Teijin's Initiative to "Be a Company That Supports the Society of the Future"

「未来の社会を支える会社」を目指す帝人の取り組み

June 17th / 2025, German and Japanese Business and Investment Seminar

Yutaka Yagi (八木　穣)
General Manager
Environmental Solution Division
New Business Development Unit

TEIJIN

History

1918
Establishment of Teikoku Jinzo-Kenshi. Beginning Japan's first commercial production of rayon fibers (Artificial Silk)

1952

Beginning of trading business

1958
Beginning of polyester fibers, Tetoron® business

1960
Beginning of polycarbonate resin, Panlite® business

1962

Company name changes to Teijin Limited

1971
Beginning of meta-aramid fibers, Teijinconex® business

1973
Beginning of pharmaceuticals business

1982
Beginning of Japan's first home oxygen therapy (HOT) business

1987

1995
Beginning of recycled polyester fibers, ECOPET® business

ECOPET. Quality from Waste

Beginning of para-aramid fibers, Technora® business

1992

Establish Global Environmental Charter & Action Goals

1999
Beginning of carbon fibers, Tenax™ business

2000
Expansion of para-aramid fibers business by starting Twaron® business

2002
Launched polyester recycle system, Eco Circle®

ECO CIRCLE

2011
Establish mass production technology for thermoplastic Carbon composites

2012
Beginning of battery separator, Lielsort® business

2021

Pioneer of regenerative medicine, J-TEC joins Teijin Group

Formulation of Purpose and Values

2024

2023
Launched biomass Polycarbonate Resin Panlite®CM

First industrial scale production of Twaron® with recycled content

2025
Launch next generation eco-conscious Carbon Fiber

Tenax Next

Purpose

Pioneering solutions together for a healthy planet

Business Area

Aramid >

Resin, Flame Retardant & Additives >

Carbon Fibers >

Pharmaceutical & Medical Equipment

Composites >

Films & Sheets >

Fibers & Products Converting >

Environment Engineering >

Financial Result (FY2024)

- Net Sales: 1,005.5B JPY
- Operating Income: 27.5B JPY

Number of Employees (as of March 31, 2025)

- 8,535 (Japan)
- 11,744 (Oversea)

Chemistry between NRW & Teijin

Teijin Carbon Europe

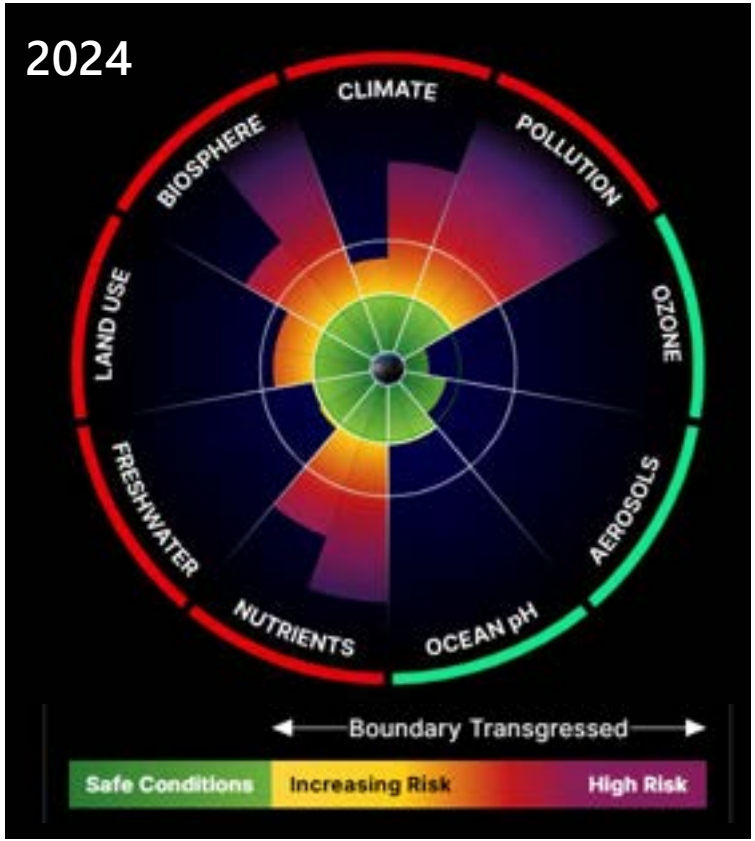
Teijin Aramid

Teijin Automotive Technologies

- Teijin Frontier Europe (Hamburg)
- J.H.Ziegler (Achern-Oberachern)
- Teijin Kasei Europe (Venlo, NL)
- Teijin Brightlands Innovation Center (Geelen, NL)

