Canon's Environmental Initiatives

September 25, 2025

Approach to Environmental Assurance

Canon Group Environmental Charter (Established in 1993)

Corporate Philosophy

kyosei

Environmental Assurance Philosophy

Pursue maximization of resource efficiency, and contribute to the creation of a society that practices sustainable development

EQCD **Concept**

Environment **Q**uality **C**ost **D**elivery

Environment(Environmental assurance): Companies are not qualified to manufacture goods if they are incapable of environmental assurance.
Quality: Companies are not qualified to market goods if they are incapable of producing quality goods.
Cost, Delivery: Companies are not qualified to compete if they are incapable of meeting cost and delivery requirements.

Canon Group Environmental Vision (Established in 2008)

Canon offers greater value using fewer resources throughout the entire product lifecycle
- Produce, Use, Recycle –
to achieve highly functional products with minimal environmental burden.

Canon will contribute to a future that promotes both enrichment and the environment through technological innovation.

Working on environmental assurance activities throughout entire product lifecycle, focusing on the four priority issues we have identified in the environmental field: climate change, resource efficiency, chemical substances, and biodiversity.

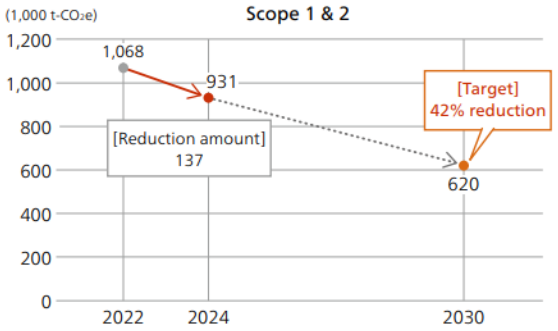
Climate Change Initiatives

Goal: Net-zero GHG emissions across entire product life cycle by 2050

GHG Emission Reduction Targets and Achievements Approved by SBTi

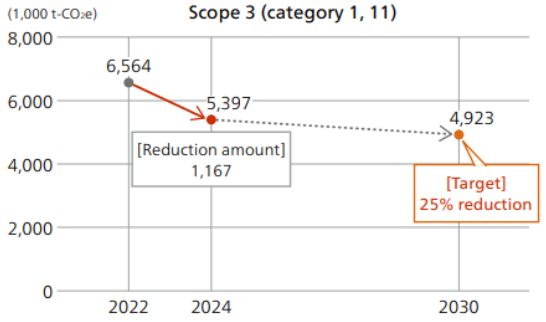
2030: Scope 1,2 GHG emissions

42% reduction compared to 2022

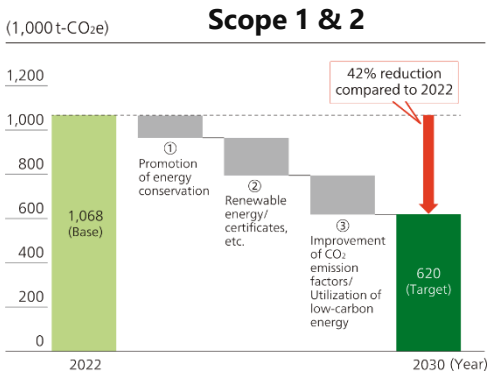


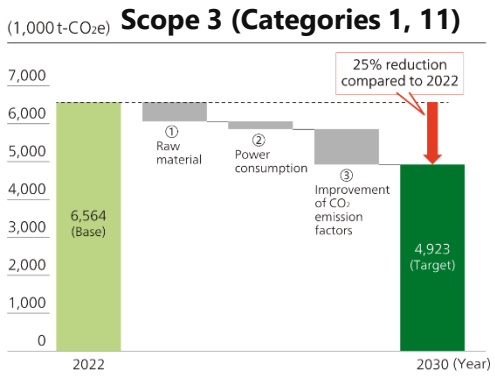
2030: Scope 3 GHG(Categories 1 and 11)emissions

25% reduction compared to 2022



■ GHG Emissions Reduction (Diagram)

