



# ARIZONA SUSTAINABILITY

Strategic Marketing Canon Production Printing

March 2023

**Canon**



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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

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# 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.

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**"Living and working together for the Common Good."**

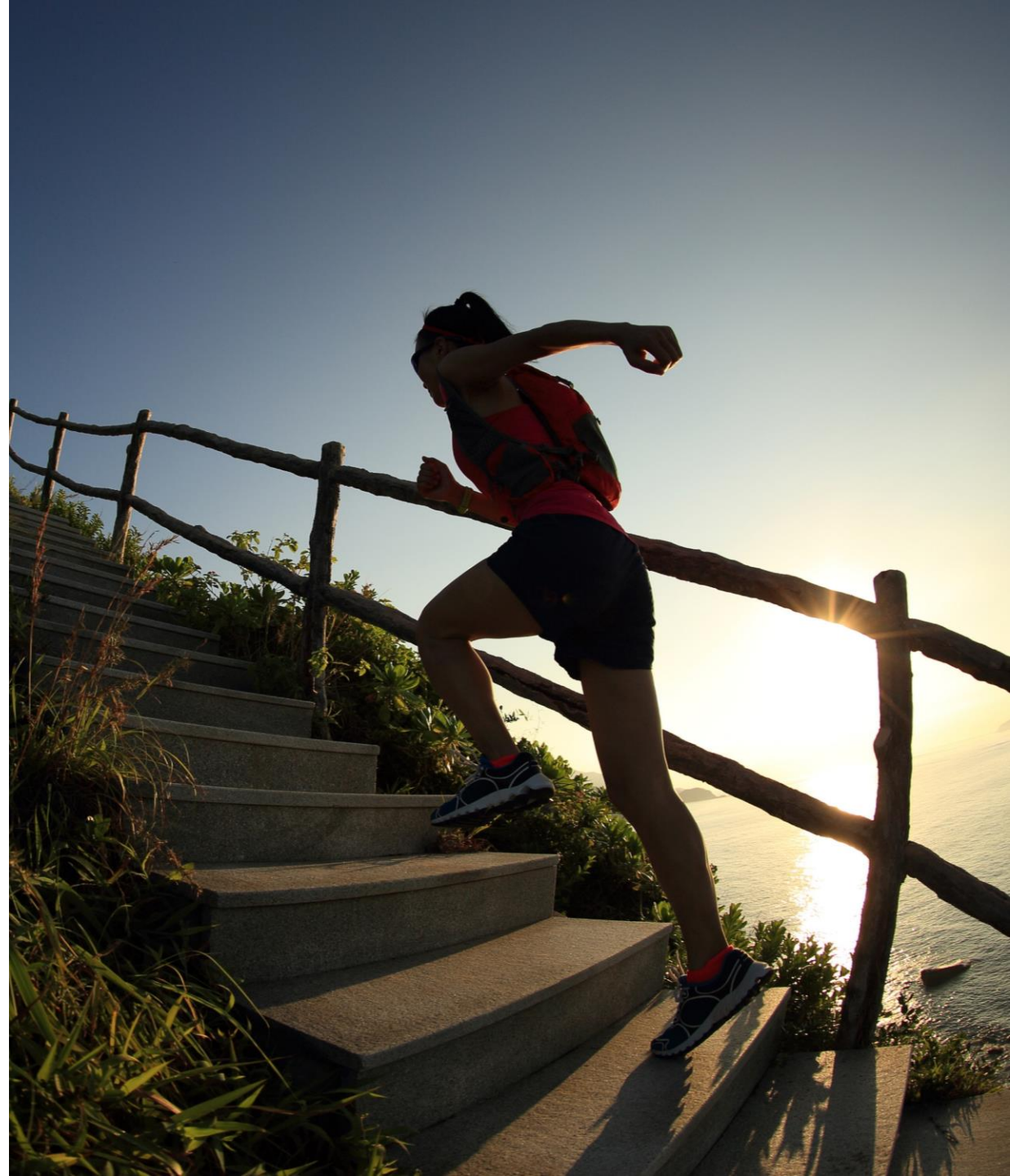


# ENVIRONMENTAL TARGETS

Canon Inc. has defined global environmental targets:

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

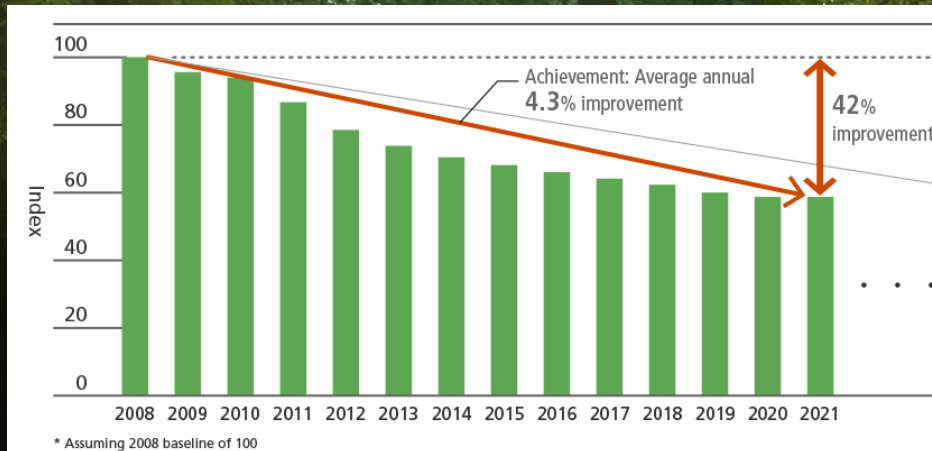
Additional detailed targets have been defined for all Canon sites and Canon products (CO<sub>2</sub> emissions, resource use, water use, waste and biodiversity).



# 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 unit sold (2008-2021)



1.  
PRODUCTION

2.  
USE

3.  
RECYCLING



# ENVIRONMENTAL MANAGEMENT SYSTEM

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

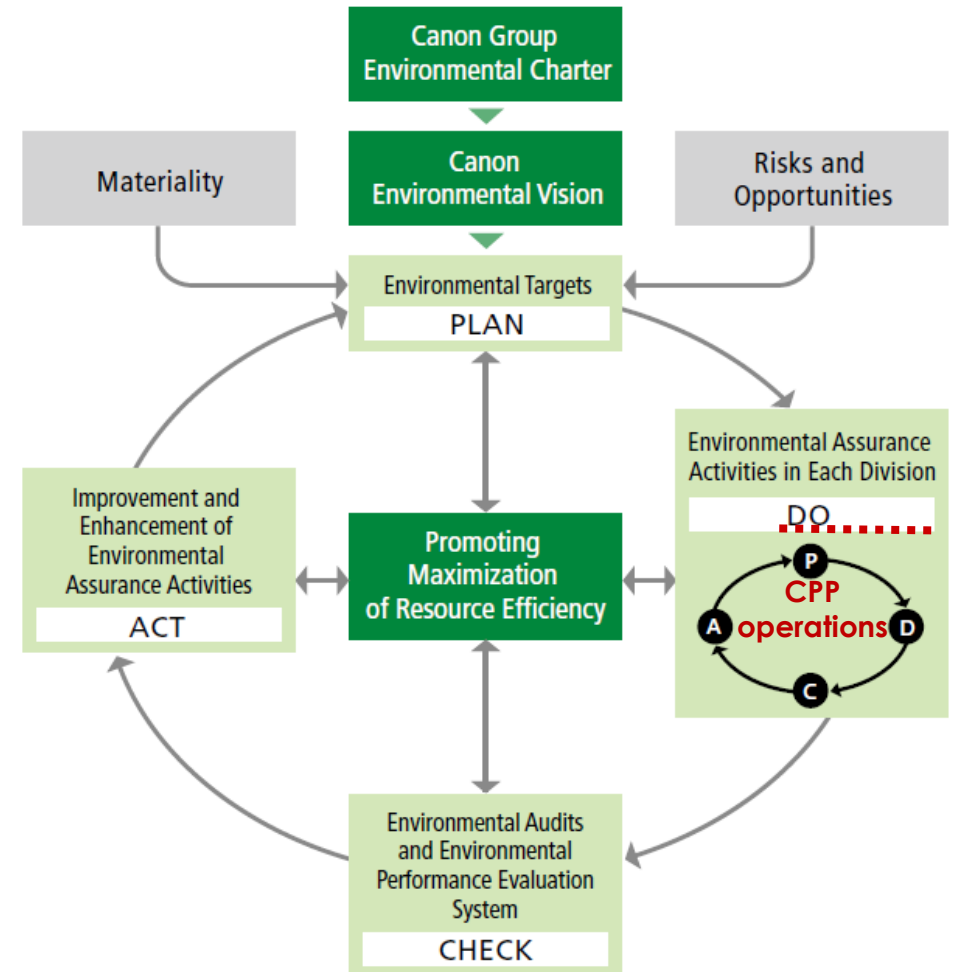
It is implemented at almost 600 Canon sites in 40 countries and ensures a systematic approach to continually improve our environmental performance.