https://youtu.be/oLO-y7fAnyM?si=xABm85iie-BiNp9a

Environmental Challenges



Credits: Caesar and Sakschewski et al., 2024

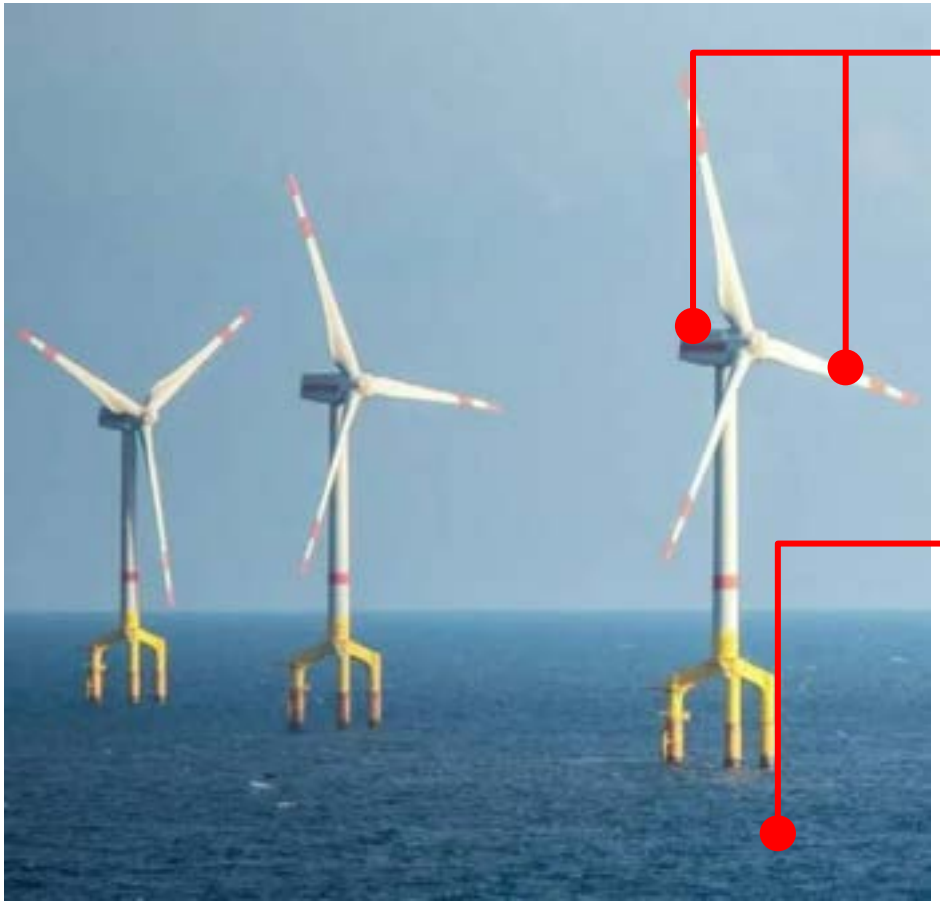
Focusing Domains

Renewable Energy and Conversion
Materials, Solutions and Businesses for production, transport and storage of renewable energy

Circular Economy
Methodologies and technologies to enable circular economy loops

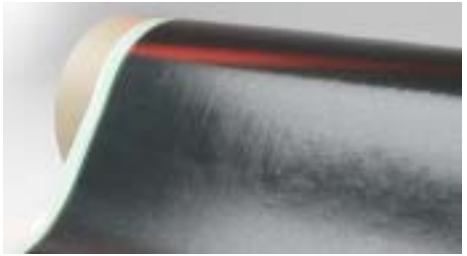
Nature Restoration
Use of biobased materials and methods to improve air, water, land quality and biodiversity

Renewable Energy and Conversion (Wind Turbine)



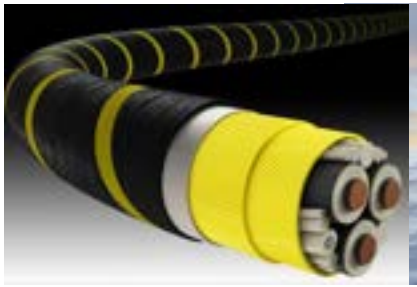
Carbon Fiber

- Reinforced coupling and drive shaft
- Reinforced blades (Fabric / Pultruded)