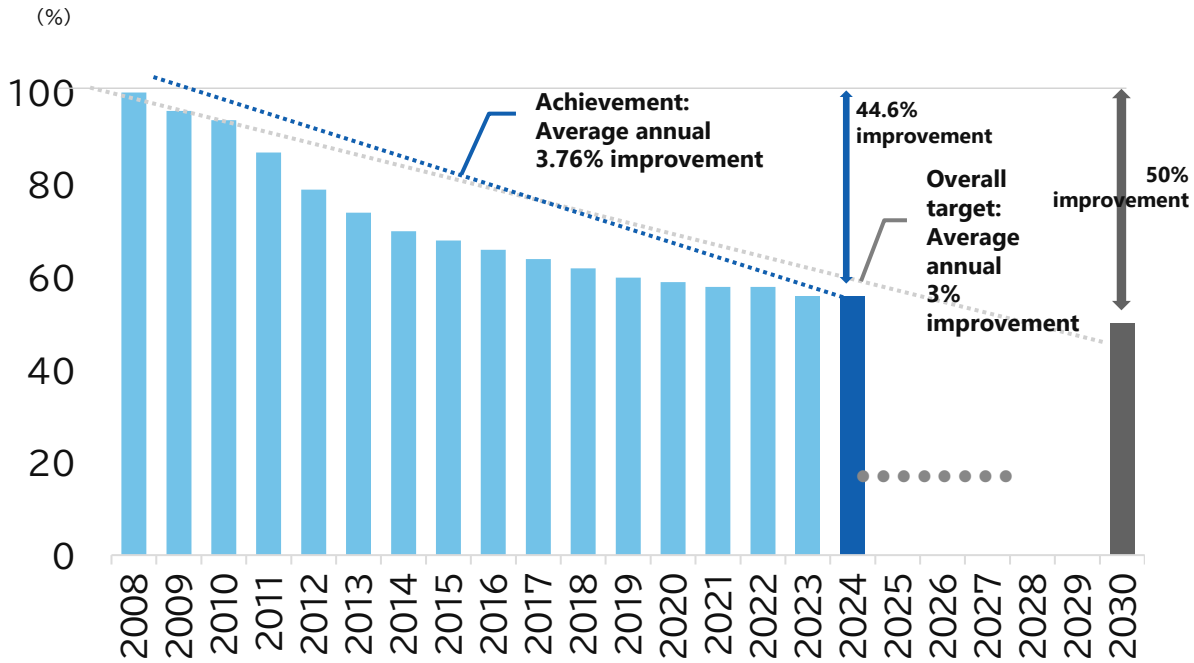




Index of Life Cycle CO2 Emissions Per Product Unit

■ Reduction of life cycle CO_2 emissions per product unit

44.6% reduction compared to 2008



Resource Efficiency Initiatives

Establish resource efficiency targets of 4 business groups.
Formulate specific strategies tailored to business group's unique characteristics. Canon is one of the pioneer companies starting cartridge recycling in 1990 and has been promoting effective use of resources around world.

Goals of Resource Efficiency by Business Group

Group	Printing	Medical	Imaging	Industrial
Goals of Resource Efficiency	Resource recycling rate – Indicates the ratio of recycled materials to the total weight of products sold **2025: 20% 2030: 50%**	Improvement in total waste generation per basic unit **1% annual reduction rate**	Newly designed small products Plastic* packaging **Completely eliminate by 2030**	Extending product lifespans i-line and KrF lithography equipment shipped since 2001 **Ensure 95% or more is still active in 2030**

* This refers to petroleum-derived plastics, and excludes the raw materials used for labels, coatings, and adhesives.

■ Global Recycling Sites (5 sites)

Toner Cartridge Automated Recycling System (CARS-T)

Ink Cartridge Automated Recycling System (CARS-I)

Remanufacturing of Multifunction Devices

Positioning of Canon Ecology Industry Inc. (CEII)

Core bases for resource recovery and recycling in Canon Group

- Contribute to a recycling-oriented society (resource recovery and recycling)
- Develop manufacturing technologies to maximize resource productivity
- Establish and improve target recycling indicators
- Develop Resource Recycling Schemes at Recycling Sites in Europe and the United States

Canon Ecology Industry

Canon Ecology Industry History

2004 **Canon Ecology Industry Inc. established**
as reuse and recycling site for printing business

2016 New building based on the concept of “Clean and Silent,” is completed

2018 Canon Eco Technology Park opens as base for disseminating Canon’s environmental activities

Canon Ecology Industry's Recycle Business

Products collected from market

Multifunction printers targeted for reuse

Reuse

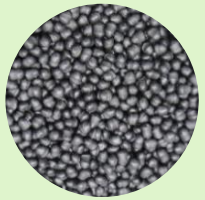
Remanufactured multifunction printers, and service parts

Multifunction printers and consumables not targeted for reuse

Features:
Recycling is conducted at an intermediate treatment facility that has obtained an industrial waste disposal business license.

Recycle

Closed-loop Recycling



Open-loop Recycling

Recycle Business Concept

Balance resource recycling and economic rational with a “Clean and Silent” recycle factory

Promote automation and unmanned operation to achieve economic rationality

- Fully automated cartridge recycling
- DX adoption for multifunction printer receiving and sorting
- Automated selecting and sorting of recyclable material

Canon Automated Recycling System for Toner Cartridges CARS-T

Printing Business
Resource Recycling Initiatives

Printing Business
Goals for Resource Recycling

Printing Business: Product Type

■ Office multifunction printers

■ Laser printers and multifunction printers for SOHO

■ Inkjet printers

■ Production printers

■ Large format printers

Remanufacturing within Printing Business

Business model suitable for remanufacturing expansion

Reasons why suitable for remanufacturing

Click business – Maintenance contract ⇒ Strong connection with products and customers, even after sale, is maintained

1) Almost all systems are collected

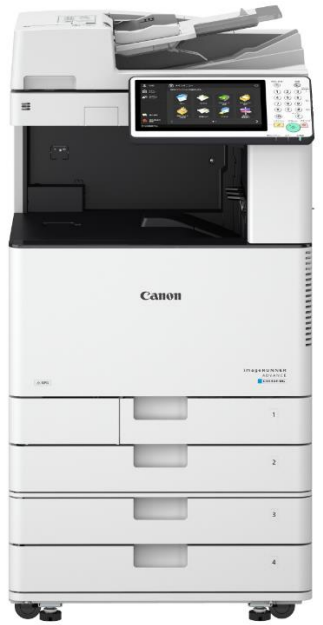
In addition to understanding and being tied to MIF through maintenance contracts, we have in place our own collection centers throughout the country as well as an industry leading recycling center

2) Long-term use possible by replacing worn-out parts

Product designed for long-term use by replacing worn-out parts: Prerequisite

3) Monitoring status during operation possible

Monitoring operation status, parts replacement history etc., makes possible identification of parts needing replacement

