

ENVIRONMENT

December 12, 2023

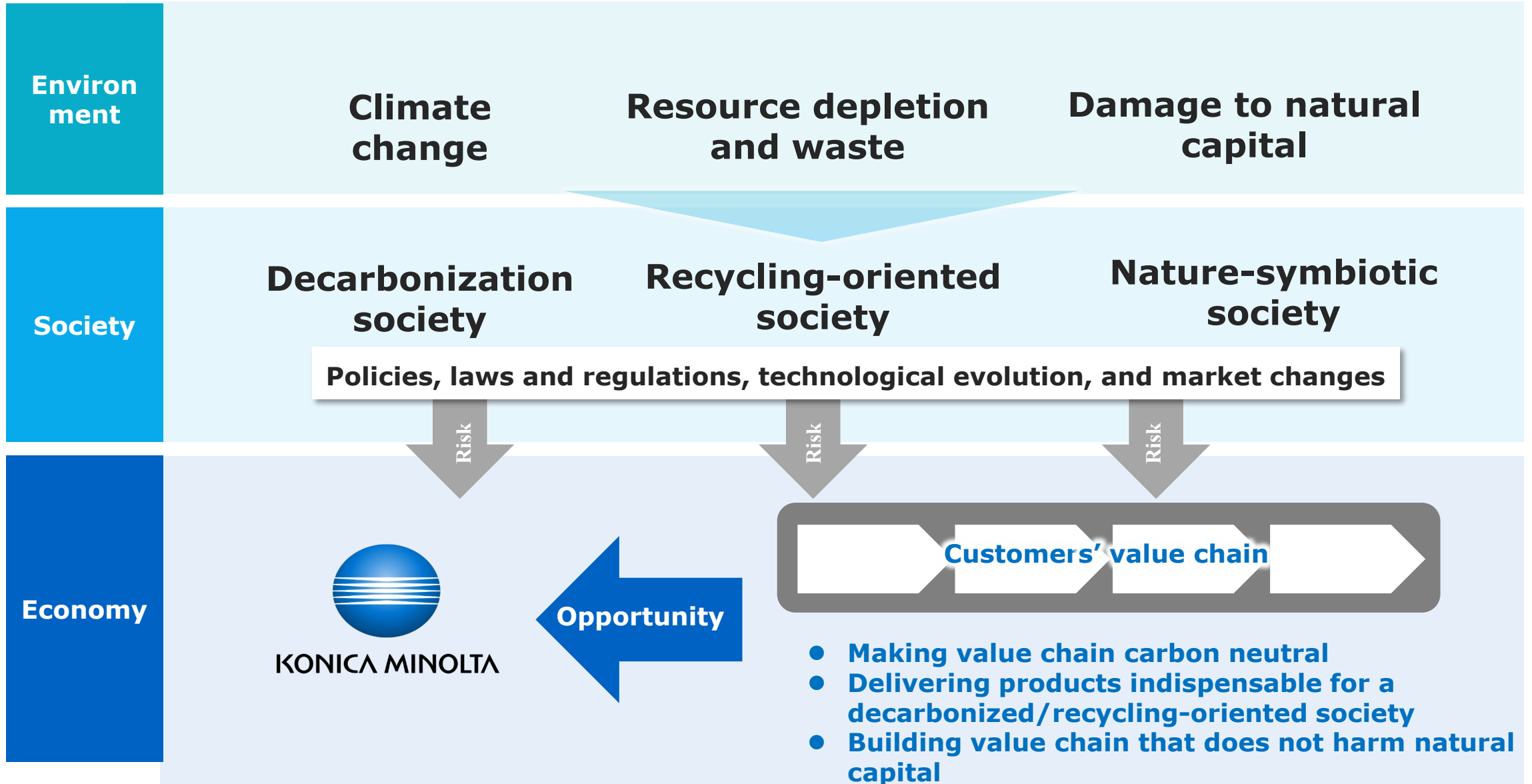
Masahiro Tokuchi

Senior Manager, Sustainability Group

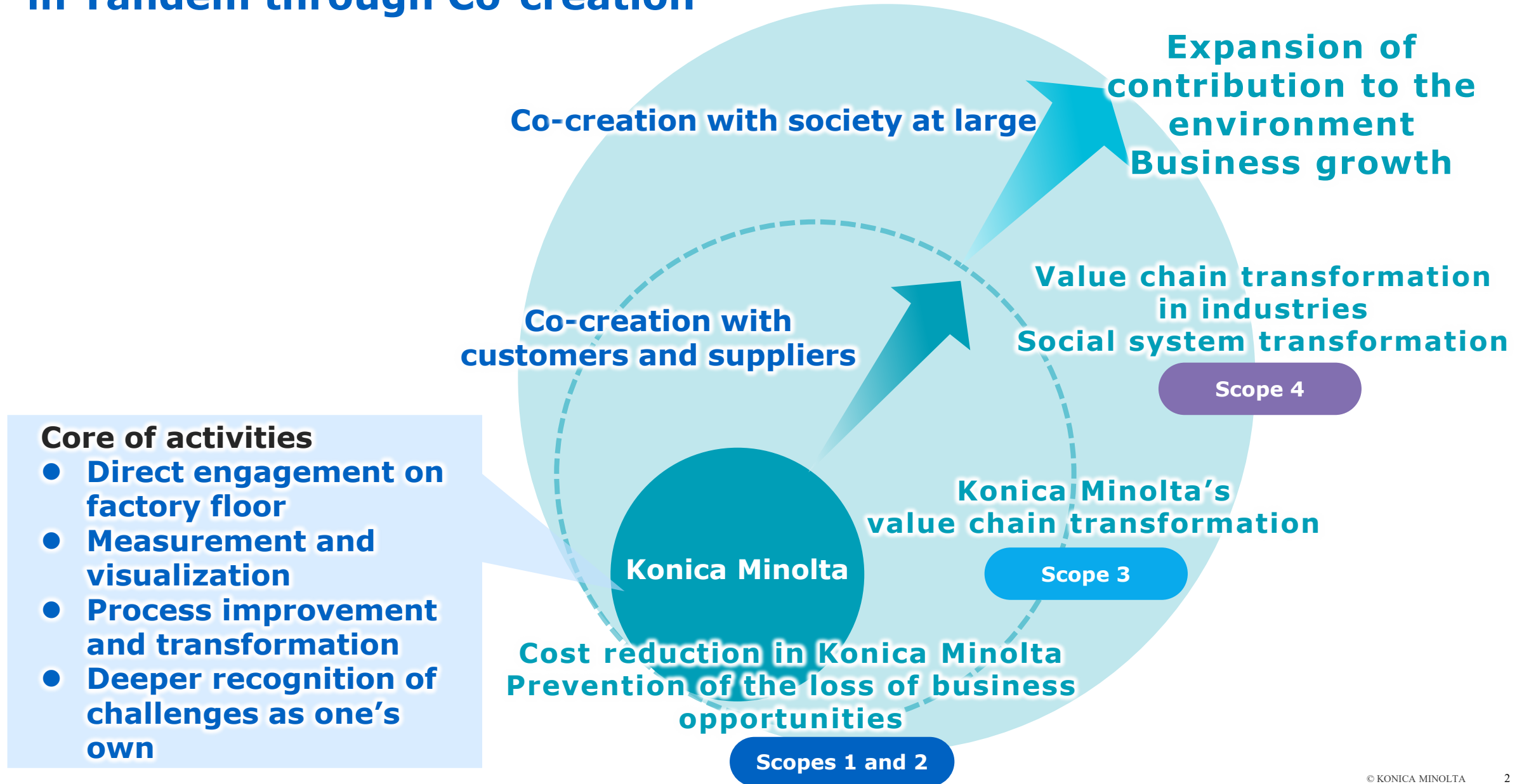
Corporate Planning Division



Opportunity from Changes in Society

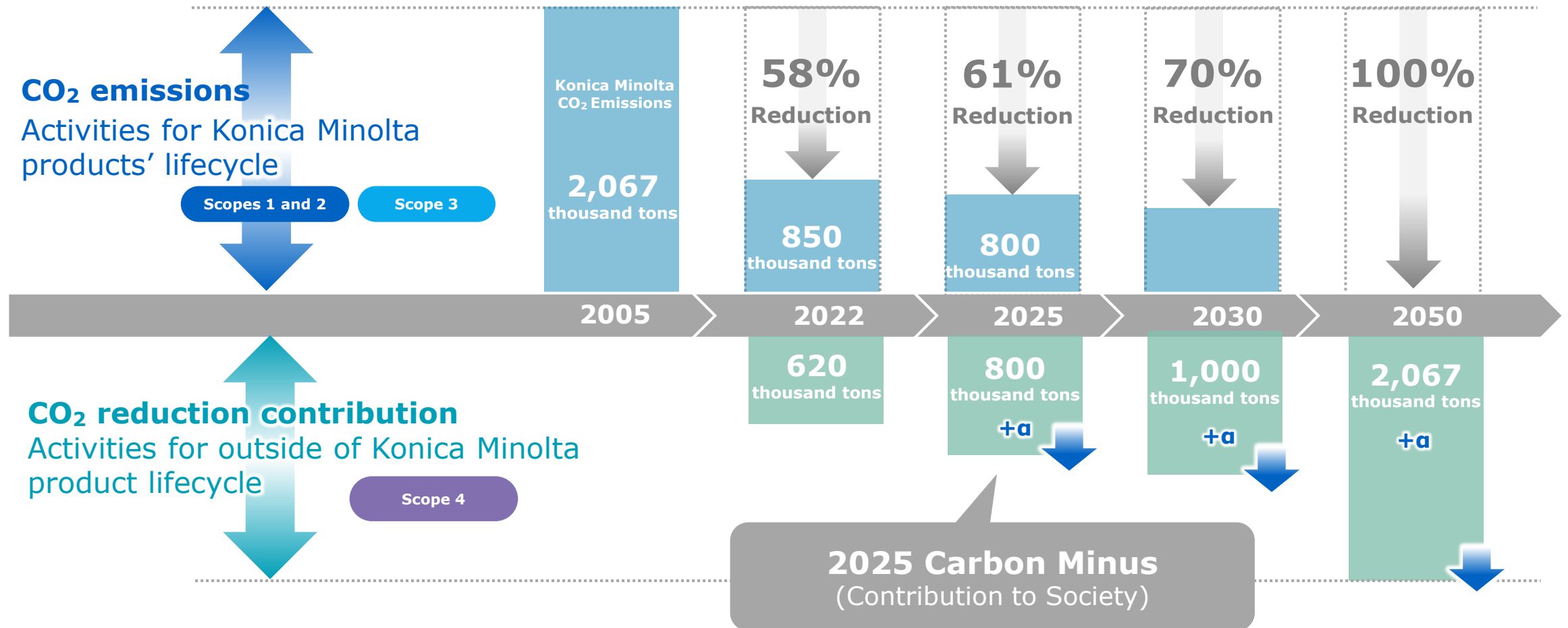


Environmental Contribution and Business Growth in Tandem through Co-creation





Climate Change: Carbon Minus in 2025

- The progress is steady toward the goals.
- While the main reduction contribution currently comes from production print, further reduction contribution is expected from Industry segment in FY2025 and beyond.



Green Factory certification standards

	Chemical plant sites 	Assembly sites 
Energy conservation	3% reduction annually	2% reduction annually
Ratio of renewable energy to purchased electricity	20% to 100% depending on site characteristics	
Reduction of waste discharge (resource reduction)	2% reduction annually	