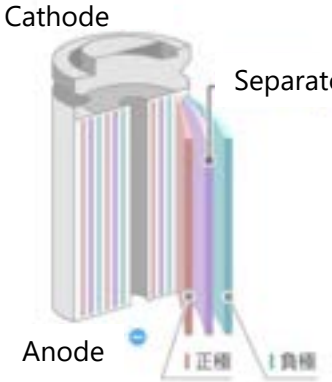


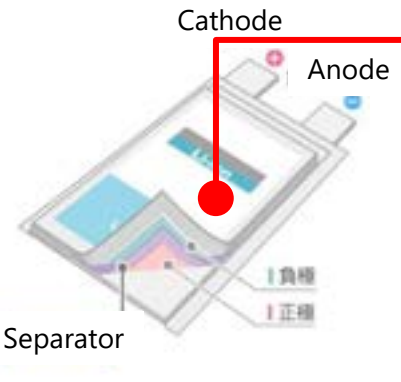
Aramid Fiber

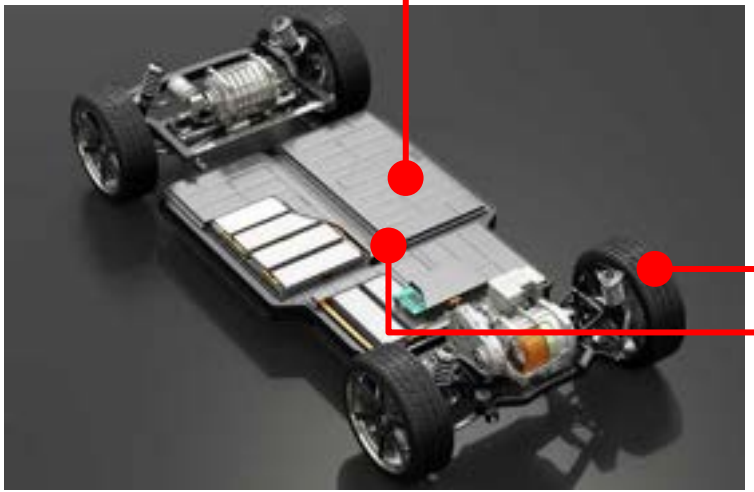
- Reinforced submarine power cable



Renewable Energy and Conversion (Batteries)

