



# COLORADO SUSTAINABILITY

Strategic Marketing Canon Production Printing

September 2022





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**SUSTAINABILITY AT CANON INC.**



# VISION CANON INC.

Canon addresses sustainability across the entire product lifecycle – produce – use – recycle and at our operational sites.

Key areas of focus include:

- Reducing CO<sub>2</sub> emissions from products and operations
- Supporting a circular economy
- Managing chemical substances in products
- Supporting customers in achieving sustainability targets through energy efficient products
- Ensuring safe working conditions for our employees
- Compliance with legal requirements



**Responsible Business Alliance**  
Advancing Sustainability Globally

**Canon**



# KYOSEI

The basis of our actions and behaviour is Canon's corporate philosophy “Kyosei”. It places sustainable thinking and acting as a company and social actor at the center of our values.

The Common Good is further defined by the United Nations Sustainable Development Goals (SDGs), which serve as a framework to manage environmental and social impact.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.



**“Living and working together for the Common Good.”**

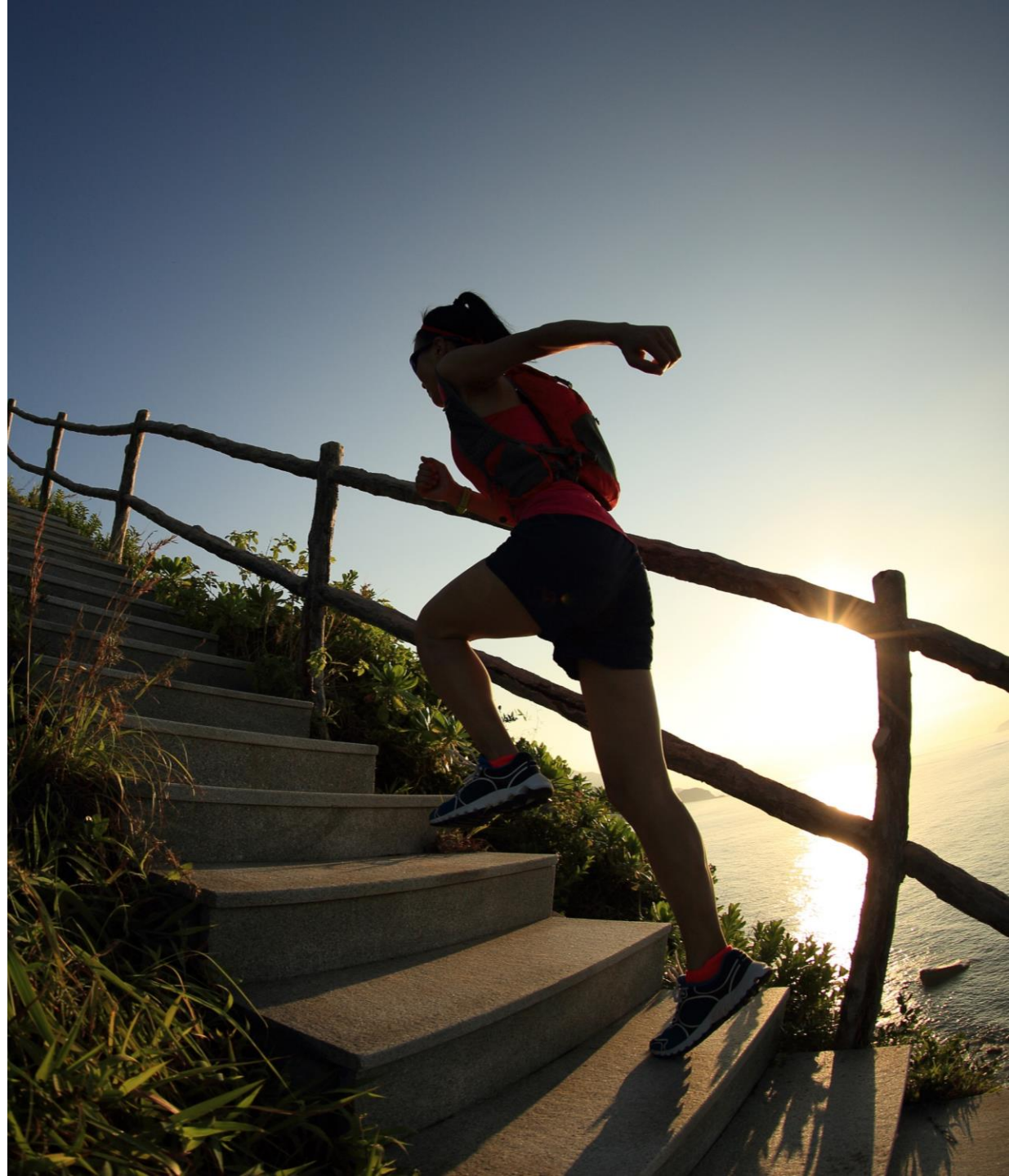


# ENVIRONMENTAL TARGETS

Canon Inc. has defined global environmental targets:

- **2023-2030:** 3% reduction of life-cycle CO<sub>2</sub> emissions annually
- **2030:** 50% reduction of life-cycle CO<sub>2</sub> emissions (Base 2008)
- **2050:** “Net zero” CO<sub>2</sub> emissions

Additional detailed targets have been defined for all Canon sites and Canon products (CO<sub>2</sub> emissions, resource use, water use, waste and biodiversity).

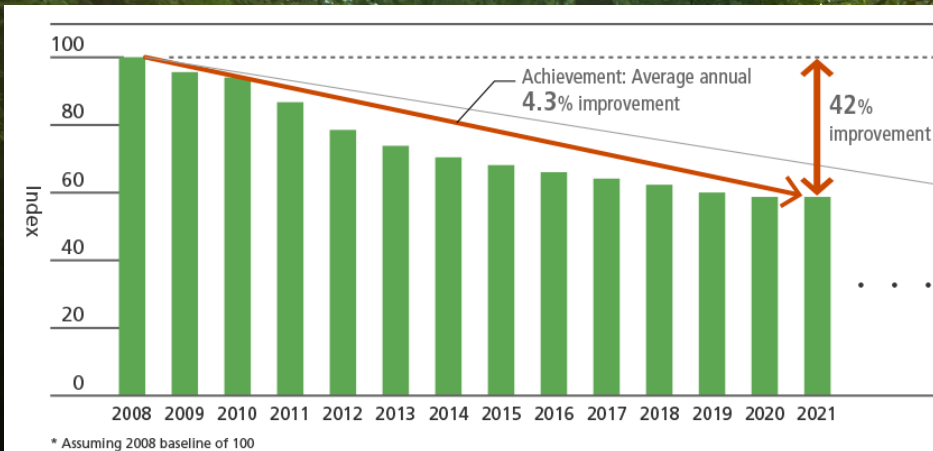




# REDUCING ENVIRONMENTAL IMPACTS

Reduced environmental impacts and sustainability are our focus throughout the product life cycle.

**42%** Reduction of CO<sub>2</sub> footprint per product sold (2008-2021)



**1.**  
**PRODUCTION**

**2.**  
**USE**

**3.**  
**RECYCLING**

# ENVIRONMENTAL MANAGEMENT SYSTEM

**A central pillar of Canon's approach to reducing environmental and social impacts of our operations is the global ISO 14001 certified Environmental Management System.**