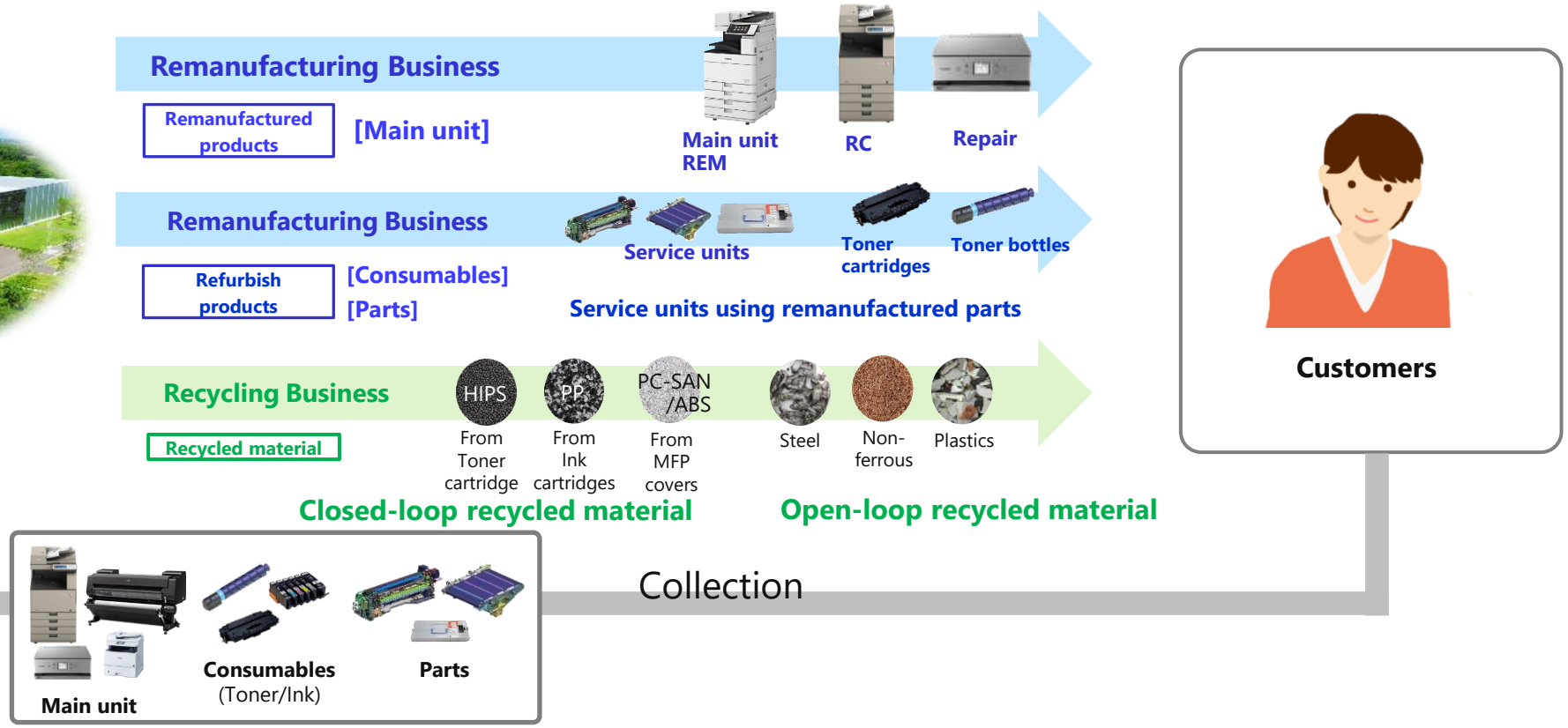


Refurbished Office MFD "Refreshed series" imageRUNNER ADVAMCE C3530F-RG

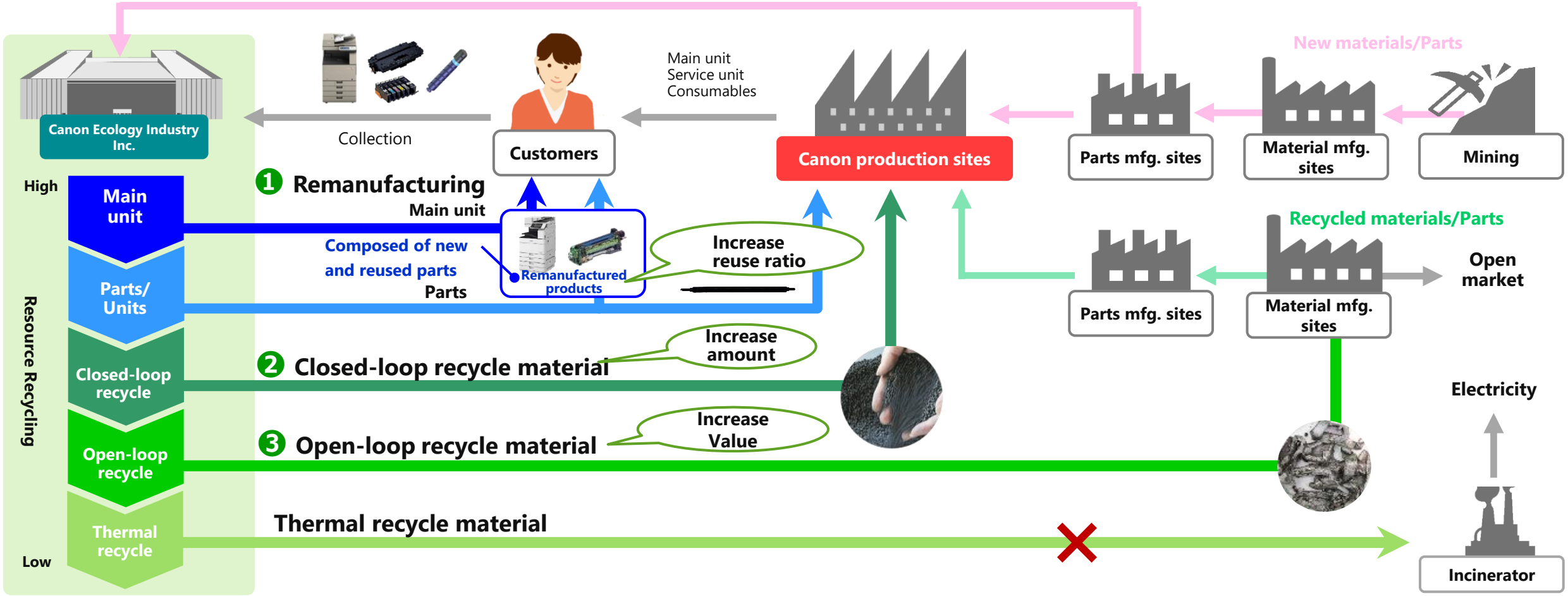
Remanufacturing and Recycling Business for Printing Business