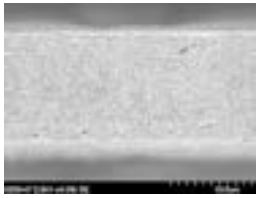




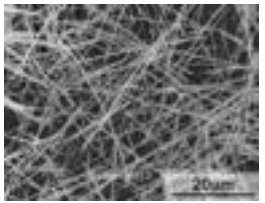


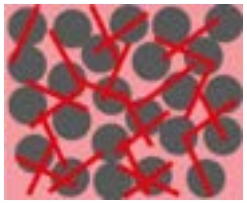
Battery Materials

- Separator



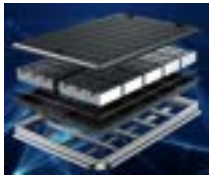
- PotenCia®





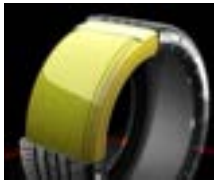
Composite Technology

- Fire Resistant / Recyclable



Tire Reinforcement

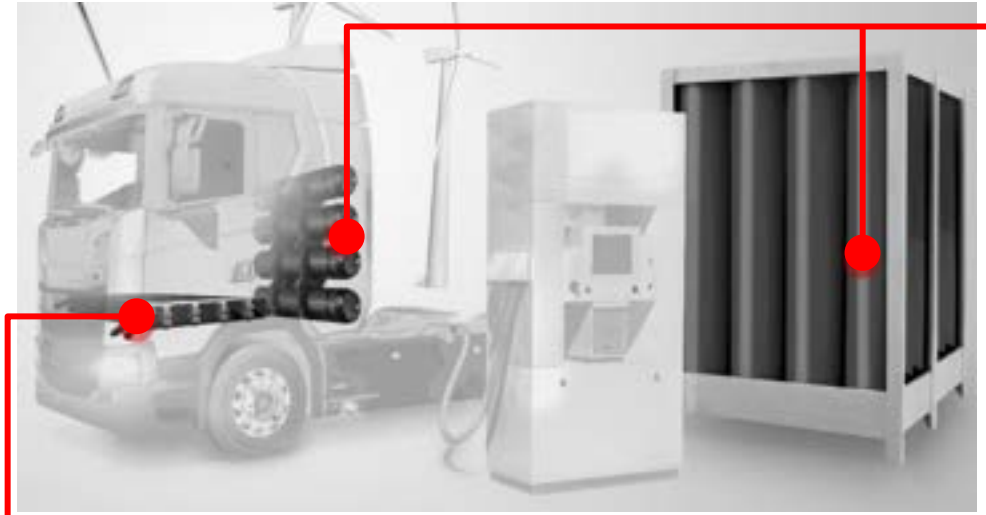
- Twaron®



Transport System for Inspection

- Engineering

Renewable Energy and Conversion (Hydrogen)



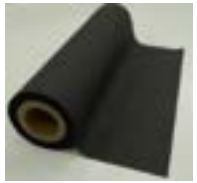
High pressure tanks

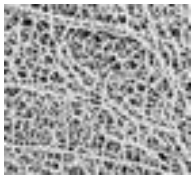
- Filaments & Towpregs

- Teijin ULTRESSA

Fuel Cell / Electrolyzer (Electrodes / Reinforcement)

- Pyromex
- Short Fiber
- CANGDL
- Miraim





Circular Economy (Teijin Frontier)

ECOPET®
Quality from Waste

Recycle polyester products
- From production waste / reclaimed end of life products
- By mechanical recycling or chemical recycling

Mechanical Recycling

Chemical Recycling

Decolorization & Chemical Decomposition

~60% reduction of CO2 footprint against fossil base virgin material

Circular Economy (Polycarbonate Compounds)

TEIJIN

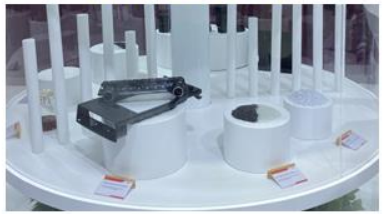
■Current lineup

■Virgin grade (compound)

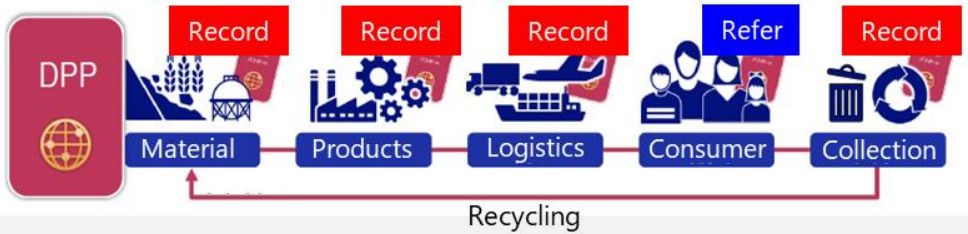
- Interior — PC/ABS
- Exterior — PC/ABS
- Exterior — PC/PEst