## 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





# PRODUCT LIFE CYCLE ARIZONA

# ARIZONA – 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.

Design

Manufacturing

02

## Manufacturing

Manufacturing sites and processes are designed to avoid waste and reduce energy consumption. CPP Germany uses 100% renewable electricity.

**Target:** 1.2% CO<sub>2</sub> emissions reduction from manufacturing activities year-on-year

04

## Recycling

Our Circular Economy Manufacturing facilities remanufacture end-of-life printers, service parts and have up to **32% lower CO<sub>2</sub> footprint** than a newly manufactured model

Recycling

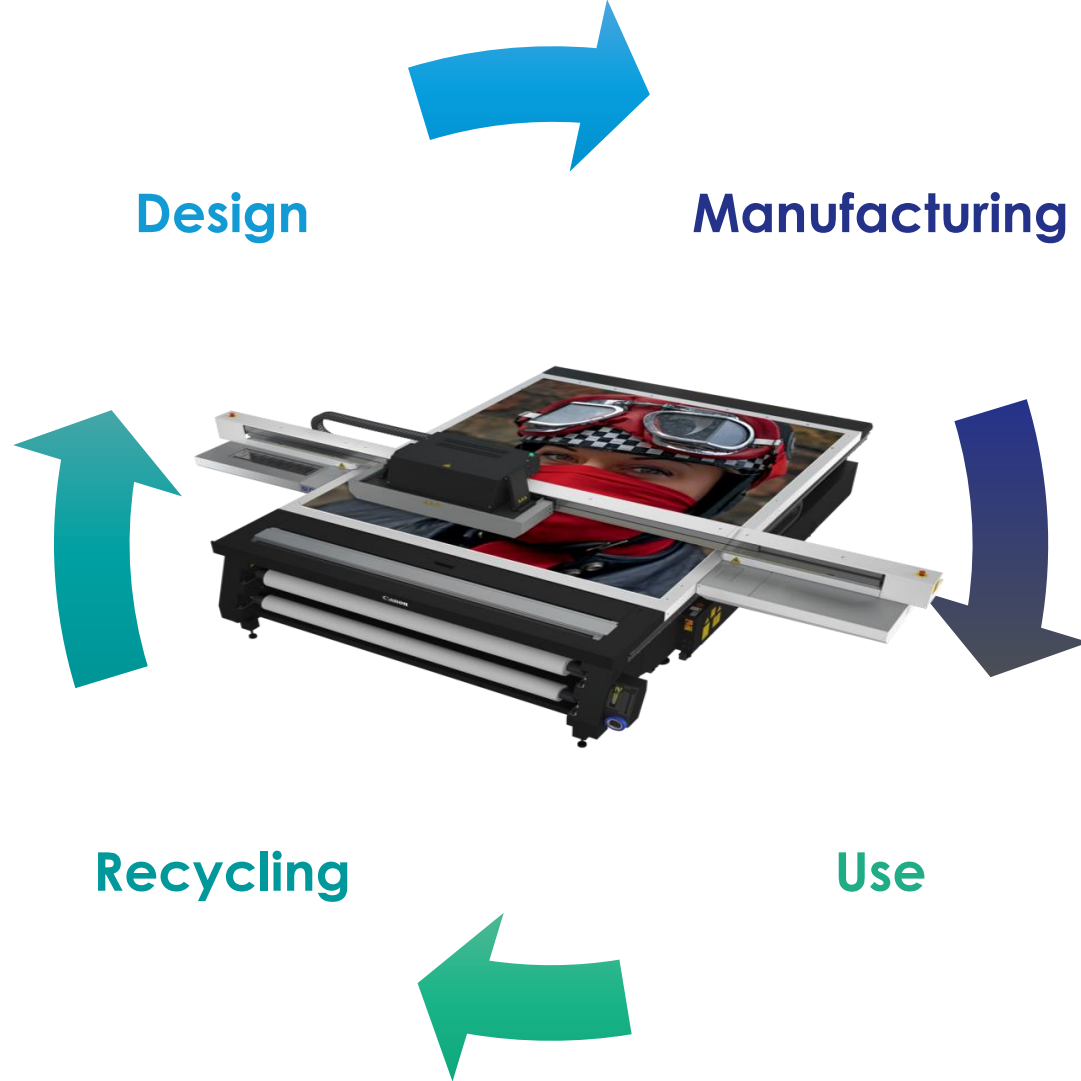
Use

03

## Use

Sustainable design of the Arizona portfolio results in

- 15% higher energy efficiency compared to other technologies
- Up to 50% less ink (vs. fixed dot 6 color flatbed printers)
- GREENGUARD Gold certified inks





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).

Sustainable design aspects of the Arizona:

- **Energy efficiency** – Redesigning vacuum pumps and introducing LED curing
- **Circular design** – Arizona devices are repairable and easily disassembled, enabling reuse and recycling of materials in our Circular Economy Manufacturing facility
- **VariaDot technology** reduces ink consumption