Contribute to recycling-oriented society by realizing advanced resource recycling

- Transform from disposal or recovered goods to circular economy business -



Goals: Resource Recycling for Printing Business



《Goals》

1. Remanufactured products: Raise reuse ratio to lower costs
2. Closed-loop recycle material: Promote expansion of types and production amount
3. Promote high added value through improvement in fractionation purity

Printing Business Initiatives

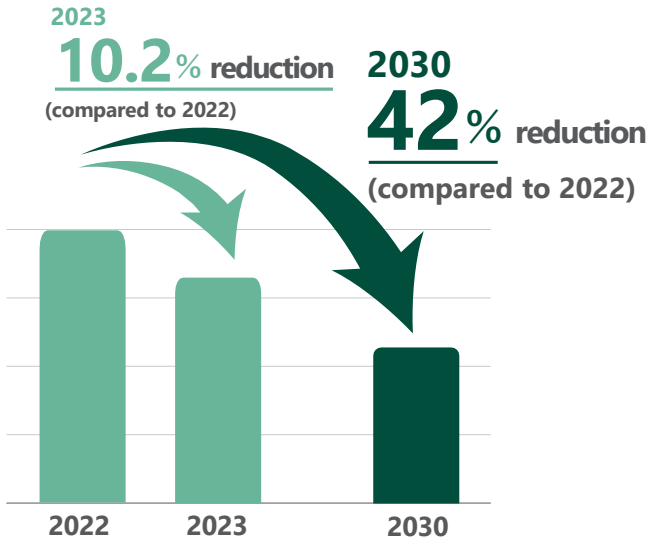
Goals for Decarbonization and Resource Recycling

As a global company, we view addressing environmental issues as our mission and promote efforts toward decarbonization and resource recycling.

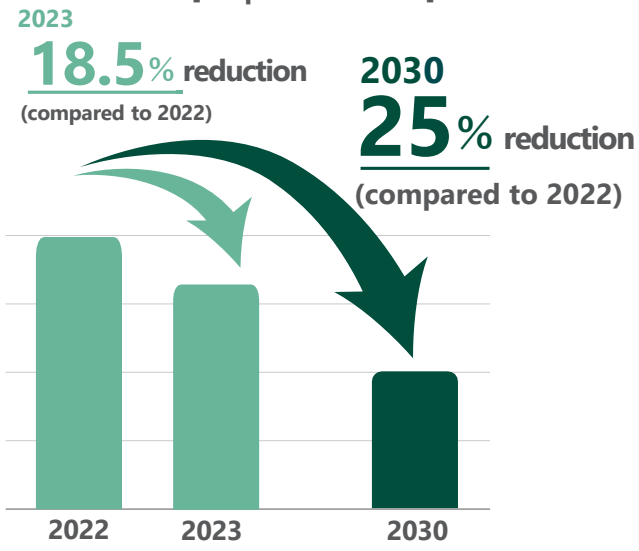
Decarbonization

2050 Net zero CO_2 emissions throughout product lifecycle

[Scope 1/2 emissions]



[Scope 3 emissions]



2030 Reduce Scope 1/2 emissions by 42% compared to 2022

Scope1 Direct greenhouse gas emissions from the business itself (fuel combustion, industrial processes)

Scope2 Indirect emissions associated with the use of electricity, heat, and steam supplied by other companies

2030 Reduce Scope 3 (Categories 1 and 11) emissions by 25% compared to 2022 (n accordance with SBTi standards)

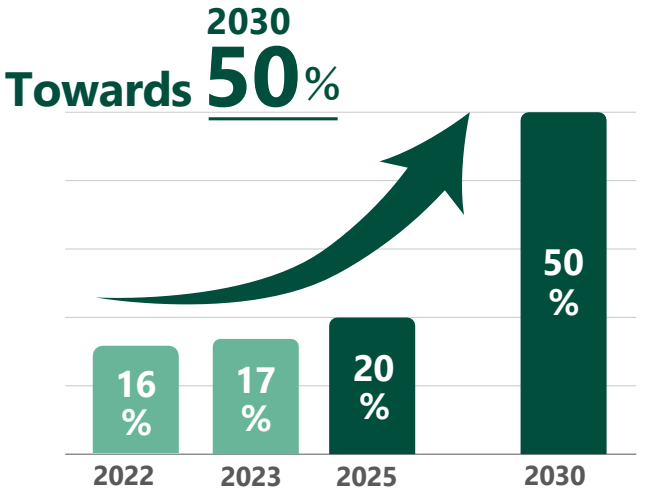
Scope3 Indirect emissions other than Scope 1 and Scope 2 (Emissions from other companies related to the activities of the business)

※ Values for both performance and objectives are for Canon as a whole.