Certification achievement by all global production sites

- The standards are revised every Medium-term Business Plan period to raise the bar. The activities are continuously implemented.
- During the Medium-term Business Plan period up to FY2022, all global production sites were certified.
- Activities started in FY2023 to meet the new standards.

Accumulation of steady efforts in daily actions at the core of activities



- Direct engagement on factory floor
- Measurement and visualization
- Process improvement and transformation
- Deeper recognition of challenges as one's own



Results of activities



Business risk reduction



Cost reduction by conserving energy and resources



Response to environmental assessment in bids



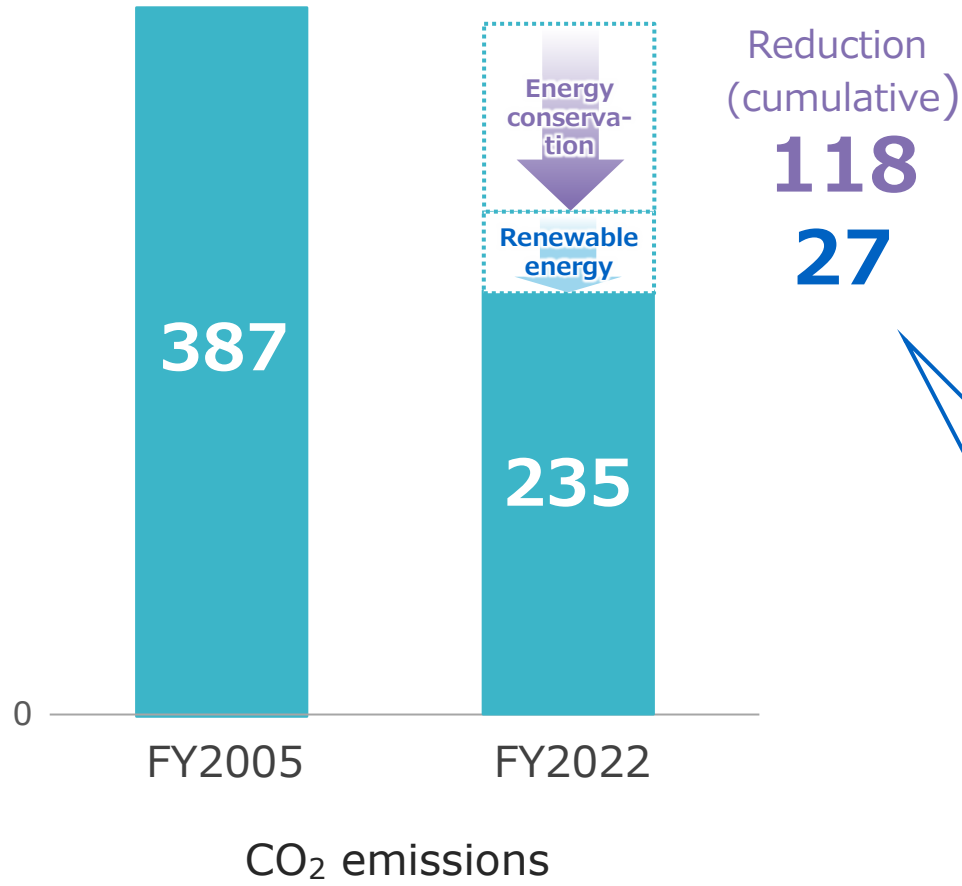
Corporate culture that supports self-reliant task setting and problem solving