**MANUFACTURING**



# MANUFACTURING SITE

The sites where Canon manufactures products are also part of our ambition to reduce environmental impacts. World-wide activities exist to reduce energy consumption and cost as well as waste and water consumption.

Arizona devices are manufactured at our site in Poing, Germany:

- **100% renewable electricity** is used to produce the devices
- **Solar power generation.** Largest solar array of its kind in Germany ("SolarEdge" panels optimize performance). Avoids up to 976 tons of CO<sub>2</sub> per year. Generated electricity powers both buildings and e-fuel stations in the company car park
- **Electric mobility.** 60 hybrid or e-cars in company car fleet
- **Bee population.** 10 hives with 400,000 bees. The honey production was 550kg in 2022
- **Green Procurement Standards.** Strict internal standards are applied in the procurement of parts and materials to manage chemical substances and ensure legal compliance
- Shipment in **re-usable** wooden crates





USAGE

# USAGE

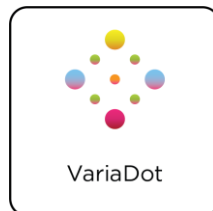
## Energy Consumption

- Vacuum pumps
  - The Arizona pumps consume up to *70% less energy* compared to other manufacturers
- UV-LED curing
  - The Arizona LED printers use approximately *15% less energy* compared to Arizona UV-halide printers