Resource Recycling

2030 50% resource recycling rate

[Recycling rate of overall printing products]



Approach to Resource Recycling

Canon strives to minimize environmental impact throughout product lifecycles using our technology and systems.

Reduce Through Technology

Use different technologies in the product lifecycle to accelerate decarbonization and resource recycling

Disposal & Recycling
Designs that make reuse and recycling easy

Raw Materials
Use recycled material, make smaller and lighter

Use & Maintenance
Extend service life and energy saving

Production
Use of renewable energy and energy saving

Logistics
Use packaging with minimal environmental impact

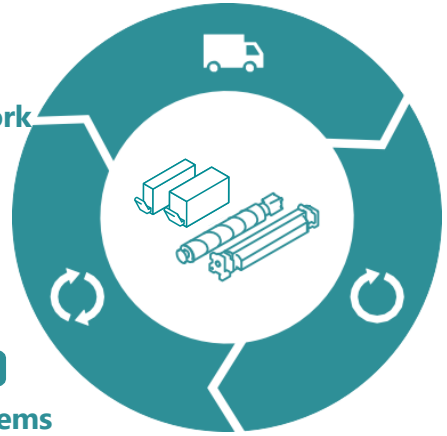
Reduce Through System

Use efficient systems tailored to the region to accelerate resource recycling globally

Collection
Develop a collection network

Reuse
Reusing collected items

Recycling
Process collected items into recycled materials



Reduce Through Technology

We incorporate technologies and measures to reduce environmental toll at every stage of a product's lifecycle to further decarbonization and resource recycling.

Disposal & Recycling
Designs that make reuse and recycling easy

Use & Maintenance
Extend service life and energy saving

Logistics
Use packaging with minimal environmental impact

Raw Materials
Use recycled material, make smaller and lighter

Production
Use of renewable energy and energy saving

Raw Materials : Reduce use of virgin resources

De-carbonization | Resource Recycling

- Increase adoption rate of recycled materials to reduce use of virgin resources]
- Reduce material usage by making products smaller and lighter

Production : Reduce CO2 emissions

De-carbonization | Resource Recycling

- Switch to renewable energy sources for electricity
- Reduce electricity use at production sites, conserve energy by visualizing/analyzing electricity consumption

Logistics : Reduce waste

De-carbonization | Resource Recycling

- Change packaging materials from plastic to paper during shipping

Use & Maintenance : Reduce CO2 emissions, reduce use of virgin resources

De-carbonization | Resource Recycling

- Reduce power consumption during produce use
- Extend product life to reduce frequency of product/part replacement

Disposal & Recycling : Reduce use of virgin resources

De-carbonization | Resource Recycling

- Promote reuse through parts modularization
- Promote reuse through easier disassembly/cleaning and grime resistance

Improve Recycled Material Adoption Rate

We are working to adopt and increase the content ratio of recycled plastics. By using recycled plastics not only the products themselves but also in accessories and consumables, we strive to reduce the use of virgin resources. Going forward, we will promote the proactive use of recycled steel.

* Products made with recycle plastics may develop black spots due to mixing various colors of the raw plastic materials, but this does not affect performance or strength. The overall appearance of products, including parts made with recycled plastics, is managed to enable the manufacture of products that meet Canon's quality standards.

Improve Recycled Material Adoption Rate

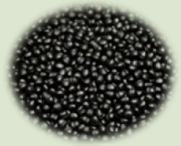
Office multifunction printers

Usage of recycled plastic 30% or higher
Steady increase in products from 2024

Case Studies of Recycled Materials Use in Japan (Canon Ecology Industry Inc.)

Automatic recycling system for HIPS* in toner cartridges

* High Impact Polystyrene



Laser printers and multifunction printers

Automated line for recycling PP* in ink cartridges, etc.

* Polypropylene

Inkjet printers

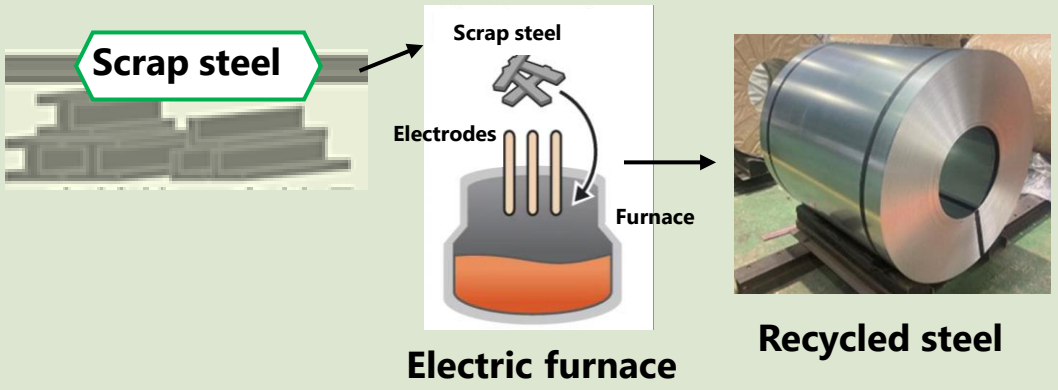
Canon products and consumables collected from the market are separated, crushed, and repelleted* at our recycling facilities, then used as molding materials for toner cartridges and more.