Environmental Impact Reduction and Economic Benefits from Green Factory Activities

Scopes 1 and 2

Reduction effect during production

(Thousand tons)

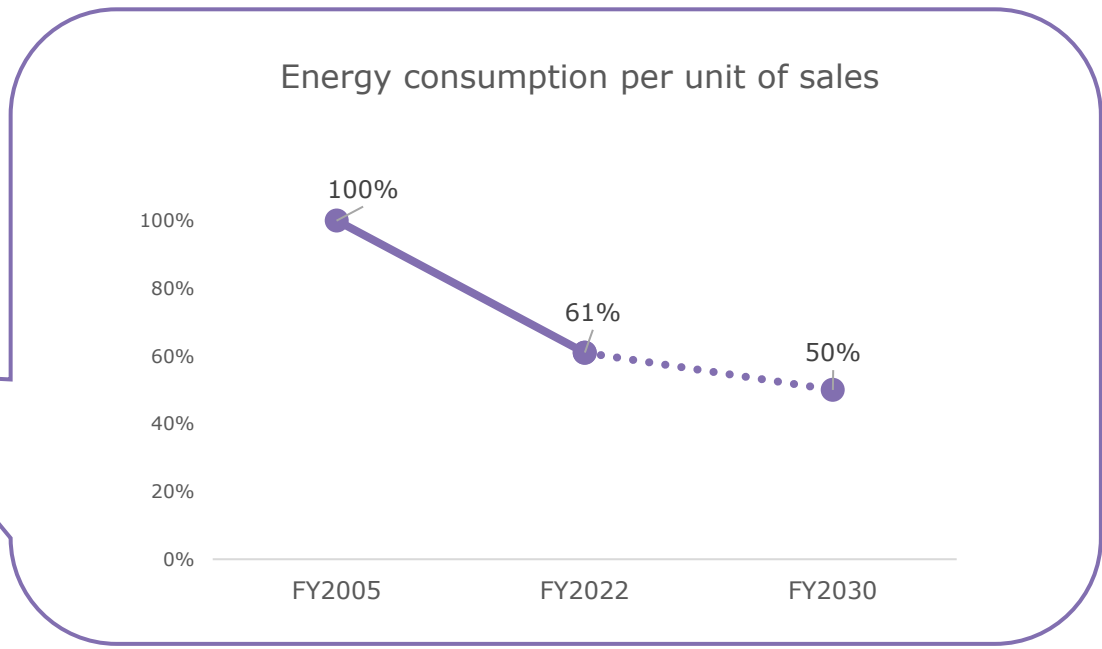
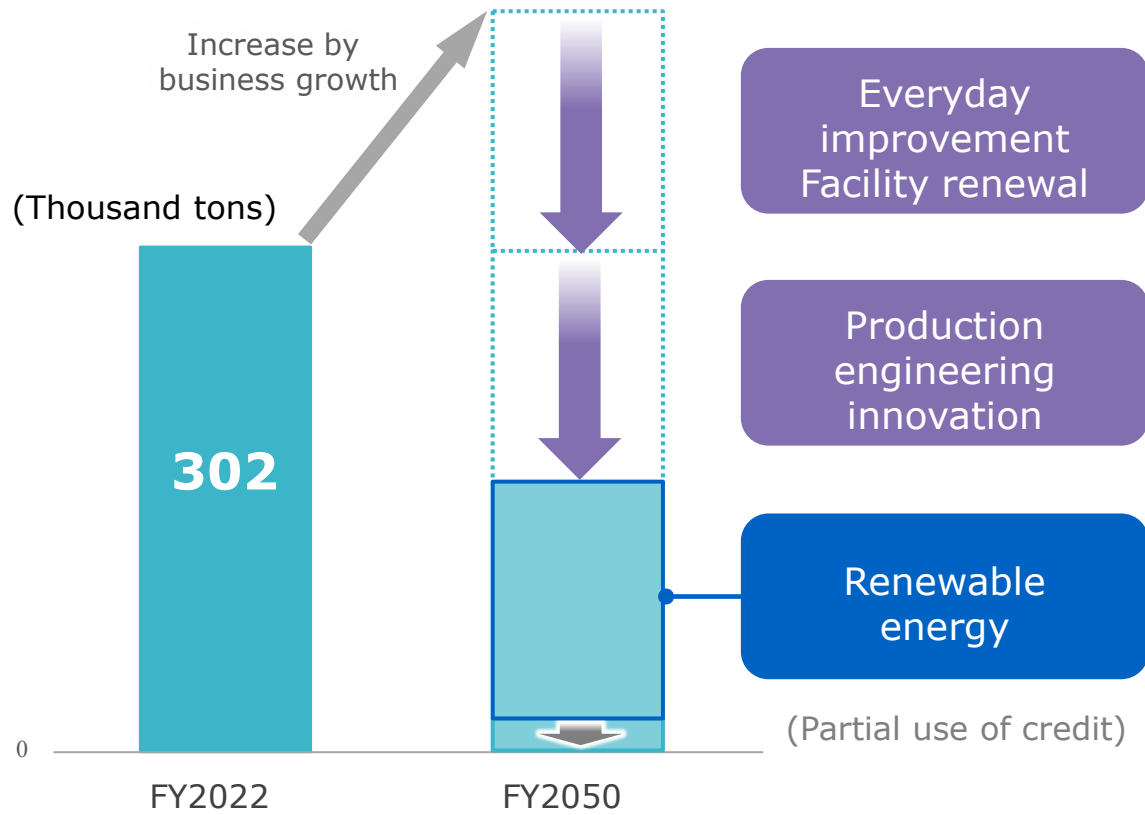


Cost reduction
¥3.38 billion

All of overseas MFP production sites achieved 100% renewable energy. (March 2023)



Green Factory activities will **improve energy efficiency, doubling by 2030.**
Renewable energy-derived electricity ratio is aimed at 100% by 2050.