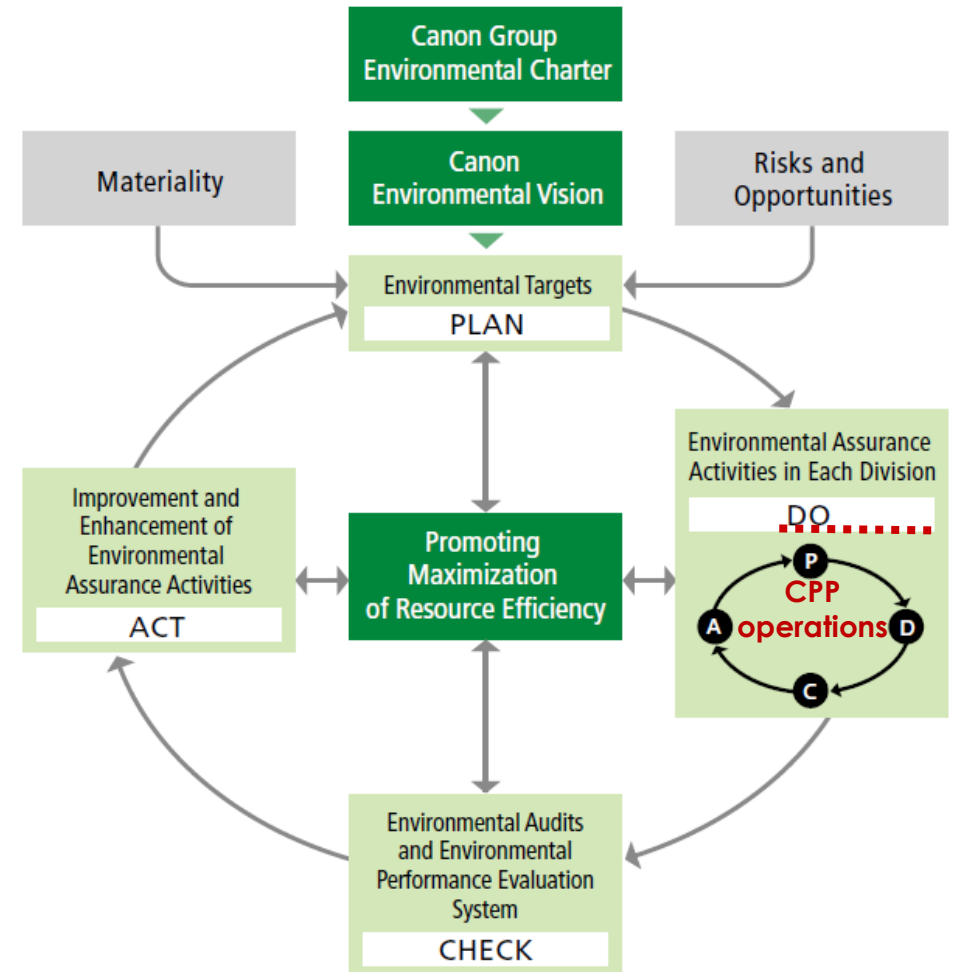
It is implemented at almost 600 Canon sites in 40 countries and ensures a systematic approach to continually improve environmental and social performance.

## PDCA cycle underlying ISO 14001:

- *Plan* – Setting targets
- *Do* – Acting based on policies & rules
- *Check* – Internal & external audits
- *Act* – Refine and improve activities and targets



## Canon Group Environmental Management System





A scenic landscape photograph featuring a calm, turquoise lake in the foreground. The lake's surface is like a mirror, reflecting the surrounding environment. In the middle ground, a dense forest of evergreen trees covers a ridge that slopes down towards the water. Several small, tree-covered islands are scattered across the lake. In the background, majestic, rugged mountains with patches of snow rise against a clear blue sky with a few wispy clouds. The overall atmosphere is serene and majestic.

# PRODUCT LIFE CYCLE COLORADO

# COLORADO – PRODUCT LIFE CYCLE

01

## Design

We focus on reducing lifecycle CO<sub>2</sub> emissions of Canon products at every stage, starting with R&D and design.

**Target:** 3% lifecycle CO<sub>2</sub> emissions reduction year-on-year

Design

Manufacturing

02

## Manufacturing

We evaluate our manufacturing sites on these criteria:

- Reducing energy consumption by 1.2% per year
- Reducing waste discharge, water consumption and chemical substance emissions by 1% per year.