* Repellet: A raw plastic material made from waste plastic

Use of recycled steel

Recycled steel (electric furnace steel) will be used in some of new products to be launched in 2025. We plan to gradually expand the range of products using recycled steel.

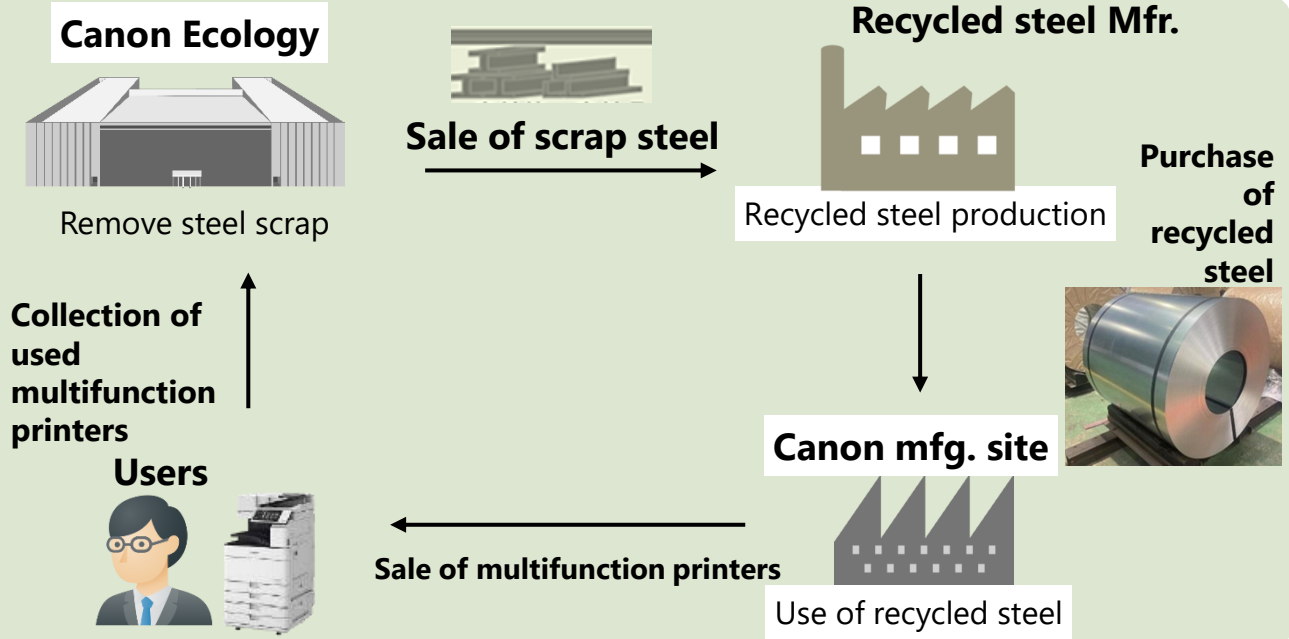
Use of recycled steel



- **Material: Steel scrap only**
- **Method of manufacturing: Only melting steel with electric power**

Reduced CO_2 emissions during production to approximately 1/5 compared to blast furnace steel sheets, which are common steel made from iron ore.

Recycling at Canon Ecology



Canon supplies steel scrap directly to manufacturers of recycled steel

De-carbonization | Resource Recycling

Refreshed Multifunction Printers that Use a High Percentage of Used Parts

Japan: Canon Ecology Industry

Target products: Refreshed Series

Europe: Canon Giessen

Target products:
imageRUNNER ADVANCE DX ES Series

Promote Reuse Through Product Platforming

Japan

imageRUNNER ADVANCE C3530F III-RG

Reuse ratio: Approx. 95%

imageRUNNER ADVANCE C5550F III-RG

Reuse ratio: Approx. 94%

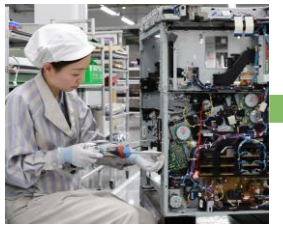
Product Recycling

Check function and exterior condition

Disassembly

Cleaning

Disassemble down to the parts, wash and clean



Assembly

Adjustment and inspection

Packaging and shipping

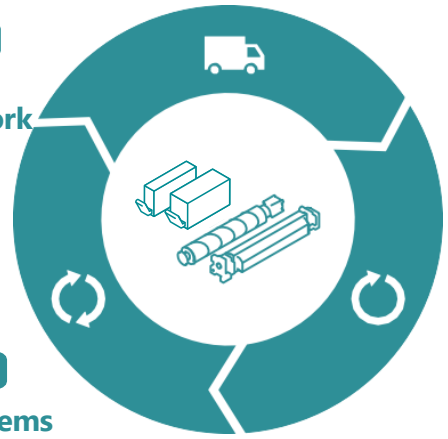
Reuse usable parts according to strict recycling standards. Replace deteriorated/worn parts

Carbon footprint of "C 3530 F III-RG" reduced by approx. 67% and "C 5550 F III-RG" by approx. 59% compared to new models.

