



**TOKUYAMA  
2025**

# **FY2023 Management Briefing**

June 2, 2023

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Tokuyama Corporation

# Medium-Term Management Plan 2025

- ▶ Medium-Term Management Plan 2025
- ▶ Final Year Targets

1

## Transform business portfolio

Increase growth businesses' share of consolidated net sales to over 50%

2

## Contribute to mitigation of global warming

Expedite development/commercialization of next-gen energy technologies; Reduce greenhouse gas emissions 30% from FY19 by FY30

3

## Practice socially responsible management

Step up high-priority CSR initiatives to lay groundwork for further growth and realize our vision

## Changes and Actions in FY2021~FY2022

- Major changes have occurred in the business environment, including trade friction between the U.S. and China and erratic fluctuations in resource prices stemming from economic sanctions on Russia due to its invasion of Ukraine, as well as large fluctuations in exchange rates caused by interest rate hikes in the U.S. and Europe as monetary easing in Japan continues.
- Efforts to reduce CO<sub>2</sub> emissions to achieve carbon neutrality have been accelerated.
- There is also a pressing need for reforms at manufacturing sites in preparation for a reduced workforce due to progression of the declining birthrate and aging population.

### Changes of External environment

- ▶ Soaring price of raw materials and fuel
  - Coal and naphtha, etc.
- ▶ Global inflationary trend
- ▶ Advancement in adopting DX (digital transformation)
- ▶ Accelerated demand for carbon neutrality
- ▶ Demand for climate change response

### Changes of Internal environment

- ▶ Rise in manufacturing cost due to soaring price of raw materials and fuel
- ▶ Increase in expenses (e.g., logistics costs and others)
- ▶ Awareness of necessity for adoption of DX
- ▶ Promoting coal phase-out initiatives
- ▶ Accelerating initiatives based on the perspective of sustainability
- ▶ Enhance the CSR structure including response to TCFD

### Actions for Changes

- ▶ Revise sales prices
- ▶ Accelerate business portfolio transformation
- ▶ Promote cost reduction and cost shifting
- ▶ Build a TDX\*<sup>1</sup> structure
- ▶ Enhance the CSR structure including response to TCFD

\*1 TDX: Tokuyama DX

# Final Year Targets

KPI	FY22 (Result)	FY25 (Target)	Factors in Achieving Targets
Net Sales	¥351.7bn	<b>¥320.0bn</b> (Current Outlook) ¥400.0bn	<b>Focus on portfolio transformation</b> <b>Reflect cost inflation</b>
Operating Profit	¥14.3bn	<b>¥45.0bn</b>	<b>Expand operating profit approaching FY25</b> <b>Revise by changing depreciation method</b>
Growth Business Net Sales Growth Rate	20.1%	<b>CAGR</b> <b>≥10%</b>	<b>Strengthen R&amp;D,</b> <b>accelerate international expansion</b>
ROE	4.1%	<b>≥ 11%</b>	<b>Balance shareholder's equity efficiency</b> <b>and financial base</b> <b>Revise by changing depreciation method</b>

(Note) Assumptions (FY20 at the time of plan formulation): exchange rate (¥/US\$) 105, domestic naphtha price (¥/kl) 32,500  
FY22 results: exchange rate (¥/US\$) 135, domestic naphtha price (¥/kl) 76,600

# 1 Transform business portfolio

- ▶ Target Business Portfolio
- ▶ Strategy by Business
- ▶ Capex Plan Breakdown
- ▶ Cash Flow Generation and Allocation
- ▶ Cash Flow Trend and Plan