## Inks

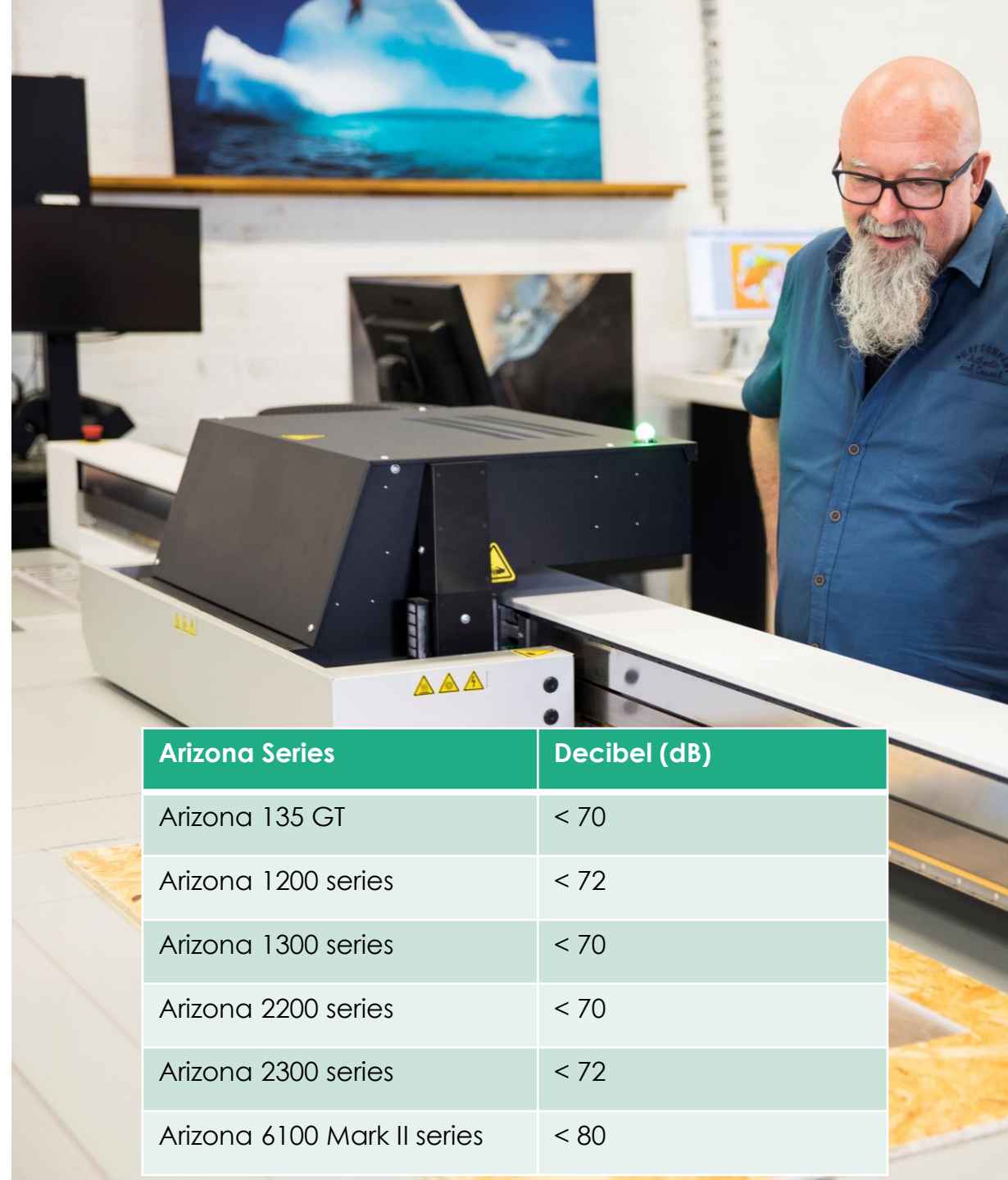
- VariaDot – 50% less ink consumption (compared to a fixed dot 6 color flatbed printer)
- All our Arizona inks are safe for use in public environments even such as hospitals, schools and other public places.
- All Arizona inks are GREENGUARD Gold certified
- No need for lamination, which reduces plastics and costs
- Free of Hazardous Air Pollutants (HAPs) and Volatile Organic Components (VOCs)

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# USAGE

- **Health and Safety**
  - Air filtration option (5 times lower than the OEL standard (Occupational Exposure Limits))
  - Radiation emitted while Arizona 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**
  - Substrate waste is impacted by the accuracy of the printing process. In addition, edge-to-edge printing will minimise cutting waste. A clear, intuitive user interface will reduce human error and is, therefore, a factor in avoiding costly and wasteful misprints
- **PRISMAservice helps in predictable maintenance**
  - Has been designed to increase uptime and offer valuable preventive capabilities. In the development of our latest family of printers, PRISMAservice even opens up important predictive capabilities, to make maintenance predictable



Arizona Series	Decibel (dB)
Arizona 135 GT	< 70
Arizona 1200 series	< 72
Arizona 1300 series	< 70
Arizona 2200 series	< 70
Arizona 2300 series	< 72
Arizona 6100 Mark II series	< 80