De-carbonization | Resource Recycling

Reduce Through Systems

We incorporate optimal systems and measures at each recycling and production center globally to contribute to resource recycling.



Collection : Promote resource recycling

De-carbonization | Resource Recycling

- **Efficiently collect used products and consumables and bring them to recycling sites**

Japan — Develop collection networks

Europe and the US — Strengthen and expand collection of consumables

Reuse : Promote resource recycling

De-carbonization | Resource Recycling

- **Disassemble, wash, clean, and replace necessary parts of collected products and consumables, then recycle according to strict quality standards**

Recycling : Promote resource recycling

De-carbonization | Resource Recycling

- **Efficiently sort materials from collected products and parts to create recycled materials**

Closed-loop recycling — Reuse our used products that is collected as materials for in-house products

Open-loop recycling — Reuse materials collected and recycled from the market for in-house products
Reuse materials collected and recycled in-house for external use

Efficient Resource Collection to Promote Reuse & Recycling

Canon is bolstering and expanding its efficient collection of products and consumables. Collected parts are reused and recycled at various recycling facilities.

Japan: Established Collection Points for Office Printers

In Japan, 7 collection centers act as logistics hubs to send used products to 2 recycling sites. Nearly all printers are collected efficiently.

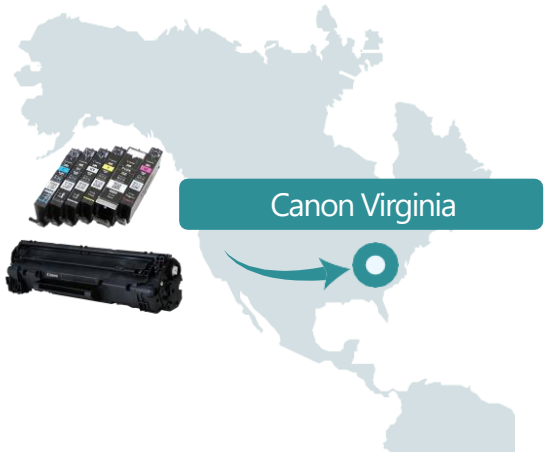
Consolidation at 2 Recycling Sites

(Processed within the prefecture for Hokkaido and Okinawa)

Europe & US: Bolstering & Expanding Consumable Collection

In Europe, we have been reinforcing the collection of toner bottles in addition to toner cartridges and ink cartridges by sales companies in each country.

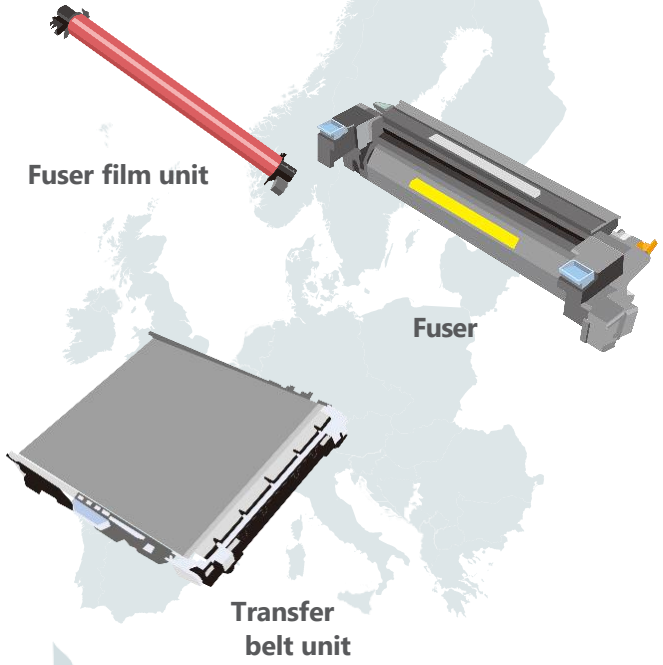
Canon Virginia in the U.S. has been collecting toner and ink cartridges for a long time.



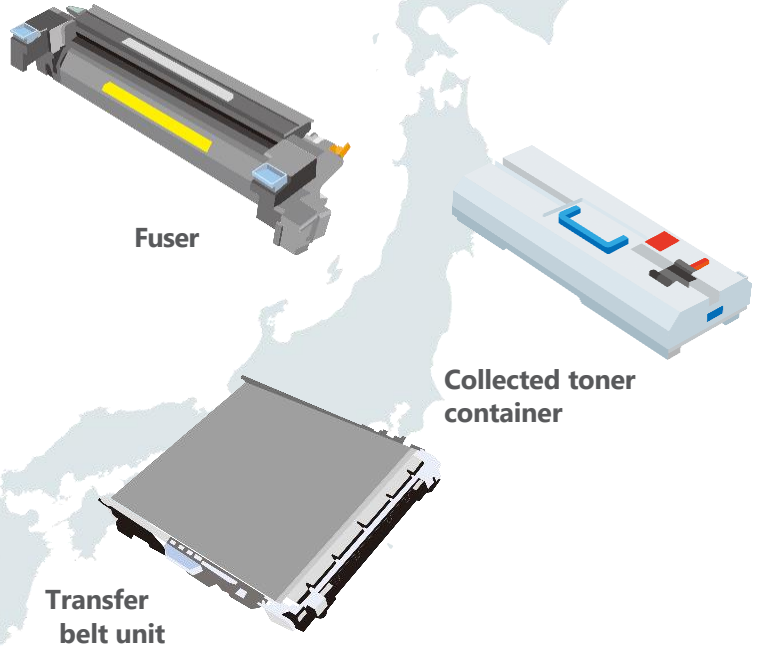
Promote Reuse of Consumables and Parts Through "New Product-Equivalent Quality Control"

Reuse consumables and parts collected from the market, achieving quality equivalent to new products.
We clean products, replace parts as needed, and ship under stringent quality standards.
We will continue to expand the items and sites where this practice is implemented.