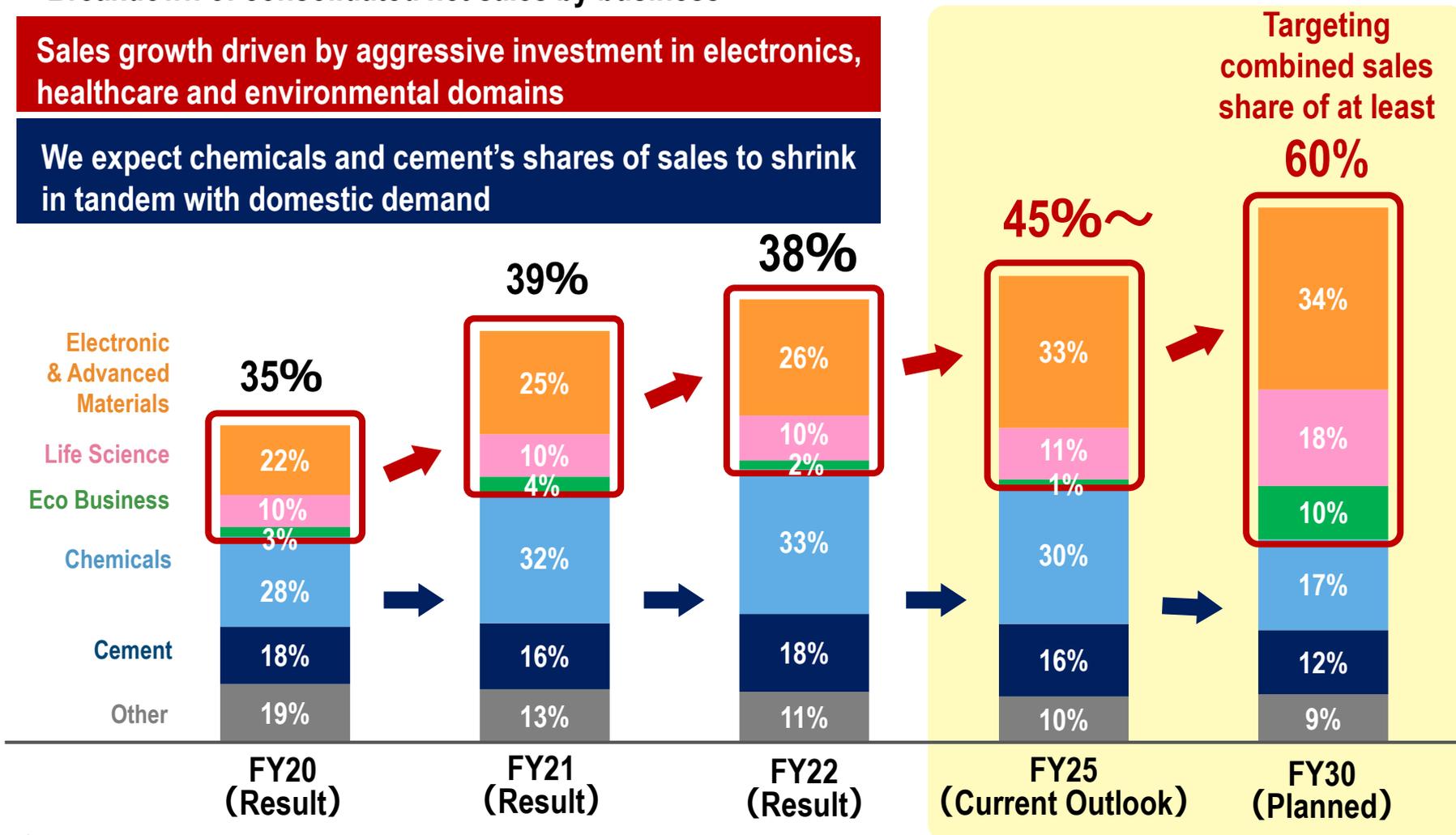
# Target Business Portfolio

Position a consolidated sales ratio of 50% or more for growth businesses in FY25 as a milestone while aiming for even higher levels

## Breakdown of consolidated net sales by business

Sales growth driven by aggressive investment in electronics, healthcare and environmental domains

We expect chemicals and cement's shares of sales to shrink in tandem with domestic demand



(Note) The sales ratio in each segment was calculated using monetary amounts that include sales between segments.

## Chemicals



### Business Goal

## Ensure stable earnings in the existing business

### Priority Measures

- ▶ **Strengthening the Chloro-alkali and PVC chain to maximize profits**
- ▶ **Reduction of CO<sub>2</sub> emissions and waste through the development and introduction of world-class energy-efficient electrolyzers and manufacturing process improvements**
- ▶ **Improve manufacturing processes and supply chains through promoting DX**

### Progress to Date

- ▶ **Implementation of sales price corrections, Building a collaborative system by making Shindai-ichi Vinyl Corporation a wholly owned subsidiary**
- ▶ **Launch of a project to improve the soda ash manufacturing process to reduce CO<sub>2</sub> emissions**
- ▶ **Started activities of SCM visualization project by DX**

### Future Endeavors

- ▶ **Demonstrate a competitive top-class electrolyzers**
- ▶ **Reduction of CO<sub>2</sub> emissions and waste by improving the soda ash manufacturing process**
- ▶ **Improving productivity through systematization of production planning using AI**

## Cement



### Business Goal

**Become the domestic industry leader in energy efficiency**

### Priority Measures

- ▶ Introduce energy-saving equipment to reduce CO<sub>2</sub> emissions
- ▶ Reduce the amount of coal usage by accepting more fuel-based waste materials such as waste plastic

### Progress to Date

- ▶ Improve profitability by implementing price revisions and using low-grade coal
- ▶ Reducing coal consumption by expanding the use of waste plastics and tires
- ▶ Optimized management resources and streamlined management by merging 4 sales subsidiaries

### Future Endeavors

- ▶ Consider suspending operations of a cement kiln
- ▶ Implement initiatives to expand acceptance of waste plastic
- ▶ Promotion of energy conservation by introducing clinker cooler equipment

## Electronic & Advanced Materials



### Business Goal

**Push forward with globalization, and capture top share in the high-purity and thermal management materials fields supporting the miniaturization and stacking of semiconductors**

### Priority Measures

- ▶ Pursue aggressive expansion in overseas markets
- ▶ Develop new applications, expand product portfolio
- ▶ Produce high-quality products, pursue analysis technology