■Recycled Grade

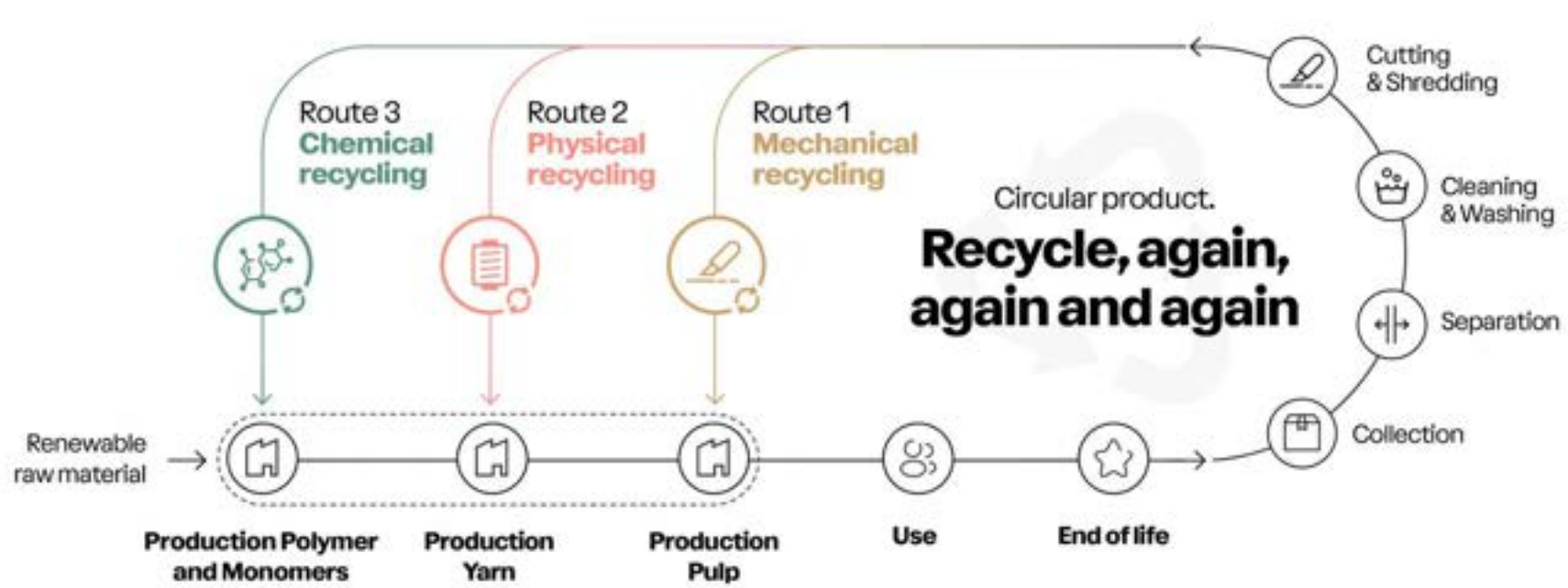
PCR ratio 30-50%



Dev. Plan	Launch in October 2024 2031 model	Launch in 2025 2036 model	Launch in 2030 2040 model
ELV ratio	Step1 ELV correspondence Add 6.25% or more of recovered H/L from the market	Step2 ELV- Max Add the maximum amount of market-recovered H/L that can maintain its physical properties	Step3 ELV- Ultra Add the maximum amount of scrapped car-derived raw materials that can maintain the physical properties
Recycling Methods	material	material	Materials & Chemical, Physical
Traceability	In cooperation with a system manufacturer, Recycler & Teijin will build a system that ensures traceability. → European and Japanese DPPs(Digital Product Passport) Building with vision in mind		



Circular Economy (Teijin Aramid)



CIRCULARISE

Digital Product Passport to trial of the aramid fibers from its origin to the customer Hampidjan, producer of the Terra® Sling

Teijin Twaron® with circular content has been adopted for Bridgestone tires for BWSC

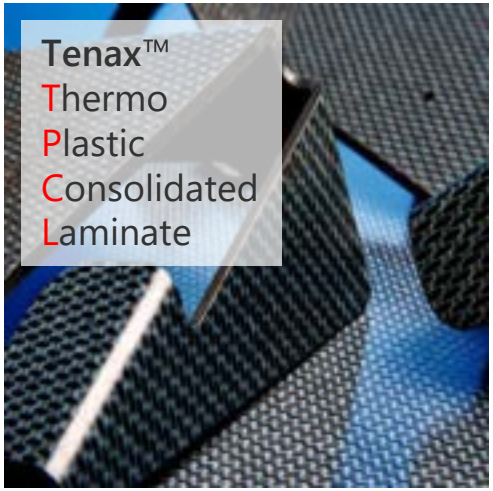
Circular Economy (Teijin Carbon & Composites)

Pioneering “Reduce” Waste

- Repurposed loose fiber materials
- Rice-shaped to reinforce compounds
- Digital Product Passport available

Pioneering “Recyclable” Carbon Composite

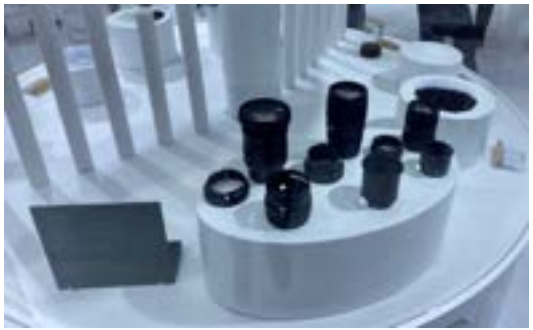
- Lightweight
- Ultimate impact resistance
- Recyclable
- Reclaimed waste materials
- 1 min cycle time