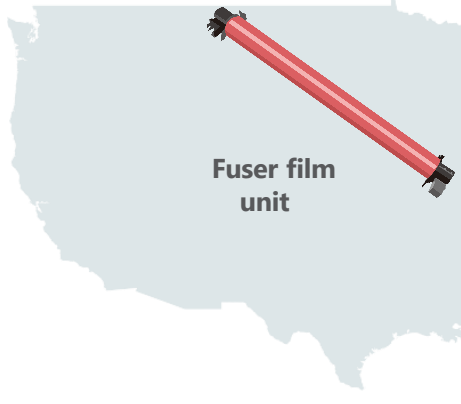
Europe: Canon Giessen



Japan: Canon Ecology Industry



US: Canon Virginia



Start production of recycled fuser film units, a critical component used in fusers, for office multifunction printers starting April 2024

In-House Material Creation and Product Use to Promote Recycled Material Use

Plastics from collected market products are separated and repelleted,* then used as recycled materials within the Canon Group.

* Pellets: Granular shaped synthetic resins (plastics). Used as raw materials for molded products

Toner Cartridge Recycling

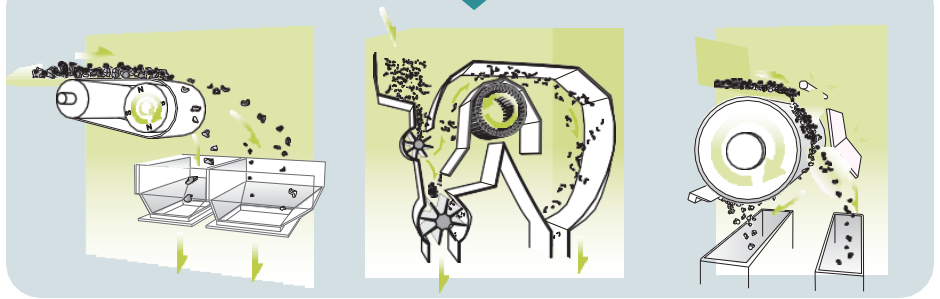
Japan: Canon Ecology Industry

Used toner cartridges are crushed and automatically sorted.
An in-house recycling system automatically regenerates the main materials, HIPS (High Impact Polystyrene), with over 99%* purity.

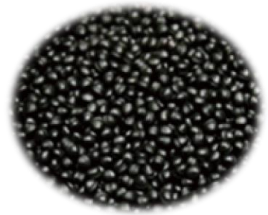
* Through a sorting method determined by Canon

Toner cartridges crushed automatically

Sorting technology based on size, magnetic force, eddy current, wind power, static electricity and buoyancy



HIPS materials extracted based on the characteristics of steel, aluminum, rubber, and plastic



High-purity HIPS materials are pelletized, finished, and shipped

Molding at a cartridge production factory

Europe: Canon Bretagne & US: Canon Virginia

HIPS material (High Impact Polystyrene) from collected used toner cartridges is recycled at recycling sites in France and the U.S. as well.

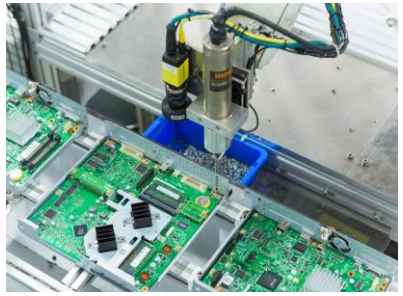
Promote Use of Recycled Materials Through Efficient Material Extraction

A wide variety of materials including metals such as steel, aluminum, and copper, as well as plastic, glass, and rubber are used for printing products. Collected units are disassembled and crushed to extract and recycle these materials. The recycled materials not used within the Canon Group is promoted through open-loop recycling.

Japan: Canon Ecology Industry

Improve efficiency through automation to extract high-quality recycled materials

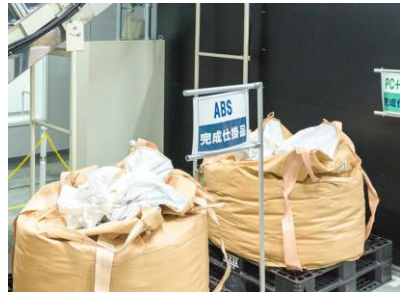
Disassembly



Sort using automation

Check plastic type, remove foreign matter/labels

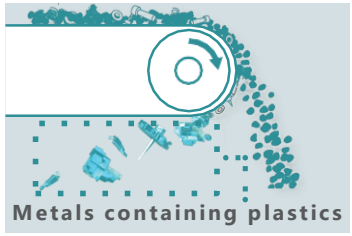
Crushing



Shipment

US: Canon Virginia

Canon Virginia collects and recycles toner bottles and toner cartridges. For toner cartridges, they have developed a device using sorting technology to extract and separate metals and plastics.



Extract metals containing plastics using magnetic force

Collect in a state of mixed plastic and metal

Separate metals and plastics using a sorting device