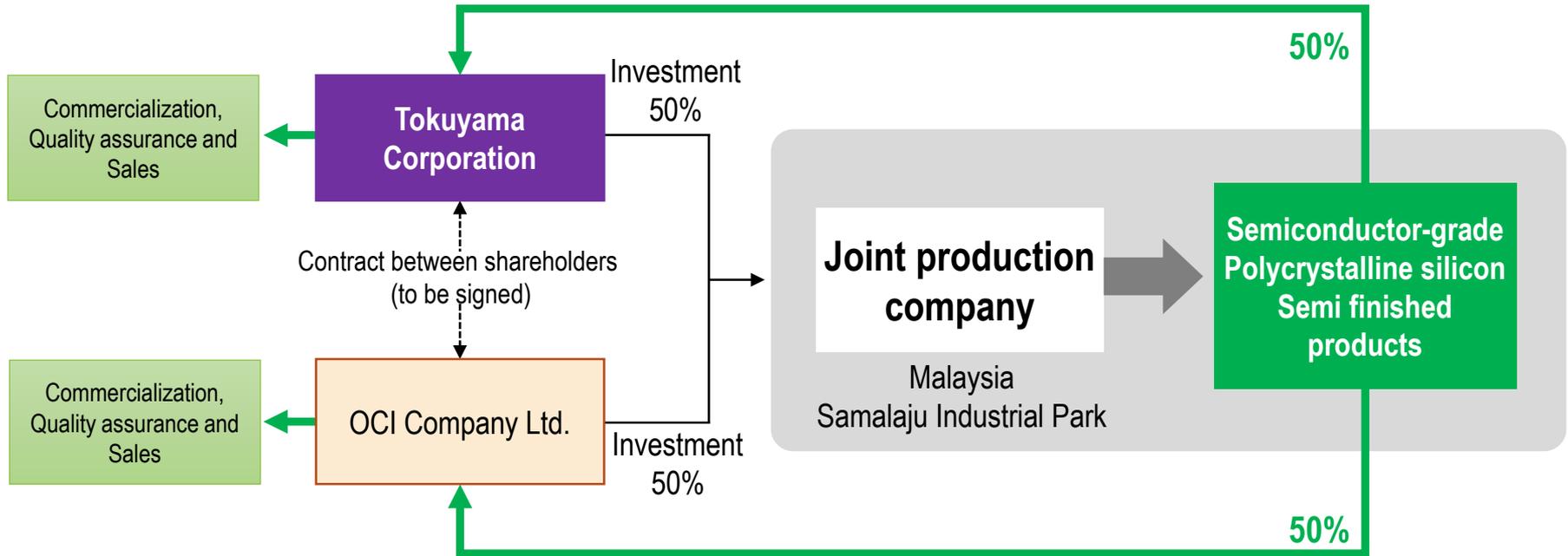
### Progress to Date

- ▶ Formosa Tokuyama Advanced Chemicals Co., Ltd. (FTAC; joint venture in Taiwan) began shipping high-purity IPA
- ▶ STAC Co., Ltd. (joint venture in Korea) began high-purity IPA plant construction
- ▶ Established a facility base to explore mass production of thermal management materials
- ▶ Strengthened quality control for semiconductor-related products

### Future Endeavors

- ▶ Increase profits by ensuring full operation FTAC, and launch STAC
- ▶ Enhance lineup of thermal management materials
- ▶ Further bolster quality control for semiconductor-related products

## Signing a Memorandum of Understanding Pertaining to Collaboration in the Semiconductor-Grade Polycrystalline Silicon Business



- ▶ This endeavor plans to jointly produce polycrystalline silicon for semiconductors with OCI (Establish a joint production company, Manufacturing capacity: Approx. 10,000 tons/year)
- ▶ Polycrystalline silicon commercialization quality assurance , and sales will be independently conducted by both companies
- ▶ The joint production company is expected to use hydro-electric power
- ▶ The joint production company will be a consolidated subsidiary of OCI and a company under the equity method of Tokuyama

## Life Science



### Business Goal

**Use unique technology to capture top niche share in areas where differentiation is possible (vision, dental, diagnostics)**

### Priority Measures

- ▶ **Strengthen the marketing system and accelerate expansion of production capability to further boost market share of dental materials outside Japan**
- ▶ **Develop new products and strengthen sales activities to further expand the photochromic market outside Japan**
- ▶ **Strengthen the medical diagnostic systems business**

### Progress to Date

- ▶ **Expanded share in the U.S. and Europe by introducing new dental materials products(OMNICHROMA)**
- ▶ **Augmented production capability for dental materials**
- ▶ **Augmented production capability for plastic lens materials**

### Future Endeavors

- ▶ **Further augment production capability for dental materials and make into a smart factory**
- ▶ **Enhance lineup of plastic lens materials and APIs and intermediates**
- ▶ **Expand sales and profits of medical diagnostic products, and strengthen development of diagnostic reagents**

## Eco Business



### Business Goal

## Establish as a new business pillar to carry the future

### Priority Measures

- ▶ Respond to expanded demand for water treatment membranes due to strengthened environmental regulations
- ▶ Expand resource recycling business in waste gypsum board, photovoltaic modules and others
- ▶ Commercialize developed next-generation energy technologies

### Progress to Date

- ▶ Constructed new plant in Muroran, Hokkaido Plant, the 3rd facility for waste gypsum board recycling
- ▶ Decided to transfer some shares in EXCEL SHANON CORPORATION
- ▶ Explored commercialization of recycling processing technologies for photovoltaic modules
- ▶ Introduction of demonstration equipment of alkaline water electrolyzers

### Future Endeavors

- ▶ Develop and strengthen supply system for ion exchange membranes, and develop next-generation membranes
- ▶ Launch Muroran Plant for waste gypsum board recycling
- ▶ Establish mass production technologies and a business model for photovoltaic module recycling
- ▶ Establish as a competitive alkaline water electrolyzer business structure

# Strategy by Business

(Billions of yen)	FY2022 (Result)		FY2023 (Forecast)		FY2025 (Target)		Recent business confidence	Points
	Net sales	Operating profit	Net sales	Operating profit	Net sales	Operating profit*		
Chemicals	116.2	6.8	128.0	12.5	85.0	14.5	→	China's economic recovery, Asian market trends
Cement	58.5	(3.7)	69.0	6.0	56.0	5.0	↗	Adjustment in production capability, effect of expanding acceptance amount of waste plastic
Electronic & Advanced Materials	91.5	7.0	103.0	9.0	102.0	20.5	→	Trends in semiconductor market
Life Science	37.5	7.3	40.0	7.5	46.0	8.0	↗	Effect of augmenting dental materials production capability
Eco Business	13.8	0.0	8.0	0.0	18.0	1.5	↘	Boosting production efficiency, improving profitability
Others	47.3	2.0	45.0	2.0	38.0	6.5	↘	Profitability of selling electric power
Total	365.1	19.6	393.0	37.0	345.0	56.0	—	
Adjustment and corporate-wide expenses	(13.3)	(5.3)	(13.0)	(7.0)	(25.0)	(11.0)	—	
Consolidated results	351.7	14.3	380.0	30.0	320.0	45.0	—	Revise by changing depreciation method

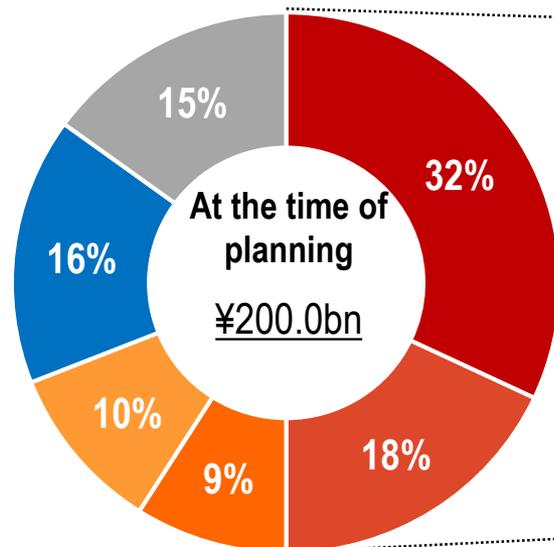
(Note) The sales ratio in each segment was calculated using monetary amounts that include sales between segments.