- First thermoplastic carbon composite for aviation

Nature Restoration (Bio-based Materials / Other)

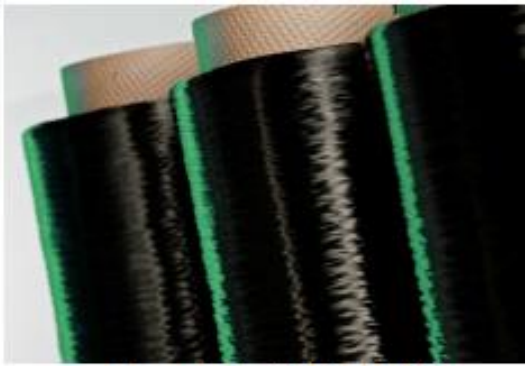
Biomass Polycarbonate



- Biomass BPA
- ISCC PLUS Certificated

Biobased (Circular-based) Carbon Fiber

Tenax Next™



「Tenax Next HTS45 E23 24K」

- Renewable Energy
- Bio-based & Circular-based raw material
- ISCC PLUS Certificated
- 35% CO2 reduction

Plant-based Polyester Fiber

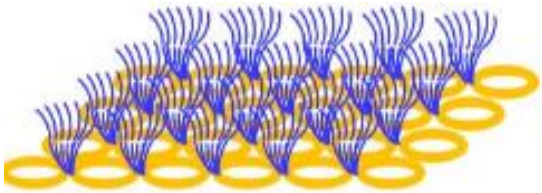
PLANTPET SOLOTEX

- Plant-based raw material (Partially)

Microplastic Prevention Textile

(Not bio-based, but microplastic prevention)

Thermo Fly ®



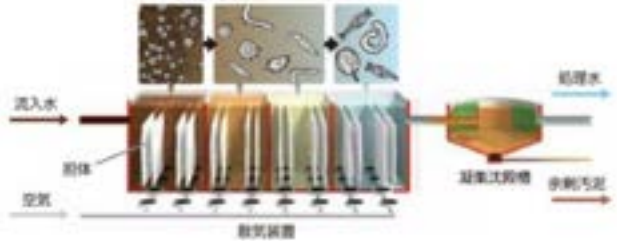
- Non-brushed high-volume structure
- Special section shaped fiber

Nature Restoration (Water Treatment)

Special Fiber Media

Panel-unit-type Equipment

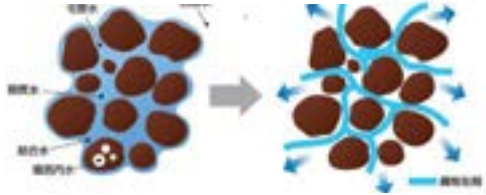
Forming a food chain environment for organisms



- Reduction of Sludge (50%)
- Energy Reduction (8%)
- CO2 Reduction (11%)
- Reduction of Dilution Water

Dewatering Aid

Image to accelerate dewatering



Effectively removes capillary water and interstitial water

- Improve dewatering capability
- Sludge Volume Reduction (25%)
- CO2 Reduction (32%)

Filters

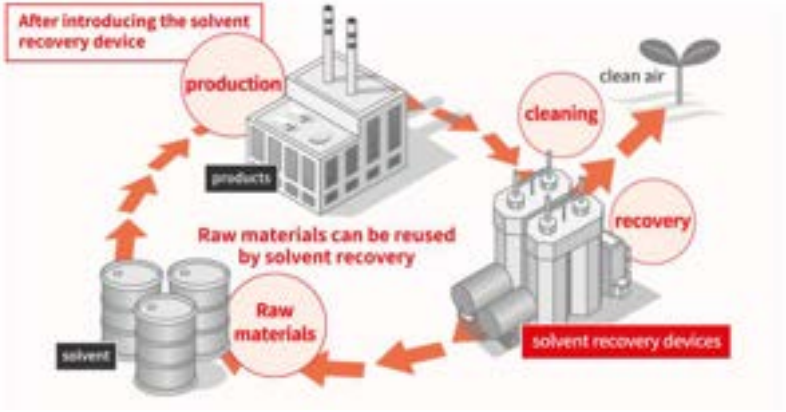
- Nanofront (Nano PET)