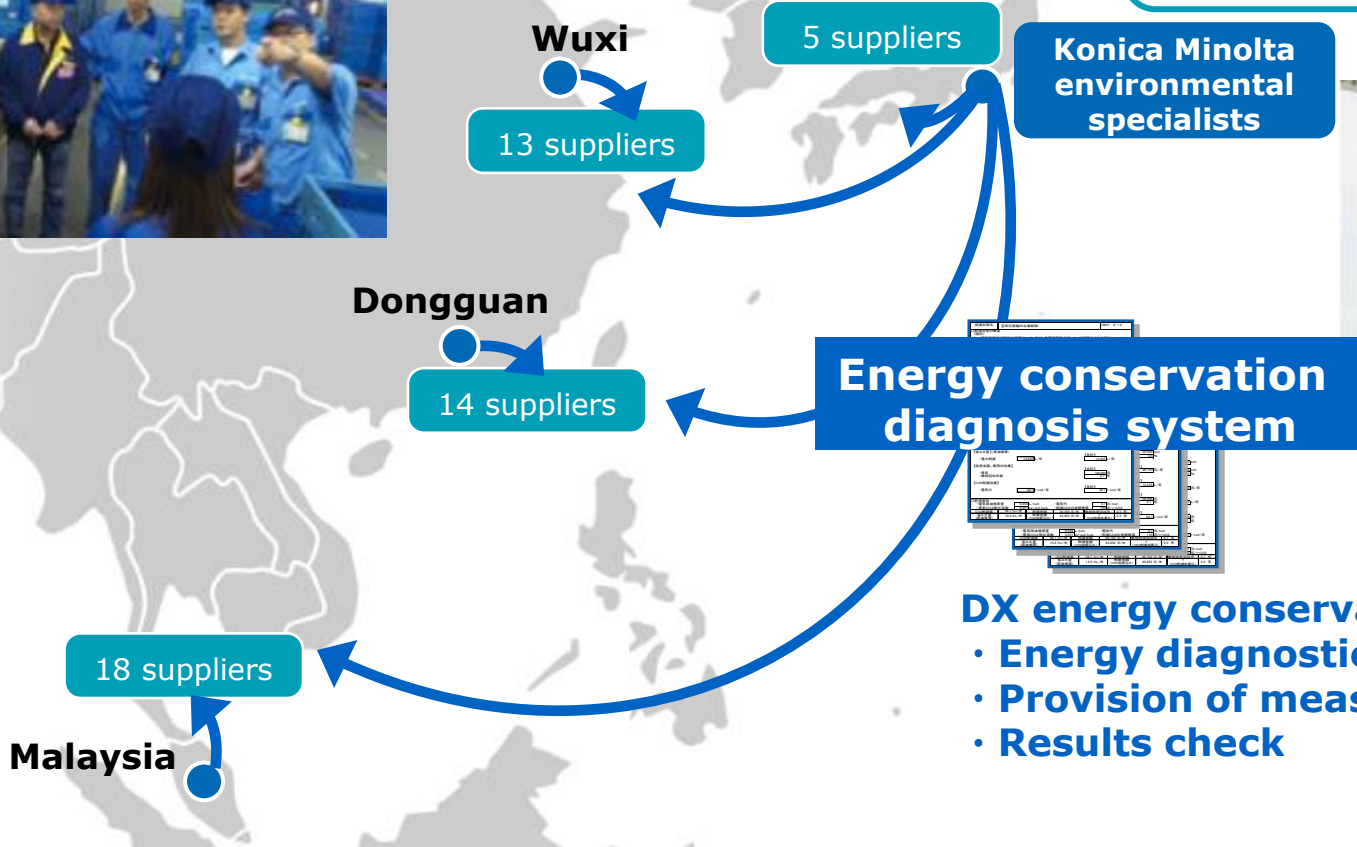
Expansion of Environmental Know-how to Suppliers

Scope 3

- Provision of environmental experience and know-how to suppliers
- Reduction of environmental impact and costs at the same time

FY2022 activities (cumulative)

- CO₂ savings: 21,000 tons
- Effective use of resources: 3,000 tons
- ↓
- Monetary value reduction effect: ¥660 million



- DX energy conservation**
- Energy diagnostics
 - Provision of measures
 - Results check

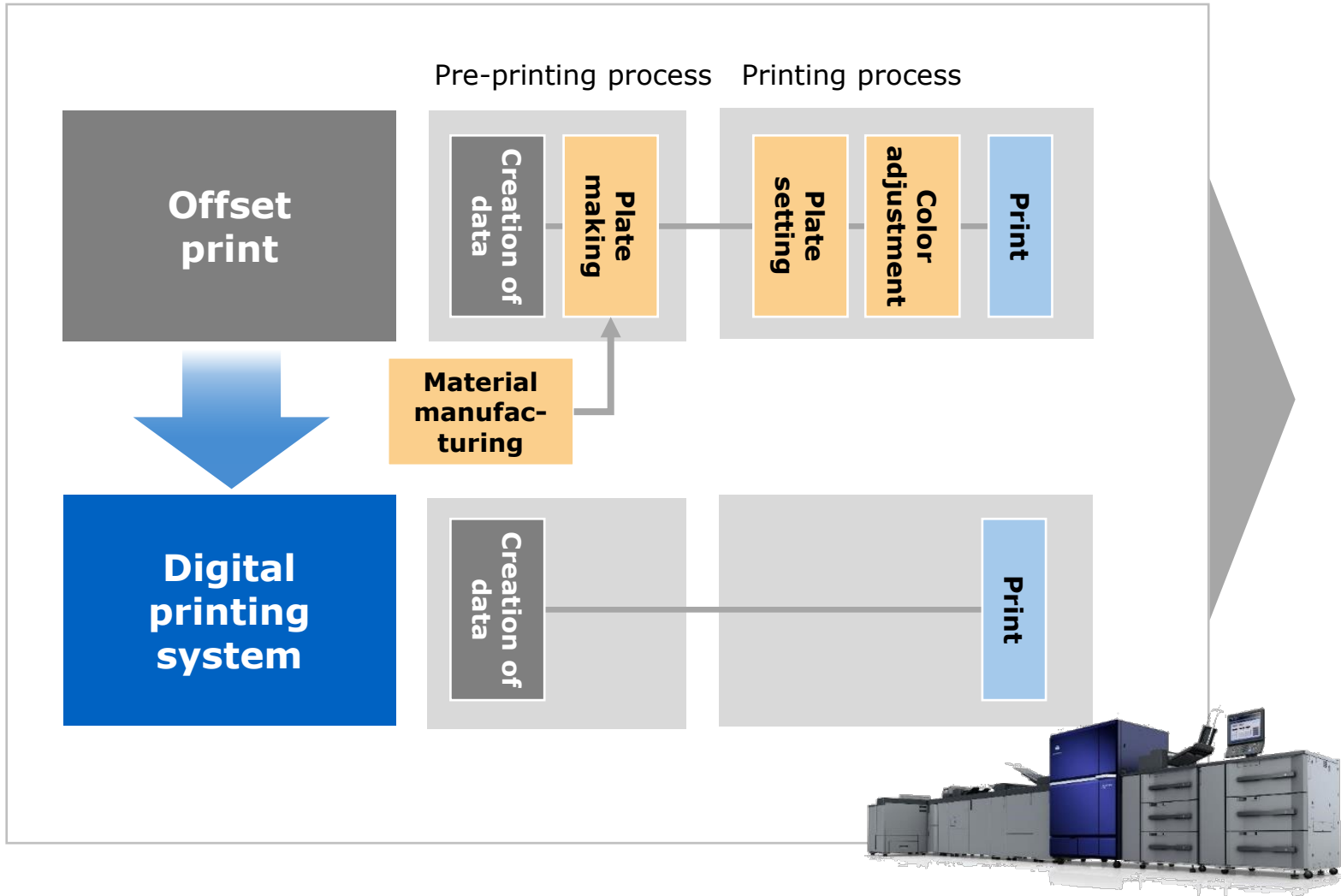
Contribution to Environmental Impact Reduction in Production Print

Scope 4



150 YEARS

Contribution to CO₂ emissions reduction of approximately 500 tons per unit by transforming customer's supply chain



Lifecycle CO₂ emissions per unit (5 years)

CO₂ emissions (Scopes 1, 2 & 3)

13 tons Increase

CO₂ reduction contribution* (Scope 4)

500 tons Reduction

*Konica Minolta estimate

Visualization of gas by imaging IoT to prevent leakage of gases with higher global warming potential