\*FY25 operating profit reflects the impact of changes in depreciation method.

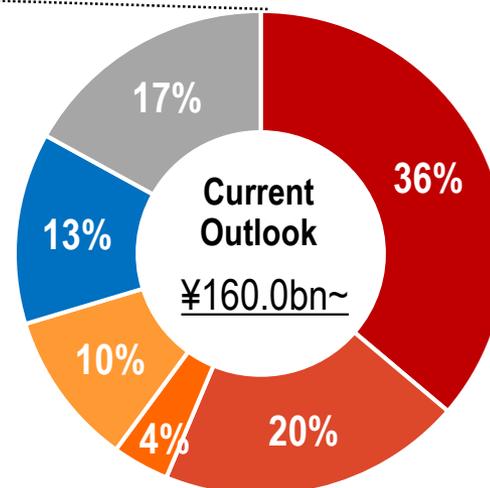
# Capex Plan Breakdown

Key words are priority investment in growth fields, reduction of CO<sub>2</sub> emissions, and energy saving

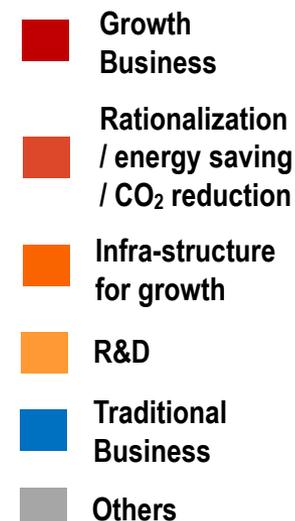
## Capex Plan Breakdown (FY21-25)



\*Plan



\*Result & Plan



## Major Capex Results

- ✓ Construction of the factory of joint venture company in Taiwan for high-purity IPA
- ✓ Construction of the factory of joint venture company in Korea for high-purity IPA
- ✓ Production capacity expansion of dental materials
- ✓ Waste gypsum board recycling business  
Construction of a new plant in Murooran
- ✓ Establishment of the Center for Commercialization of Advanced Technology