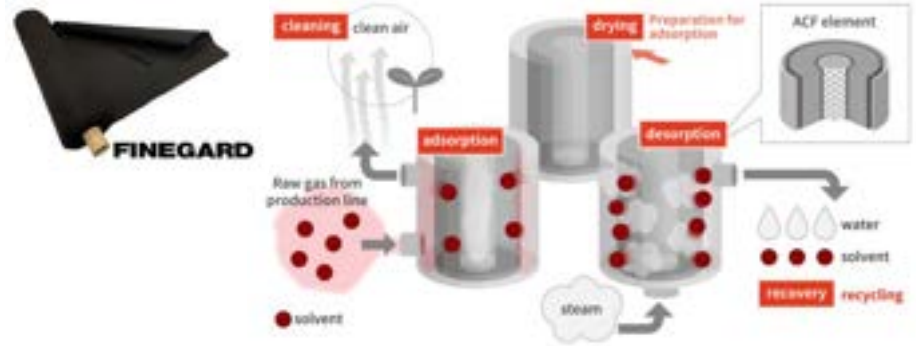
Fiber Cross Diffusor

- Fiber cross instead of rubber
- Low pressure loss

Nature Restoration (Air / Gas Treatment)

Solvent Recovery System





Flue Gas Treatment System

- De-nitration System (NOx)

- De-sulfurization System (SOx)

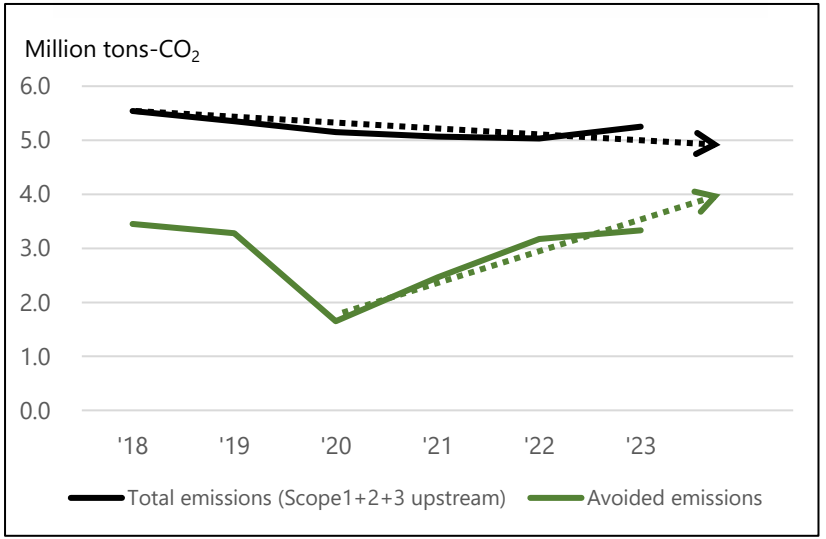
Our environmental KPI targets and progress

Our environmental KPIs and long-term targets

		Index	Target	Progress
KPI aimed at capturing business opportunities	Climate change	Contribution to CO_2 reduction	FY2030 Total CO_2 emissions < Avoided CO_2 emissions	●
KPIs aimed at strengthening business platform*1	Climate change	Our CO_2 emissions ★	FY2030 30%reduction FY2050 Achieve net zero	●
	Climate change	Supply chain CO_2 emissions ★	FY2030 15%reduction	●
	Circular economy	Water	FY2030 30%improvement	●
	Circular economy	Waste*2	FY2030 20%improvement	●
	Safety/ Security	Hazardous substances	FY2030 20%improvement	●

★ CO_2 emissions reduction targets are approved as SBT (Science Based Targets) *3

The Teijin Group total CO_2 emissions/ avoided emissions



*1 All KPIs for strengthening the business platform are target values set with FY2018 as the base year
*2 The landscape of our waste emissions will be significantly improved due to sale of a group company in US
*3 Approved as a "Well-below 2℃ (WB2℃)" target (November 2021)
*4 Total emissions: CO_2 emissions of the Teijin Group and upstream supply chain
*5 Amount of avoided emissions: Calculated as the amount of contribution to the reduction of CO_2 emissions in the downstream supply chain through the use of our products.

Pioneering solutions together for a healthy planet

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TEIJIN