Methane emissions in oil and gas industry

17,000 thousand tons in North America
(approximately 20% of global emissions)
=420,000 thousand tons of CO₂

Reference: IEA Methane Tracker 2023
Calculation by Konica Minolta

Prevention of gas leakage and maintenance



Immediate measurement of gas leakage location and flow rate

60
thousand tons
Reduction
contribution to
methane emissions*
(in 2027)

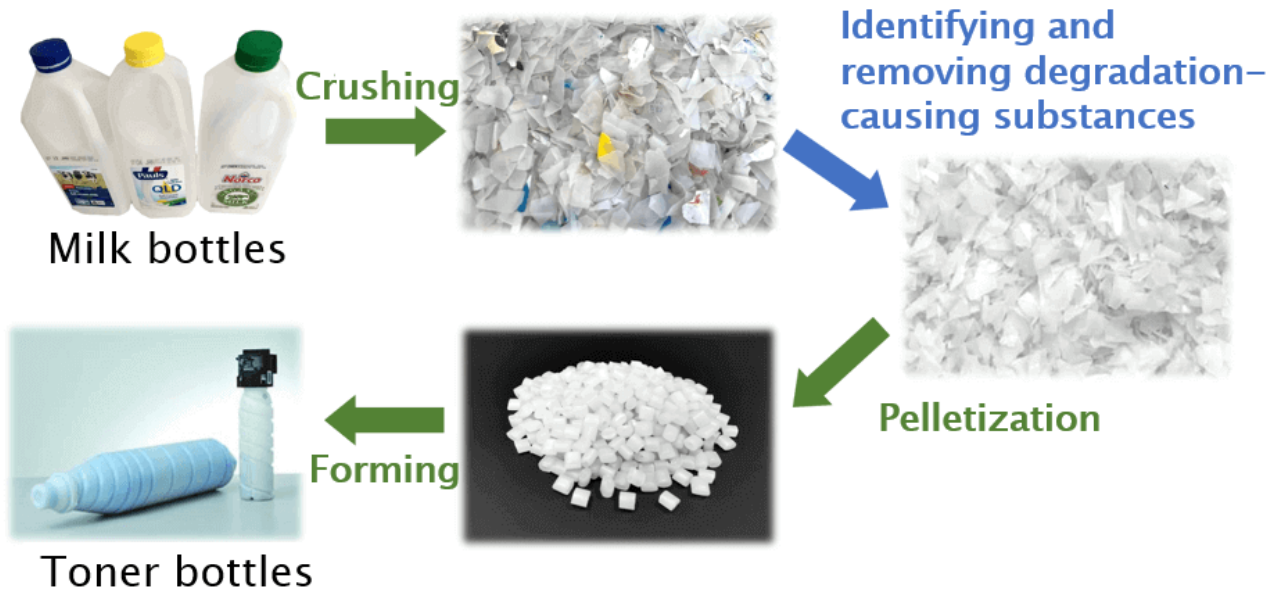
*Konica Minolta estimate

Recycling Technology that Expands Potential of Waste Plastic

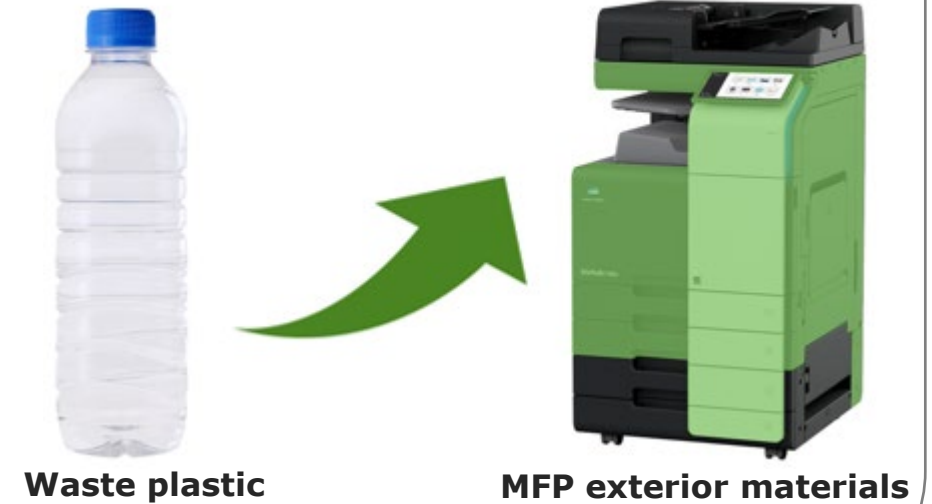
Scope 4

- The annual utilization of approximately 5,000 tons of waste plastic as resource recycling reduced CO₂ emissions in Scope 3 by around 7,000 tons.* (FY2022 results) *Konica Minolta estimate
- In Scope 4, dissemination of the technology in the larger society is aimed.

High purification technology



Material-properties upgrading technology



Hyperspectral imaging technologies

capture the spectrum invisible to humans and enable high-precision identification and inspection.

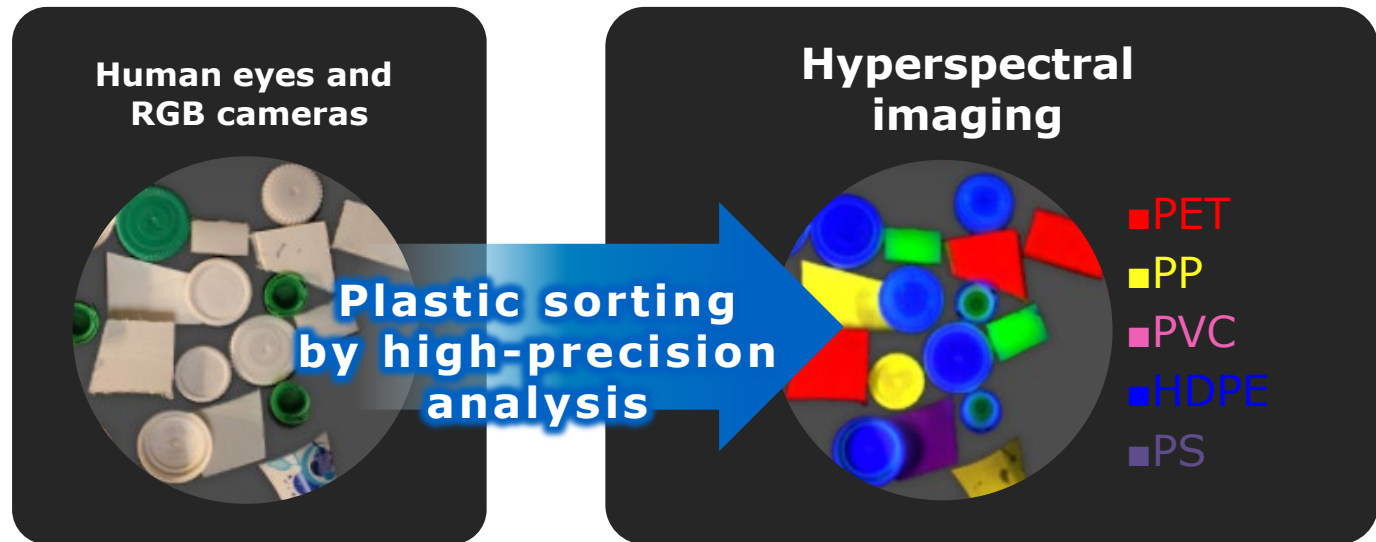
Escalation of environmental problems

- Serious waste problem
- Effective use of resources

Labor shortage in recycling industry

- More sophisticated recycling
- Work environment improvement

- **Effective use of resources** through automatic garbage sorting in the recycling industry
- **Application for automation and labor saving** for ingredient analysis and foreign substance testing of foods and formulations