# Cash Flow Generation and Allocation

- Earnings growth
- Cash flow from new products

Operating CF  
**Cumulative ¥250.0bn  
over 5 years**

- Screen prospective investments
- Reduce inventory

- FY21,22: Sluggish operating CF
- Continued disciplined investment

**Capex**

**¥200.0bn**

**Strategic Investment**  
(M&A, new business  
development)

**Max ¥30.0bn**

**Shareholder Returns**

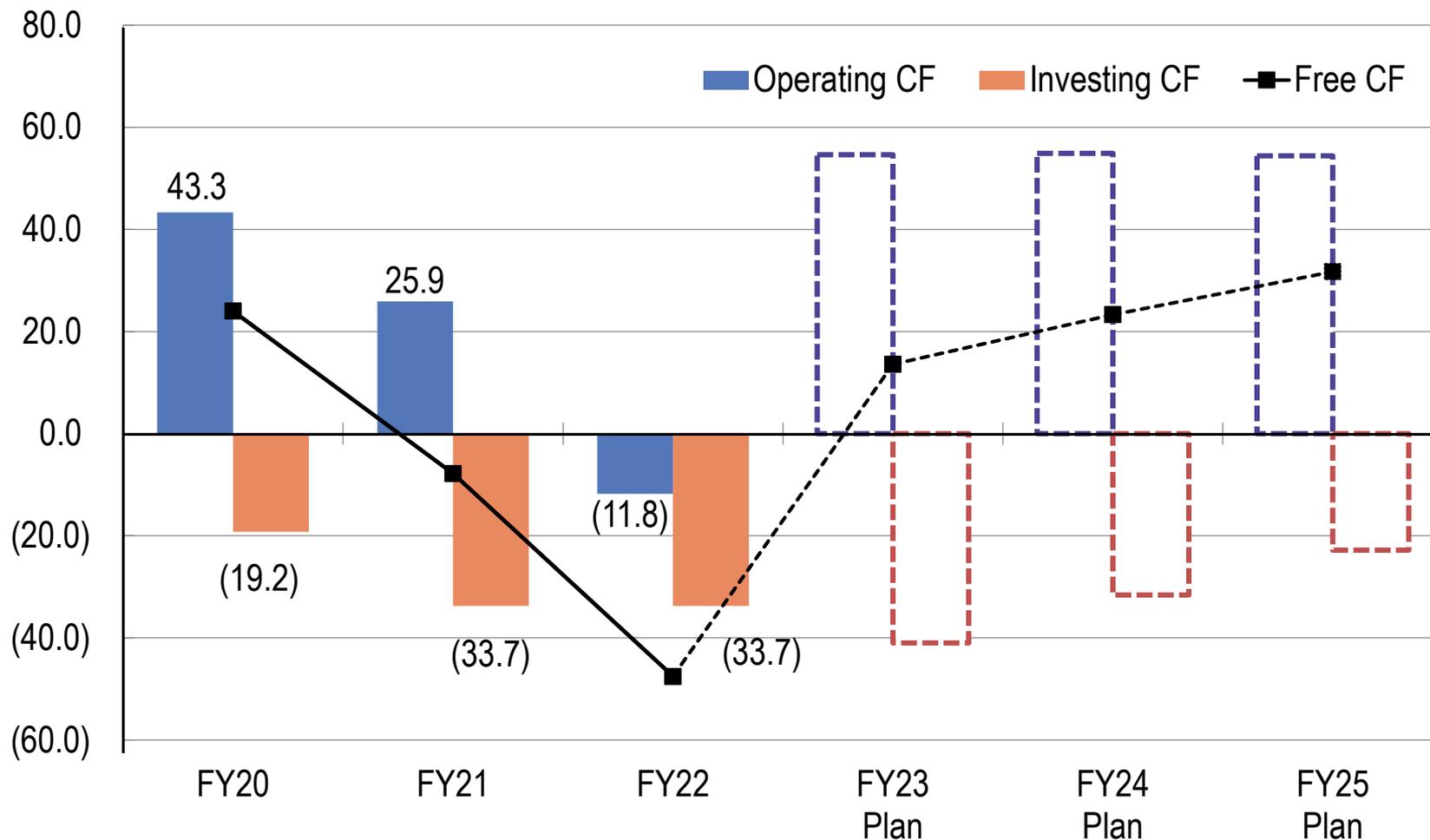
**Dividends**  
20-30% payout ratio

**Consider acquisition  
of own shares**

# Cash Flow Trend and Plan

Consolidated

(Billions of yen)



## 2

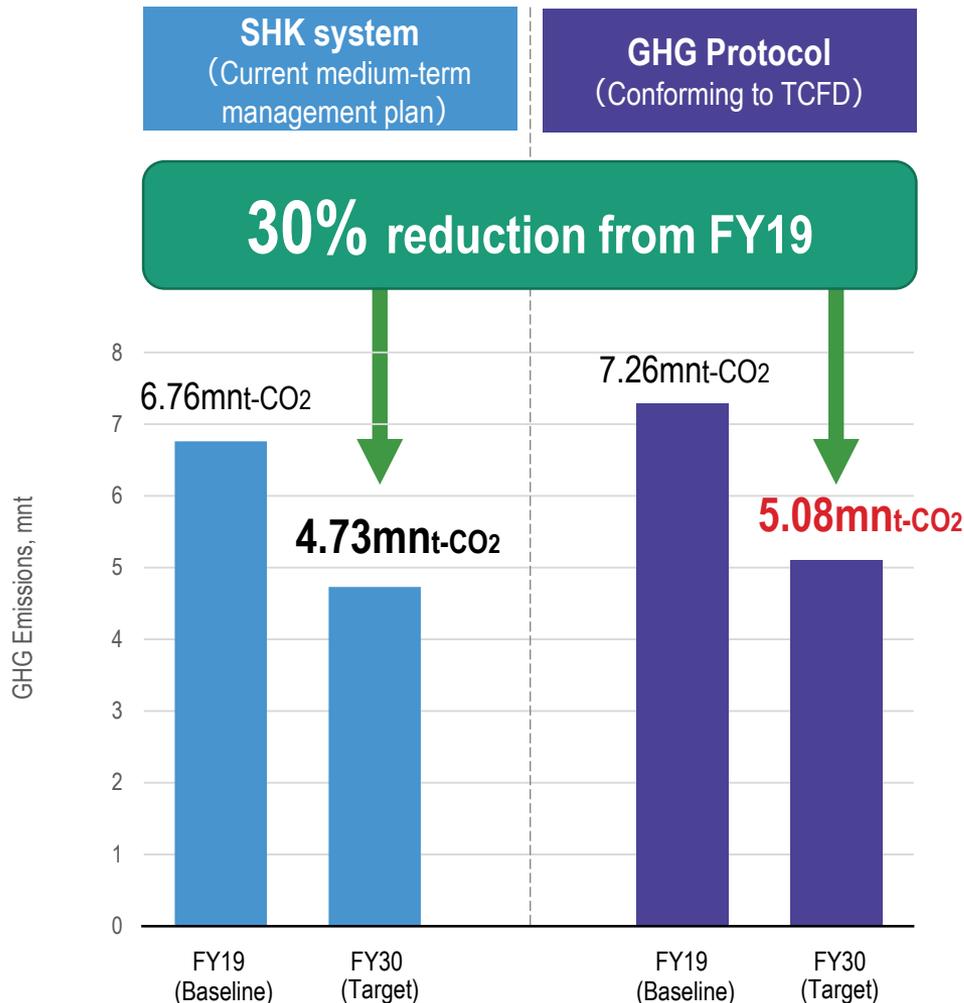
# Contribute to mitigation of Global Warming

- ▶ Change in the Calculation Method for  
Greenhouse Gases (GHG Emissions)

# Change in the Calculation Method for Greenhouse Gases (GHG Emissions)

The calculation method for CO<sub>2</sub> emissions was changed from calculations based on Japan's Act on Promotion of Global Warming Countermeasures (SHK system) to calculations based on the GHG Protocol (conforming to TCFD, etc.)

## GHG Emissions Reduction Target



Calculation Method	SHK system (Current medium-term management plan)	GHG Protocol (Conforming to TCFD)
FY19 emissions	6.76mnt-CO <sub>2</sub>	7.26mnt-CO <sub>2</sub>
FY30 emissions	4.73mnt-CO <sub>2</sub>	5.08mnt-CO <sub>2</sub>
Reduction rate	30%	30%
Electricity sales, Steam sale	Not included	Included
Group companies outside Japan	Not applicable	Applicable

3

# Practice socially responsible management

▶ Progress in CSR Management

# Progress in CSR Management ~Strengthening Implementation Structure

Newly established a committee that addresses sustainability issues in the CSR management implementation structure

Cross-departmental initiatives started for disclosing climate change responses and human rights measures

## CSR Promotion Council

### Risk Management and Compliance Committee

From the viewpoint of risk management and compliance, established expert committees to handle cross-departmental efforts in areas of especially high expertise and importance