RECYCLING

# CIRCULAR ECONOMY MANUFACTURING

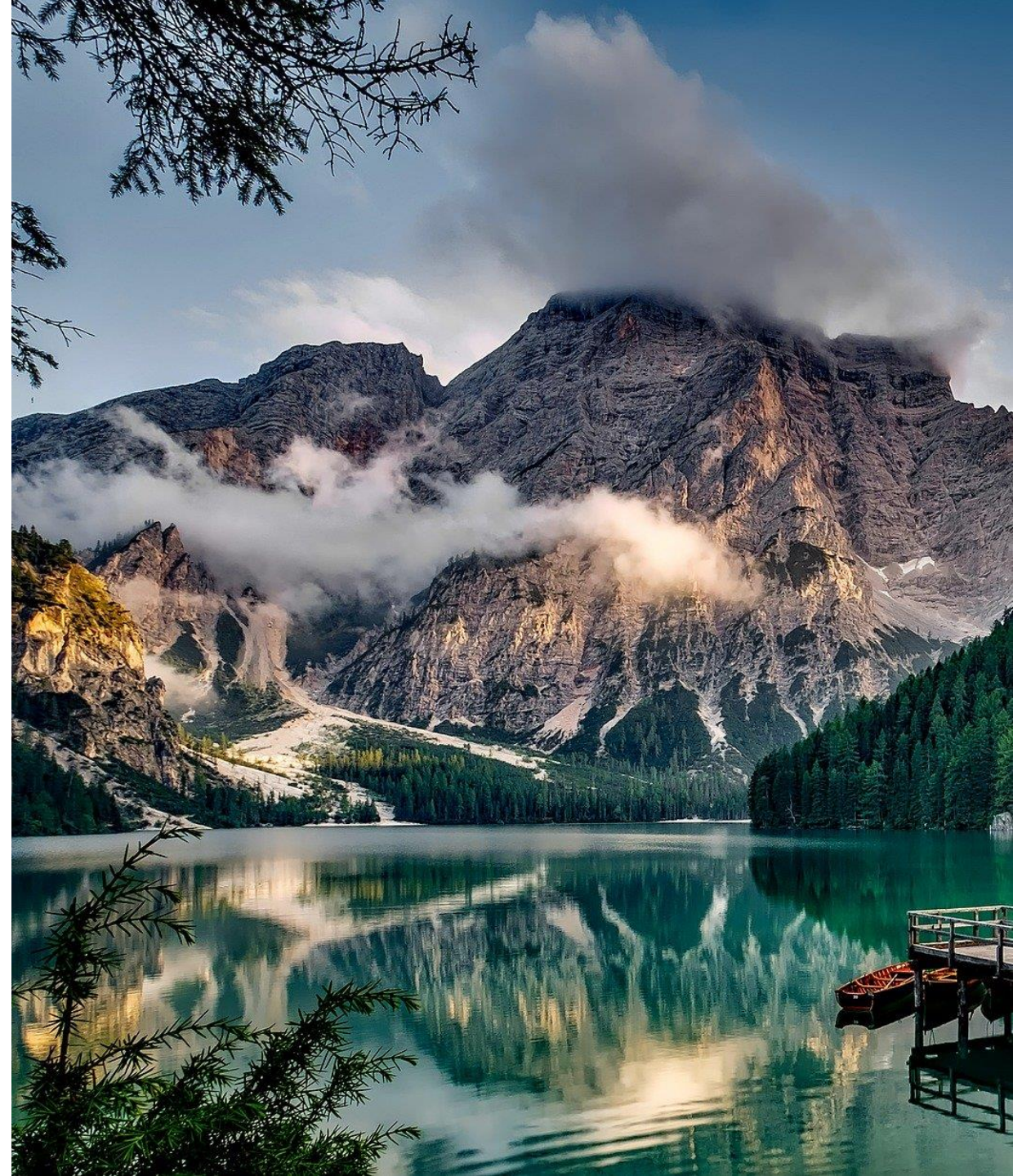
**Giving printers a second life reduces resource consumption and creates exciting possibilities for customers**

When the first life of one of our flatbed printers is over, it is returned to the CEM facility at CPP in Venlo, NL.

- CEM Remanufacturing process:
  - Thorough inspection, cleaning and disassembly
  - Replacement of specified parts
  - Cleaning of components
  - Installation of latest safety modifications and software
  - Quality control & certification
  - Shipment

**The result:** Same quality as a new Arizona and up to 32% *lower carbon footprint* than a new-new model. With our Arizona Prémia class we extend the lifetime of our products to more than 15 years.

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