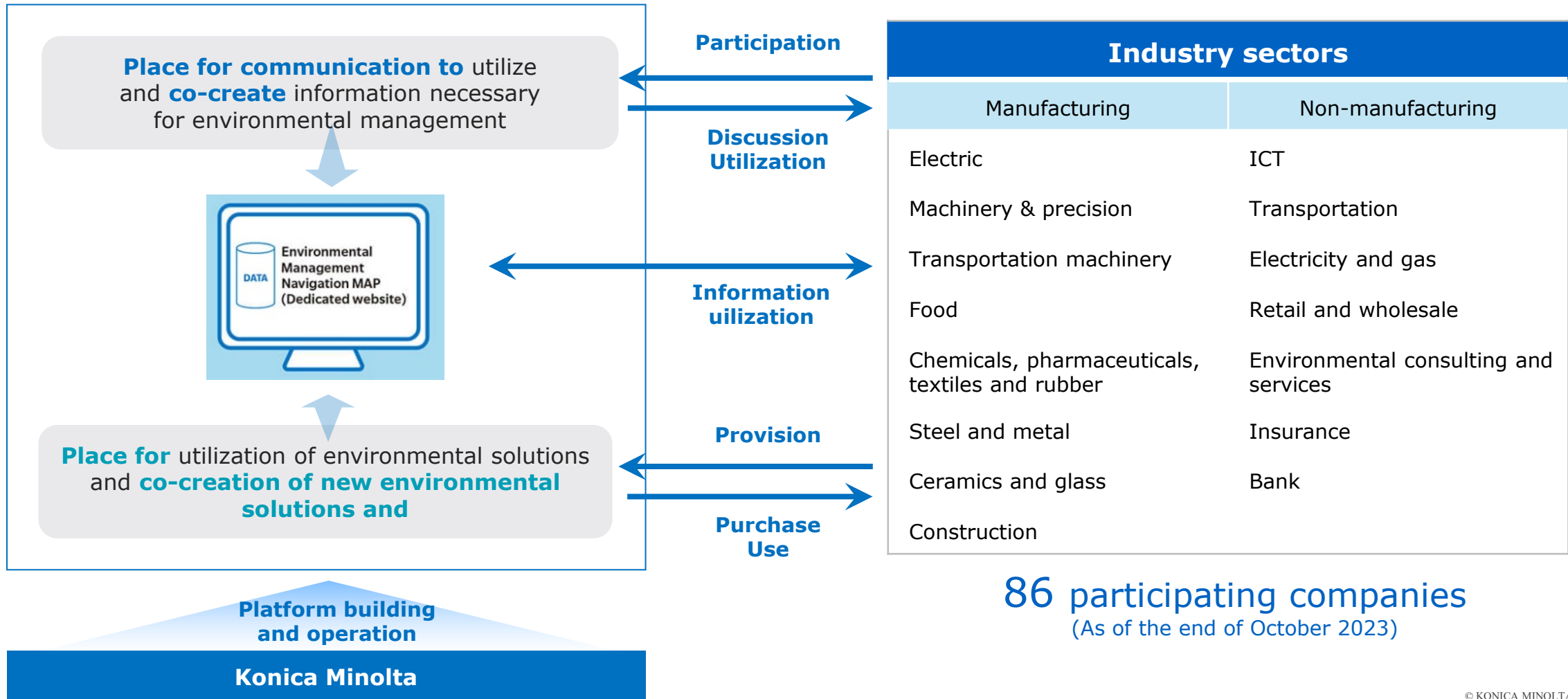
Environmental Digital Platform: Co-creation of Environmental Value across Different Industries

Scope 4



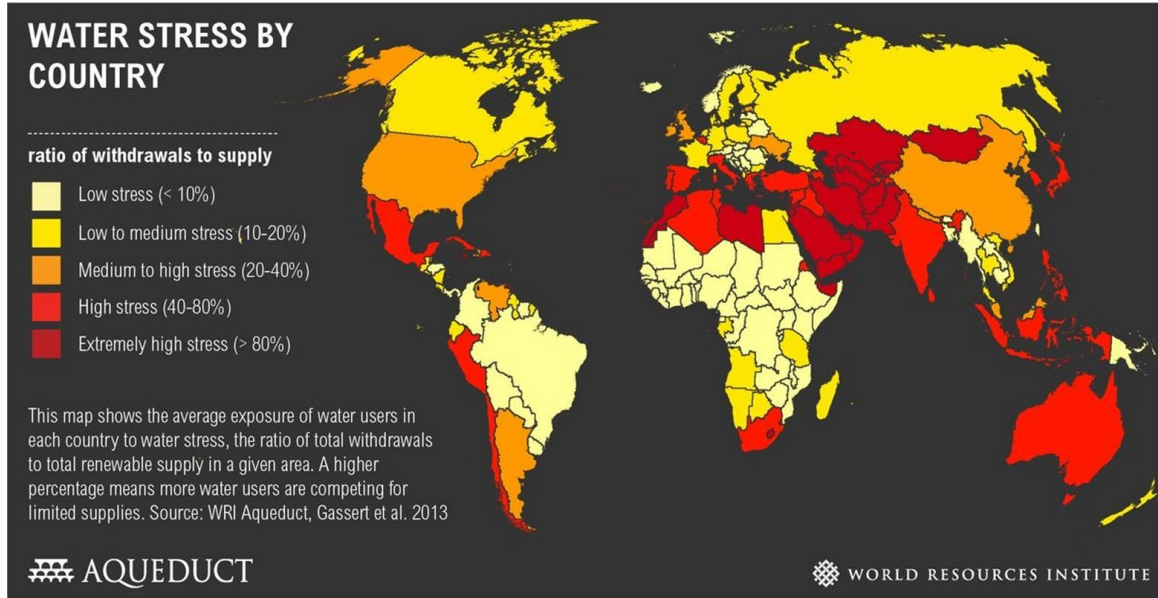
150 YEARS

Sharing and accumulation of environmental knowledge and know-how of participating companies with the aim to improve environmental management by co-creation of new value