Financial Reporting Committee

Fair Trade and Competition Committee

Security Trade Committee

Information Security Committee

Environment Committee

Safety Committee

Product Safety and Quality Assurance Committee

**Sustainability Committee**  
(Newly established in FY22)

NEW

Responded to issues related to sustainability such as “addressing climate change” and “business and human rights” that do not fit into existing categories of expert committees

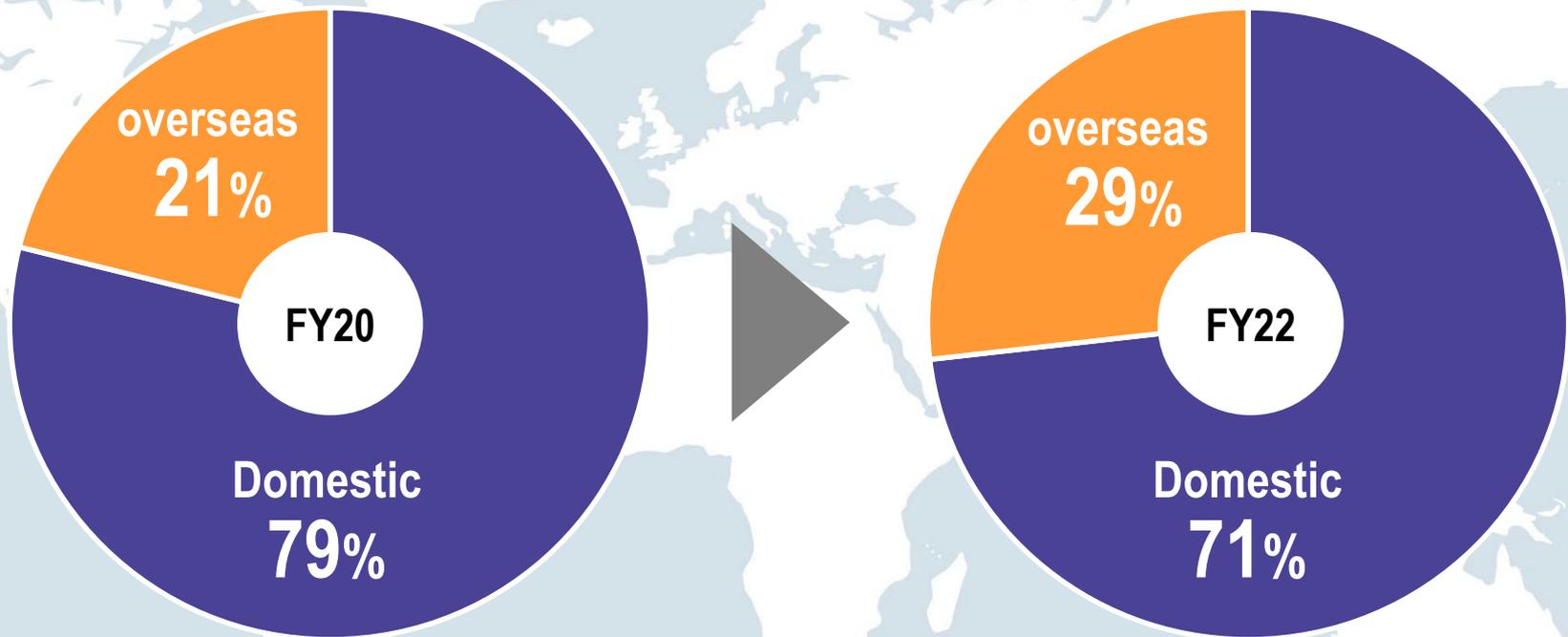
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# Supplementary Materials

# Accelerated International Expansion

Aiming to increase overseas share of consolidated net sales to over 50% by FY30



(Note) FY20 was NOT created using reference values that include the financial impact of the current “Accounting Standard for Revenue Recognition ,” etc.

## Medium-Term Management Plan 2025

### Make the transition to a company that creates value and provides solutions

#### ① Focusing management resources on corporate R&D

- ▶ Concentrate energy on medium- to long-term development themes centered on marketing
- ▶ Attack areas where the company's business division development has not yet started

#### ② Strengthening business division R&D

- ▶ Have a wider range of product variations which can meet customer requirements
- ▶ Accelerate the pace of development

#### ③ Strengthening open innovation

### Initiatives until FY2022

#### Promoted the development of growth businesses by improving corporate development bases

Tsukuba Research Laboratory II		●	●
Tokuyama Taiwan	●	●	
Tokuyama Research Laboratory Strengthening analytical skills	●	●	
Center for Commercialization of Advanced Technology	●		●

● Electronics ● Healthcare ● Environment

#### Developed tailored to client needs in business division development

- ▶ Expanded heat management products and strengthening systems
- ▶ Pioneered new uses for silica products e.g., uses in leading-edge semiconductor materials, uses in cosmetics, etc.
- ▶ Water electrolyzers: verified commercialization and considered business structure
- ▶ Developed new medical products

#### Accelerated development speed through joint research with Taiwan's Industrial Technology Research Institute (ITRI), universities, national institutes, etc.