04

## Recycling

Our Circular Economy Manufacturing facilities remanufacture end-of-life printers

- Any CPP product can be remanufactured
- Same technical quality standards as for Newly Built applies

Recycling

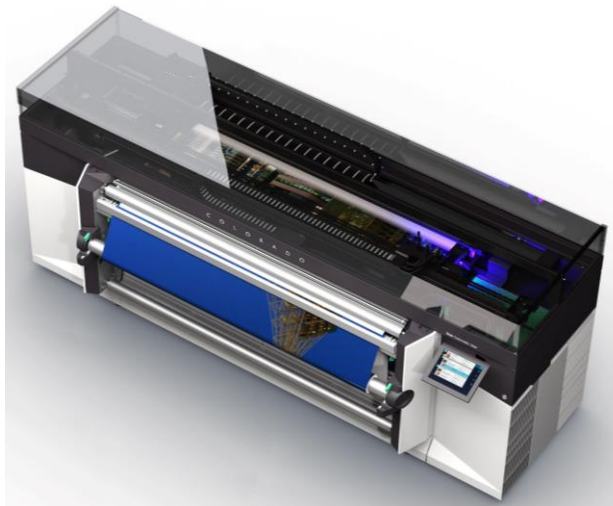
Use

03

## Use

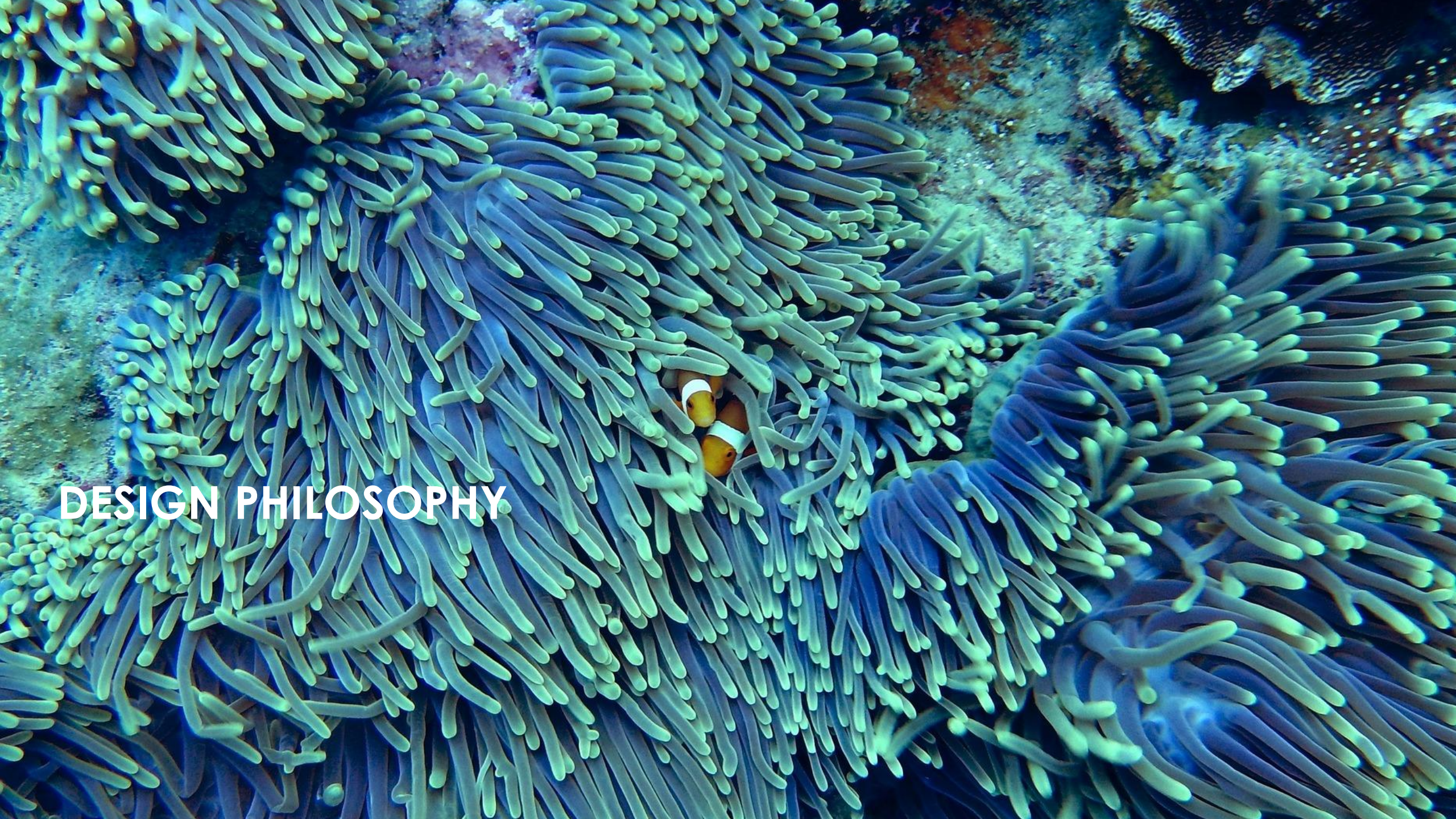
Our sustainable design of the Colorado results in:

- >50% less energy use while printing
- Up to 40% less ink vs other ink technologies (BLI verified)
- More ecological and even uncoated media
- No VOC's
- No Hazardous Air Pollutants (HAP's)
- Safe production environment



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DESIGN PHILOSOPHY



# PRODUCT DESIGN

**Product design is crucial in order to reduce environmental impacts across the product life cycle.**

Canon has been focussing on sustainable design choices for many years. As a result, we have achieved a cumulative improvement of 42% in the life-cycle carbon footprint of products (2008 vs. 2021).

**Every Colorado printer is of industrial built and performance:**

- **Steel chassis** (+700Kg), no disposable plastic parts
- **Piezo Electric Printheads** (no consumable)
- **Long lifetime/ high reliability design** ( +100K m2 / year)

**Highly automated maintenance and quality control:**

- No unnecessary waste ink and disposables
- Minimal room for error and need for re-runs
- Printing from the first cm (minimal media waste )





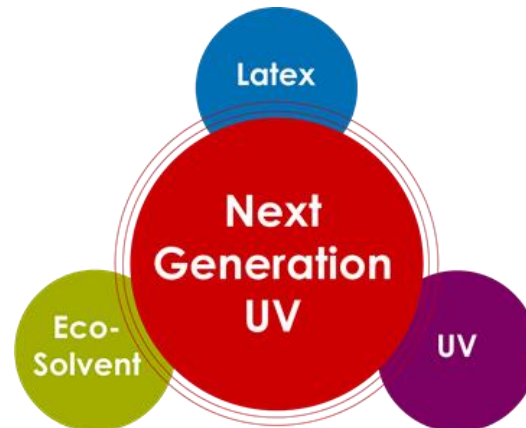
