalized content tailored precisely to their profile.

BENEFITS OF ADOPTING MORE SUSTAINABLE BUSINESS MODELS:

Efficient and resource-saving production of short and medium print runs

- End-to-end automation from order entry to distribution reduces errors and associated reprints.
- Reduction of setup/makeready waste in finishing through digital print and post-processing automation.
- Fewer process steps and manual tasks.
- Less waste with first-time-right printing.

Fast turnaround times enable implementation of print on-demand services

Optimization of print buyers' supply chains through demand-orientated production

- Mitigating risk of excess inventories and out-of-print through balancing stock levels with refined and automated print-to-stock services.
- Helps eliminate physical stock with print-to-order and just-in-time delivery.

Lowering unnecessary promotional mail through data-driven strategies like programmatic print

- Improved targeting of recipients through trigger-driven selection.
- Personalization and individualization helps increase response and conversion rates with fewer messages.
- Seamless automated end-to-end workflows from print buyer to printer to distribution enable resource and cost-efficient print production in short turnaround times.
- Bolster marketing ROI through cost efficient use of print in multi- / omni-channel campaigns.

Reducing transport emissions through decentralized print production close to the point of sale/need

SUMMARY OF ENVIRONMENTAL BENEFITS:

- **Reduced waste:** Efficient short/medium runs, automation (reducing errors and reprints), streamlined finishing processes, fewer process steps, and "first-time-right" printing minimize material waste (paper, ink, etc.).
- **Demand-driven production:** Print-on-demand, just-in-time delivery, and optimized supply chains mean less overproduction and fewer unsold items ending up as waste. This helps reduce the environmental impact of producing and disposing of unwanted prints/goods.
- **Reduced transportation:** Decentralized printing, closer to the point of need, can help lower transportation emissions associated with moving printed materials.
- **Lower inventory footprint:** Eliminating or minimizing physical stock reduces the need for warehousing and the associated energy and resources required for storage.

SMART MAINTENANCE

We adopt data-driven service models that use sophisticated data analysis to help reduce unscheduled downtime for your Canon inkjet press, optimize service visits, and extend component life.

Proactive maintenance

Your inkjet press tells us how many prints you've produced since the last service. Our service department plans your next appointment at the best time for your operation to avoid unexpected downtime.

Scheduling maintenance based on actual print volume avoids unnecessary service visits. This reduces service technician travel, lowering greenhouse gas emissions from transport.

Predictive maintenance

Data analysis algorithms detect if one of your printer components is showing signs of wear. We can then replace the relevant part at a time that works for you, preventing premature component failures and downtime.

By replacing parts only when truly necessary, we minimize electronic waste and reduce the need for resource-intensive manufacturing of replacement parts. This approach also cuts emissions by streamlining deliveries of spare parts.

Remote maintenance

Remote servicing makes each in-person service visit more effective. Machine data helps our technicians prepare for their appointment with all the right parts and consumables and avoid emissions from a potential second visit.

Remote monitoring and diagnostics minimize the need for on-site servicing in general, significantly reducing travel distances and emissions.

Improvements

Printer service data helps increase the performance of your Canon inkjet press and helps us improve all generations of our digital presses.

Continuous data analysis and service data collection feeds into our printer design and manufacturing processes, leading to efficient and longer-lasting machines that reduce environmental impacts throughout the product lifecycle.

ECO START PROGRAM

The environmental and sustainability initiatives of Canon cover all aspects of our businesses. Beginning in the product development stage and throughout the remainder of the product's lifecycle, Canon considers the environment, utilizing energy-efficient manufacturing processes and striving to to minimize hazardous substances from our products. **The Eco Start Program is an extension of this commitment and is designed to help have a positive impact on the environment.**

About the Program

The Eco Start Program began in 2011 as a way to help our production print customers build their sustainability portfolios and have a positive impact on developing communities. When a new production system is purchased, Canon engages the Trees for the Future organization to plant trees in an effort to help counter-balance that machine's average expected CO_2 emissions during its first year in operation.

Trees for the Future, a Charity Navigator four-star organization, has helped thousands of communities improve their livelihoods and environment by planting more than 370 million trees.*

Trees for the Future plants the donated trees in their unique Forest Garden system in poverty-stricken communities in Sub-Saharan Africa. The Forest Garden Program is a sustainable agriculture practice where farmers plant a specific variety of crops and trees in phases over a four-year period. These Forest Gardens provide families with fuel, food, and a means to engage in local commerce. In addition to helping families, the trees planted help tackle environmental degradation, restore biodiversity, and remove tons of greenhouse gas from the atmosphere.*

This program brings an environmental focus into each purchase of a new production printer and is an extension of Canon's commitment to sustainable business practices. Eco Start is also a way for us to help our customers achieve their own corporate environmental initiatives.

How Does the Eco Start Program Work?

We started with the goal of incorporating our customers' acquisition of new production printers into our company's sustainability practice. We calculate internally the anticipated CO_2 emissions from each of our production print products during their first year of use based on their average expected energy consumption, annual print volumes, and paper consumption. We factor into the equation variables like anticipated standby and running power, expected output volume per month, average projected operating hours per month, and the estimated energy to cool the production system.

This calculation provides us with an average expected total carbon emissions per year for each product and allows us to calculate the anticipated number of trees needed to help offset those average emissions. (It is important to note that these calculations are based on average estimated annual usage and not actual usage.)

** Trees for the Future 2024 Impact Report*

When a customer purchases a new production print machine, we use our internal machine specifications to estimate the number of trees that should be planted to help offset the average emissions anticipated from the newly purchased device. We make that donation to Trees for the Future, who then plants the trees in Africa according to their organization's mission. Finally, we educate our customers on the role they play in this program and we present them with a certificate of appreciation for their part.

Program Results

Since 2011, Canon has worked with Trees for the Future to plant over 2.9 million trees on behalf of our customers. That is enough area to cover nearly two times the size of Central Park in Manhattan. These trees have created 740 sustainable Forest Gardens and helped hundreds of families. On average, about 100 Canon customers participate in this program each year. The total number of trees planted under the Eco Start Program will help remove about 105,000 metric tons of CO_2 over the next 20 years.

How Can You Get Involved?

If you'd like to contribute to the program, Canon can help you with the calculation based on the activity on your press and can put you in touch with Trees for the Future to discuss formulating your own tree planting contribution. Contact your sales representative to get started.

About Trees for the Future

Trees for the Future is improving the livelihoods of impoverished farmers by revitalizing degraded lands. Since 1989, with their experience in planting well over 370 million trees, they have demonstrated the transformative power of trees in helping smallholder farmers to break out of the poverty trap. Today, their work in East and West Africa is helping to end hunger and poverty, leaving a legacy of opportunity through sustainable practices and productive lands for future generations. For more information, please visit www.trees.org.

WHY CANON U.S.A., INC.?

At Canon U.S.A., Inc., we have the technology solutions, insight, and business development expertise to help you shape your future plans. Our advanced, end-to-end technology innovations, from hardware to software and services, allow you to transform your business to meet customer demand, both today and in the future.

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