High purification

Nitride reduction

Unique  
Technologies

Sintering

Powder control

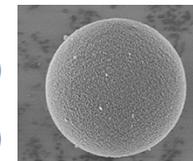
Crystallization, deposition

Electrode and membrane

Sol-gel

Photopolymerization

Molecular design



# Promoting Digital Transformation (DX)

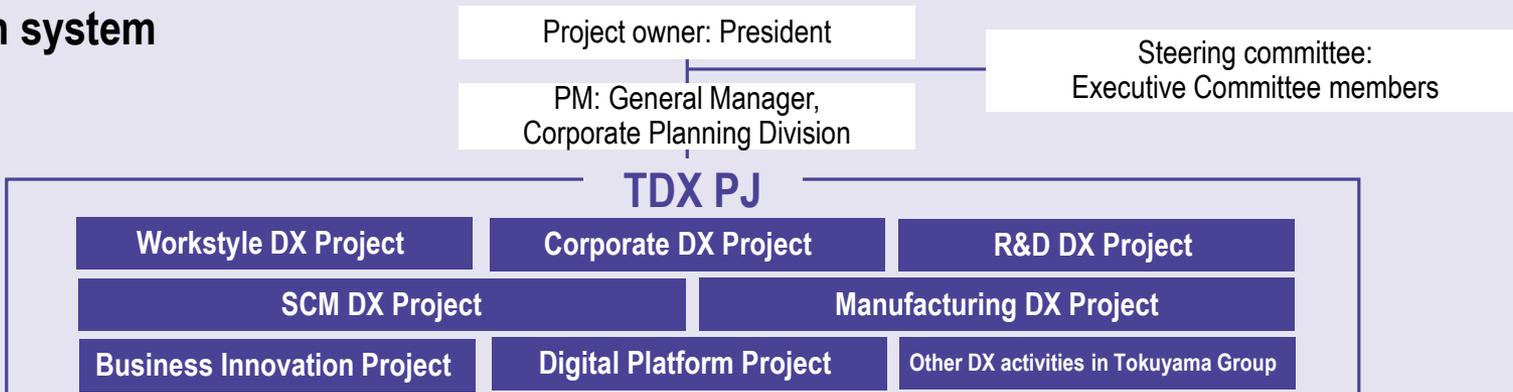
Promote DX by utilizing data and digital technology

**Created a TDX\*1 basic policy and action plan, and developed a system**  
**TDX Projects fully started in April 2022. 25 initiatives in 8 categories will be launched sequentially**

## TDX basic policy



## Promotion system



**DX certification**  
 Acquired January 2022



**KPIs: DX Promotion Indices \*2 set at**  
**3.5 pts.**  
 (perfect score of 5 pts. by 2025)

FY20	0.8 pts.
FY22	<b>2.43 pts.</b>

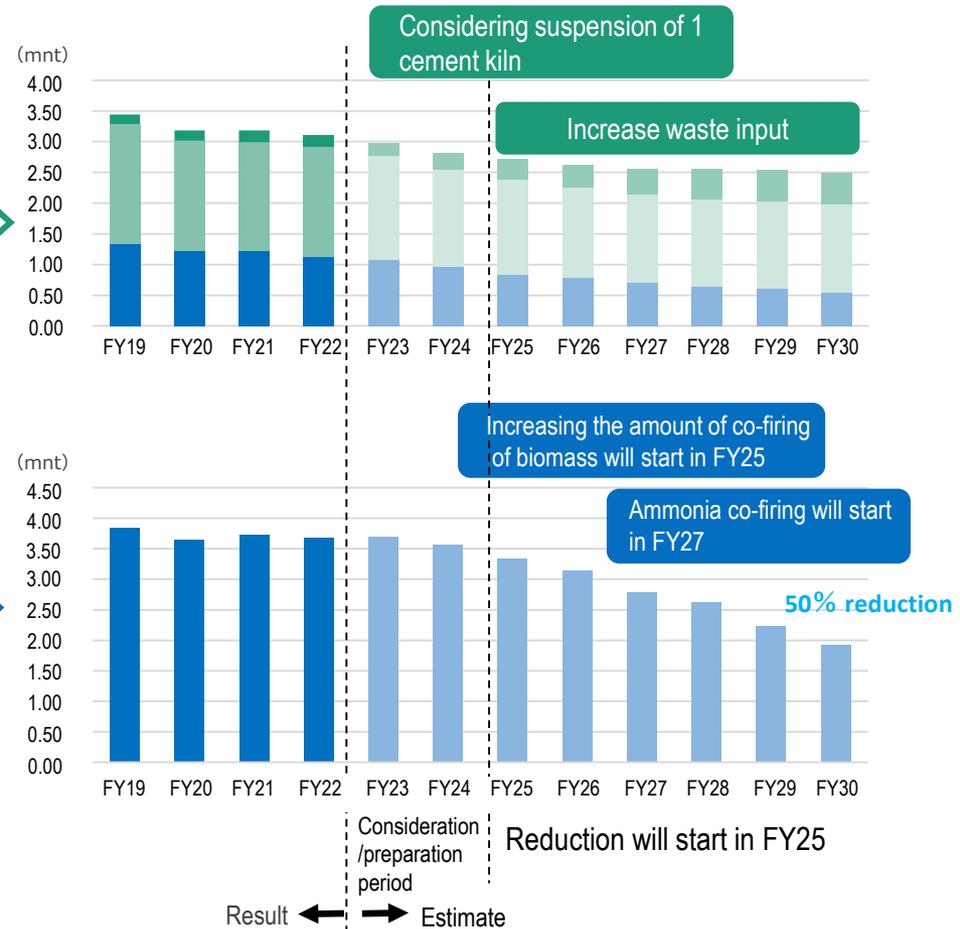
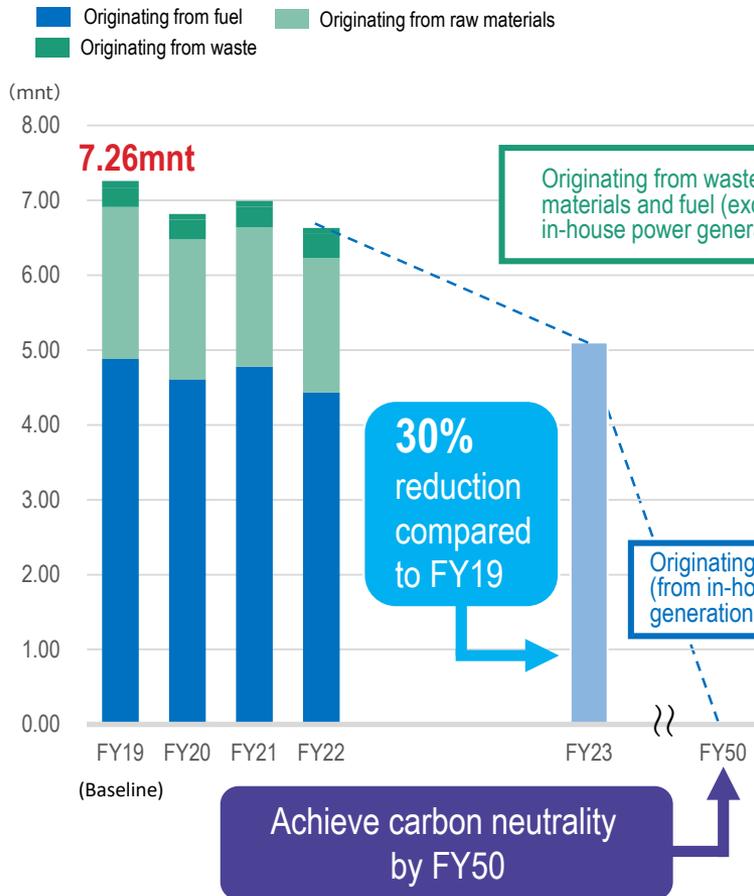
(Avg. score of 1.94 pts. for large Japanese corporations)