# UVGEL TECHNOLOGY



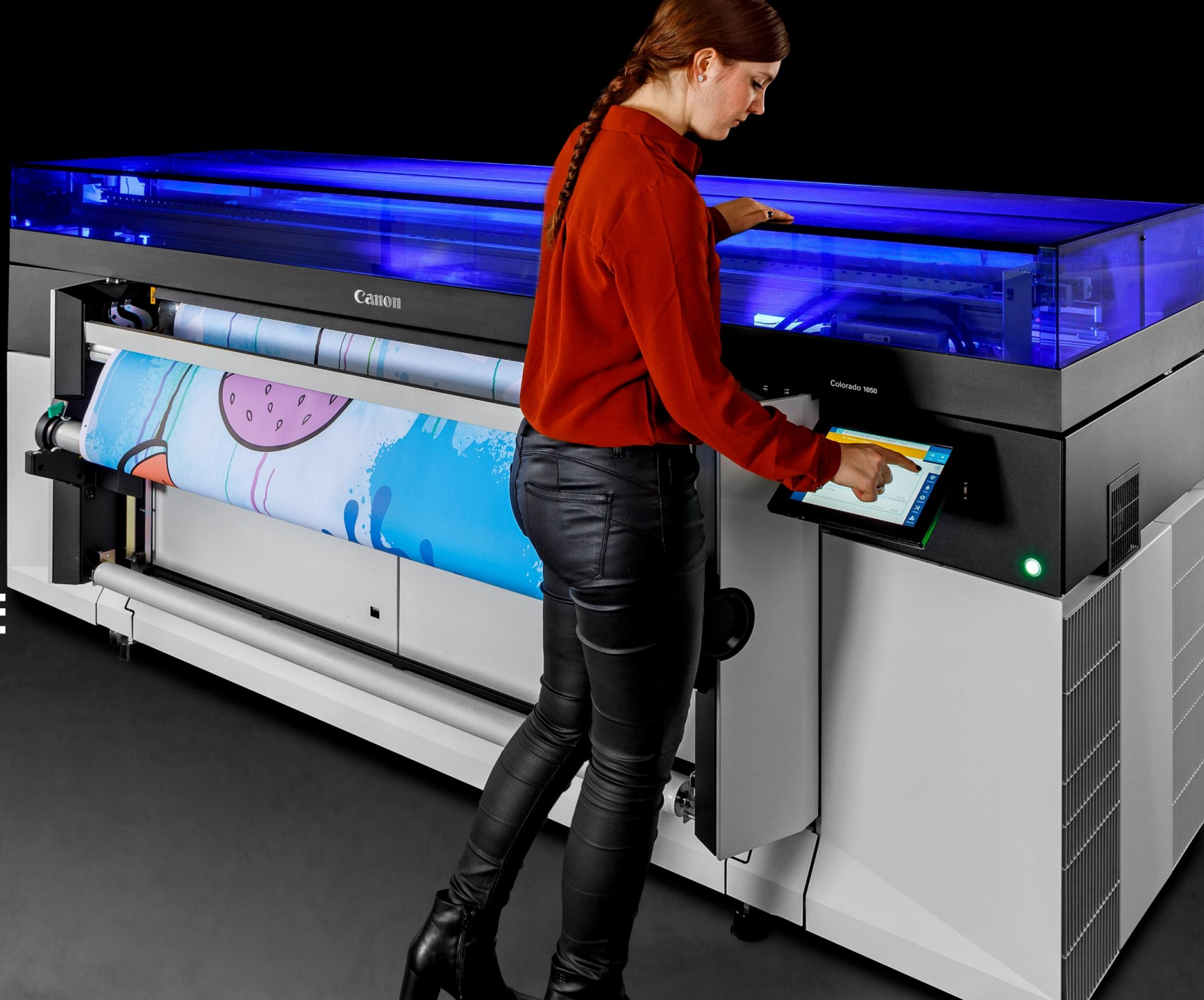
Our in house developed and produced UVgel technology is at the center of our Colorado series of printers.

- UVgel is the next generation , future proof ink technology: Engineered to be compliant to all current and future regulations and restrictions.
- UVgel is VCL free (vinylcaprolactam)
- UVgel emits virtually no VOC's and the ink technology does not require special maintenance fluids or solvents
- UVgel is an ultra robust ink technology often eliminating the need for an extra layer of lamination (plastic foil)

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USAGE





# USAGE



## Energy Consumption

- UV curing  
The Colorado UVgel printers use more than 50% less energy compared to other ink technologies

## Inks

- Up to 40% less ink vs other ink technologies (BLI verified)
- All our Colorado inks are safe for use in public environments even such as hospitals, schools and other public places.
- All Colorado inks are GREENGUARD Gold certified
- No need for lamination
- Free of Hazardous Air Pollutants (HAPs) and Volatile Organic Components (VOCs)