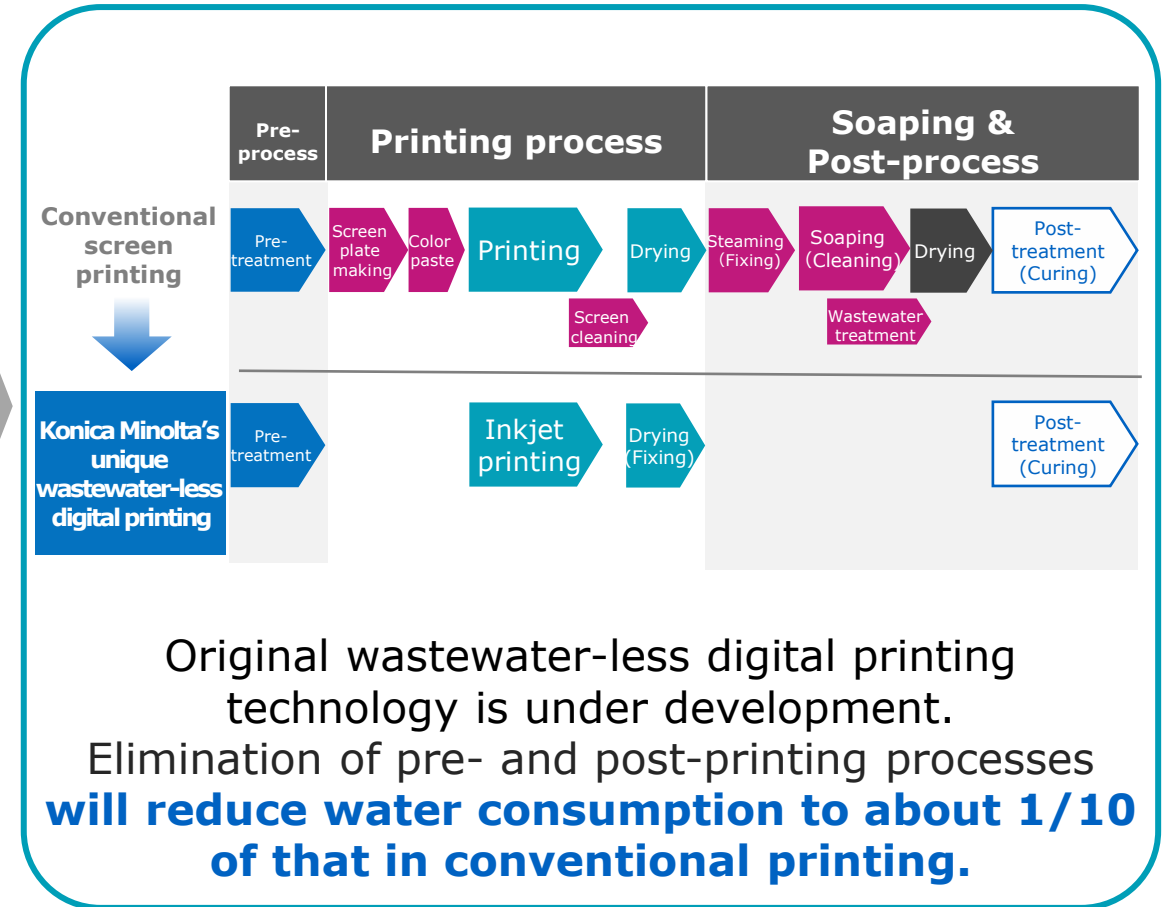
Contribution to Water Consumption Reduction in Textile Printing (Industrial Printing)

Water Stress World Map*



Major markets are highly water stressed.
(India, China, Turkey, Italy and Japan)

*Source: World Resources Institute



Economic Value Expansion with Green Products

Scope 3

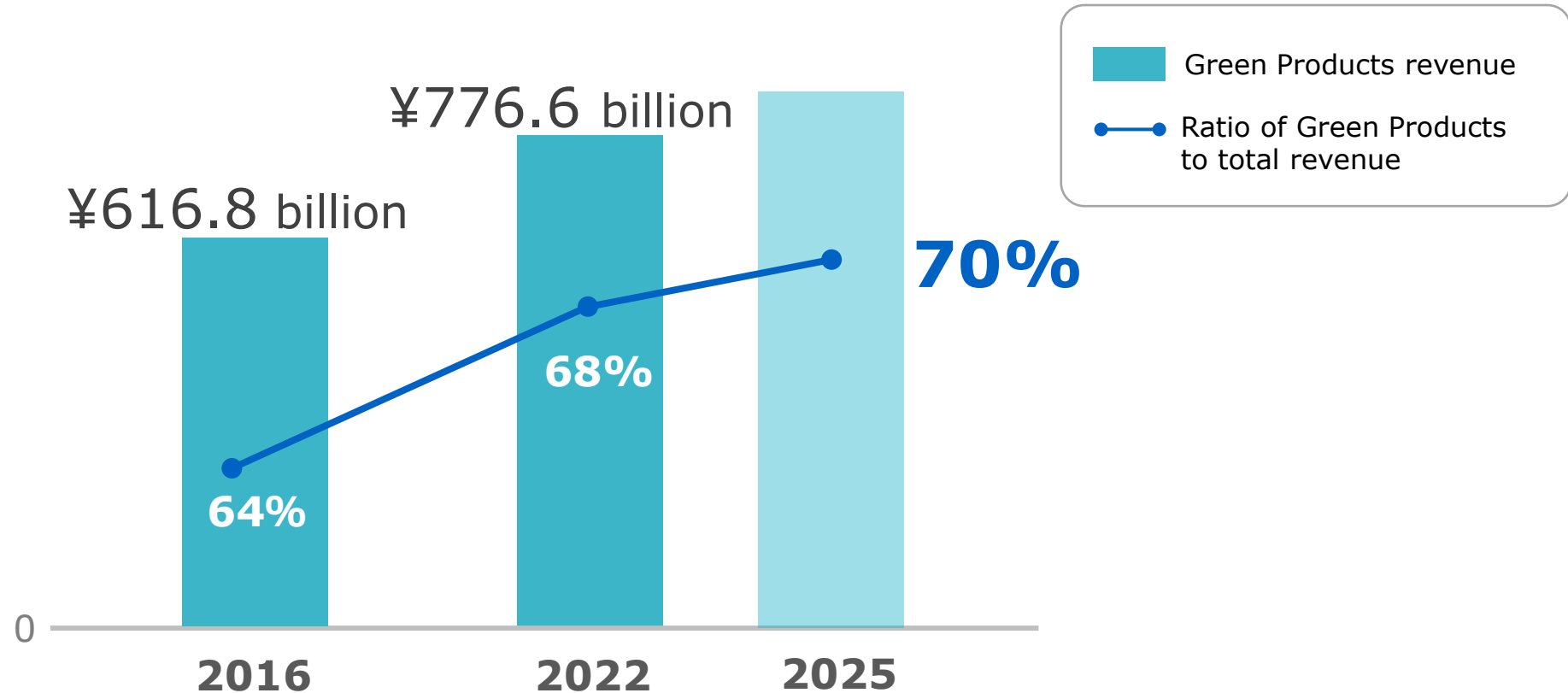
Scope 4



150
YEARS

Ratio of revenue of Green Products (products that contribute to the environmental impact reduction) to the total revenue:

Aiming for **70% or higher** in 2025





KONICA MINOLTA

150

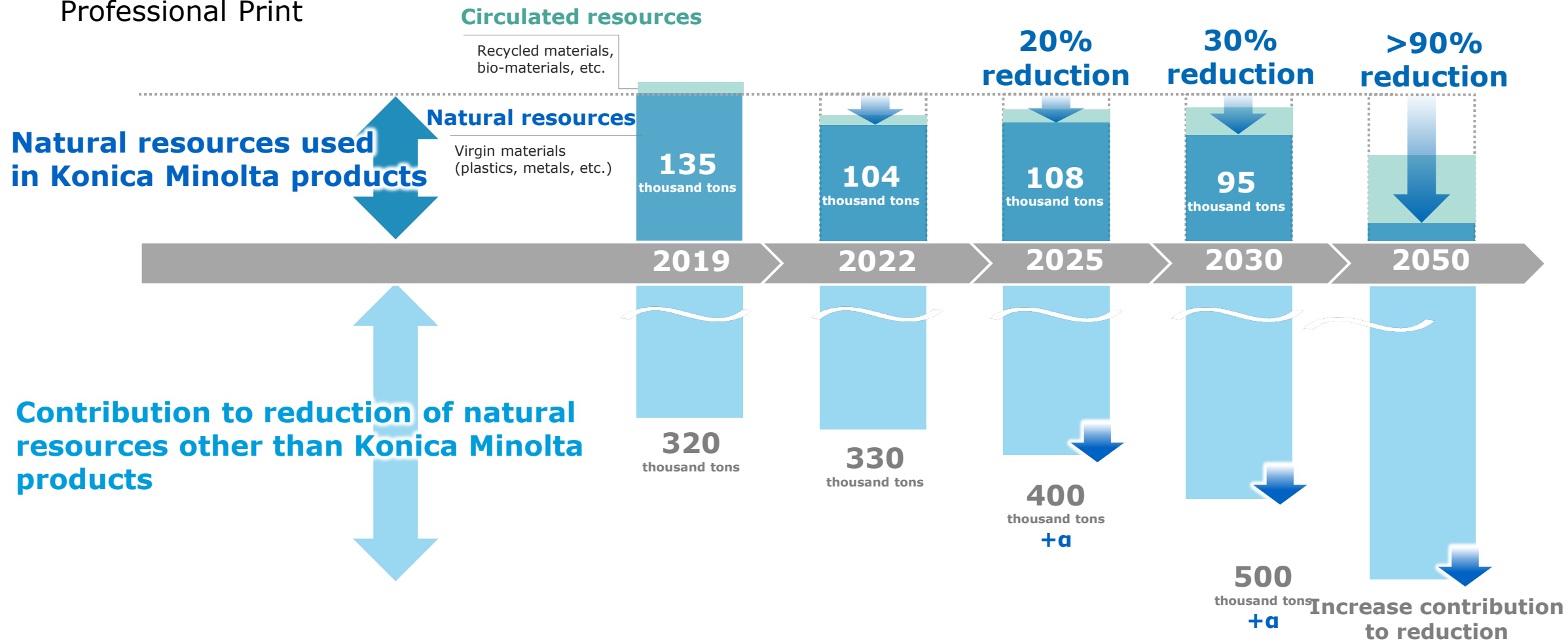
YEARS

Appendix



Effective Use of Limited Resources: Toward zero use of global resources by 2050

- Steady progress toward the goals, with higher reduction goals by 2025
- In FY2025 and beyond, expectation of further reduction in the Industry field on top of reduction in Professional Print



Companies Participating in Environmental Digital Platform

Industry sector		Participating companies: 86 companies as of the end of October 2023
Manufacturing	Electric	Azbil Corporation, Konica Minolta, Inc., TAMURA CORPORATION, PIONEER CORPORATION, Panasonic Corporation, Foster Electric Company, Ltd., FUJITSU GENERAL LTD., Mitsubishi Electric Corporation, YASKAWA Electric Corporation, YOKOGAWA Electric Corporation, Lenovo Japan LLC, ROHM Co., Ltd. and four other companies
	Machinery & precision	EBARA CORPORATION, OSG Corporation, ORIENTAL MOTOR CO., LTD., Komatsu Ltd., SATO Holdings Corporation, Citizen Watch Co., Ltd., SHIMANO INC., Daikin Industries, Ltd., Daifuku Co., Ltd., TADANO LTD., TVE Co., Ltd., Terumo Corporation, Nakanishi Metal Works Co., Ltd., NSK Ltd., BROTHER INDUSTRIES, LTD., HOYA CORPORATION, MISUMI Group Inc., Mitsutoyo Corporation and four other companies
	Transportation machinery	AISIN CORPORATION, TOYOTA BOSHOKU CORPORATION, Hino Motors, Ltd. and one other company
	Food	Nichirei Corporation and one other company
	Chemistry, pharmaceuticals, textiles and rubber	Aika Kogyo Company, Ltd., Otsuka Pharmaceutical Factory, Inc., Kawami Sangyo Co., Ltd., GUNZE LTD., Sumitomo Riko Company Ltd., Daicel Corporation, Mitsubishi Chemical Group Corporation, Lion Corporation and three other companies
	Steel and metal	YKK Corporation, YKK AP Inc., LIXIL Corporation
	Ceramics and glass	AGC Inc., NICHIAS Corporation and one other company
	Construction	Daiwa House Industry Co., Ltd.
Non-Manufacturing	ICT	Aidemy Inc., Asuene Inc. , INFOCOM CORPORATION , SCSK Corporation , NS Solutions Corporation, medidas
	Transportation	YAMATO HOLDINGS CO., LTD.
	Electricity and gas	Japan Wind Development Co., Ltd.
	Retail and wholesale	Astomos Energy Corporation, Sangetsu Corporation
	Environmental consulting and services	ECOLOGICA Co., Ltd. , ENERES Co., Ltd. , Enel X Advisory Service Japan LLC , CARBON FREE CONOSULTING CORPORATION , Creattura Co., Ltd. , Geosphere Environmental Technology Corporation , DIGITAL GRID Corporation , TOSHIBA ENVIRONMENTAL SOLUTIONS CORPORATION , Xels Japan , BYWILL Inc. , PERSOL CROSS TECHNOLOGY CO., LTD. , PwC Sustainability LLC , Sumitomo Mitsui Finance and Leasing Company, Ltd.
	Insurance	Aflac Life Insurance Japan Ltd.
Bank	Resona Holdings, Inc.	

*Companies that provide environmental solutions are in green.

- **Scope 1**
Greenhouse gases emitted directly by companies and organizations through combustion of fuels, in-house power generation, etc.
- **Scope 2**
Greenhouse gases that are indirectly emitted through the use of electricity, heat, and steam supplied by entities other than companies and their organizations.
- **Scope 3**
Greenhouse gases other than Scopes 1 and 2 that are emitted indirectly through the supply chain associated with the companies' activities.
- **Scope 4 (Reduction contribution)**
Greenhouse gases that are not covered by Scopes 1, 2, or 3 and that are reduced by customers or their supply chain through the companies' own solutions or activities.
- **Green Factory Activities**
Konica Minolta's original efforts to promote energy conservation, effective use of resources, and introduction of renewable energy at its own factories.
- **Green Products**
Products that meet the standards established by Konica Minolta's own Green Products Certification System, have high environmental performance, or contribute to solving environmental issues for customers and others.
- **Carbon Minus**
Status in which Scope 4 exceeds the company's lifecycle CO₂ emissions (Scopes 1, 2, and 3).
- **Net zero**
Status in which greenhouse gas emissions are substantially zero.
- **Upgrade recycling**
Recycling that enhances the value of materials used in the market by adding functions such as higher strength and flame retardancy.
- **HSI (Hyperspectral imaging)**
A method for dividing a wide range of wave lengths into a large number in taking images. This technology enables sorting of plastics which cannot be distinguished by human eyes and RGB cameras.
- **Environmental Digital Platform**
An ecosystem of environmental management operated by Konica Minolta. The platform aims to reduce the environmental impact of the industries and society as a whole by utilizing each other's outstanding environmental technologies and know-how among companies in various industries.