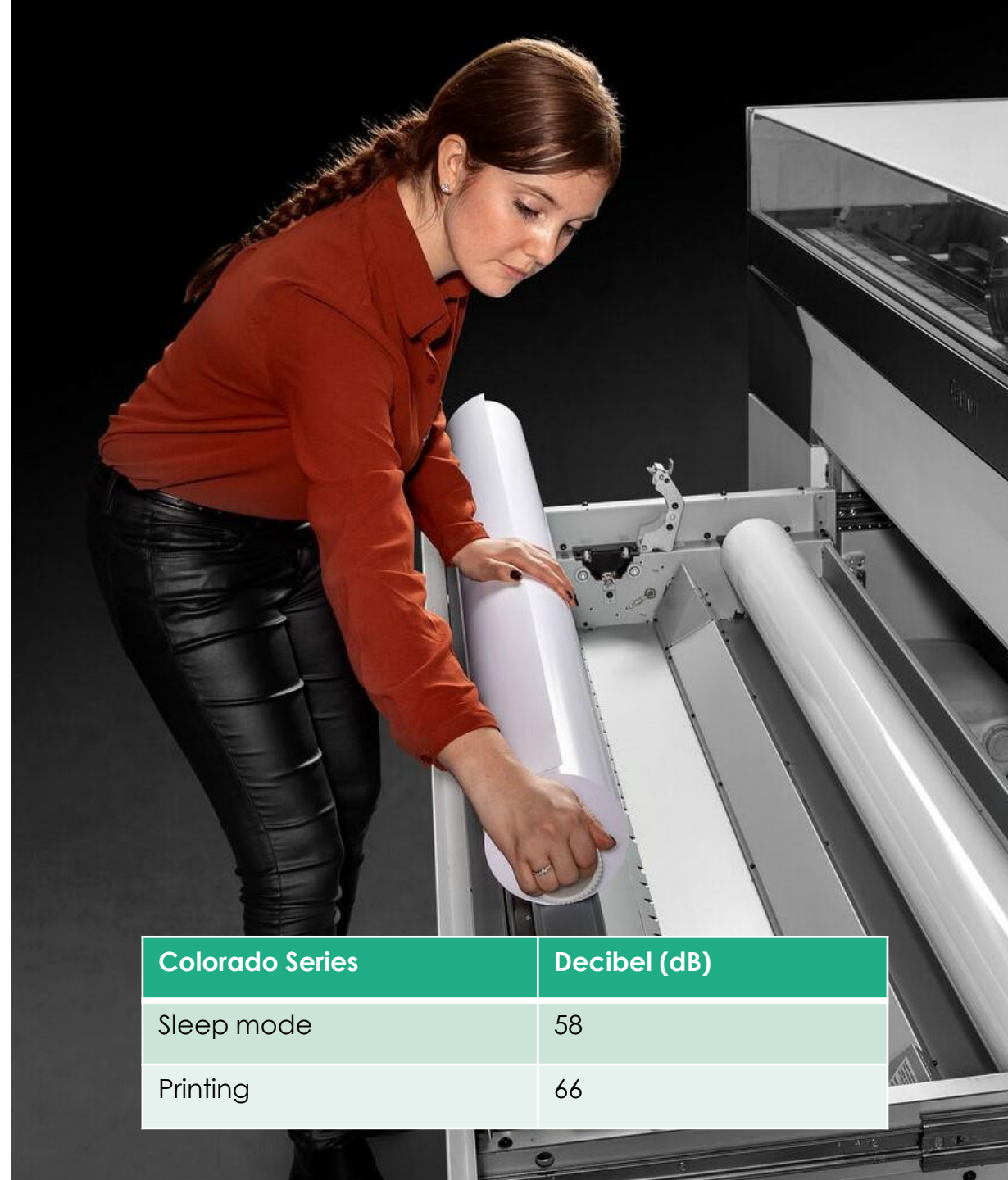


Canon



# USAGE

- **Health and Safety**
  - No external filtration required because of internal filters
  - Radiation emitted while Colorado printers are in operation is below the Threshold Limit Values for UV, and Visible radiation according to ACGIH institute standards
  - Acoustic emission: No noise protection is required. Tested according to ISO7779/EN27779
- **First-time right printing leads to less waste**
  - Printing from the first cm (minimal media waste)
  - Automatic maintenance and nozzle compensation improves first-time right prints
- **Environmental certifications**
  - Output printed with UVgel technology and Colorado printers live up to the world stringent standards, making them perfectly safe to use in sensitive environments such as hospitals, children's schools and public spaces.



Colorado Series	Decibel (dB)
Sleep mode	58
Printing	66



# SUSTAINABLE APPLICATIONS WITH UVGEL

Output printed with UVgel technology and Colorado is much more media independent than other technologies, enabling a wide diversity of ecological alternative medias, such as then media, paper based or even uncoated varieties.

We offer media options that are certified with relevant international labels and certifications





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