\*1 TDX: Tokuyama DX \*2 Simple indices enabling self-diagnosis to promote digital management reform (drawn up by Japan's Ministry of Economy, Trade and Industry)

# FY2030 GHG Emission Reduction Targets

Reduce greenhouse gas emissions 30% from FY19 by FY30

- Originating from fuel**
  - In-house power generation
  - ▶ Aiming for a 50% reduction in GHG emissions
- Originating from raw materials and waste**
  - Cement
  - Chemicals, etc.
  - ▶ Considering suspension of a cement kiln, actively using waste for raw materials and fuel
  - ▶ Currently exploring the potential of CCUS technologies, environmentally friendly products, etc.



# Renewable Energy Introduction Targets for FY2030

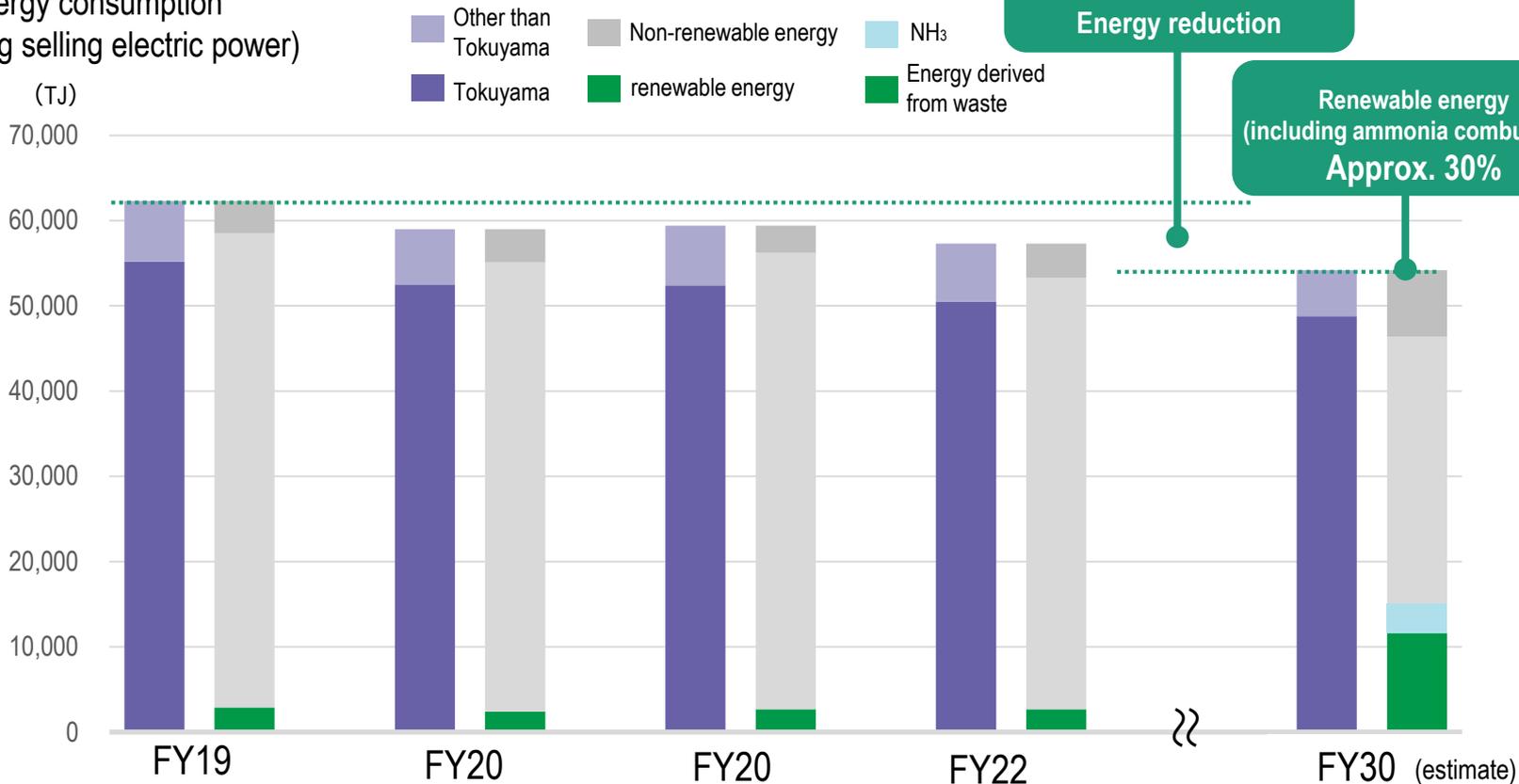
Ratio of Renewable Energy Use by FY30 (including ammonia combustion) Approx. 30%

Originating from fuel

In-house power generation

▶ Define the total amount of electricity generated by biomass, ammonia, and hydrogen to be renewable energy

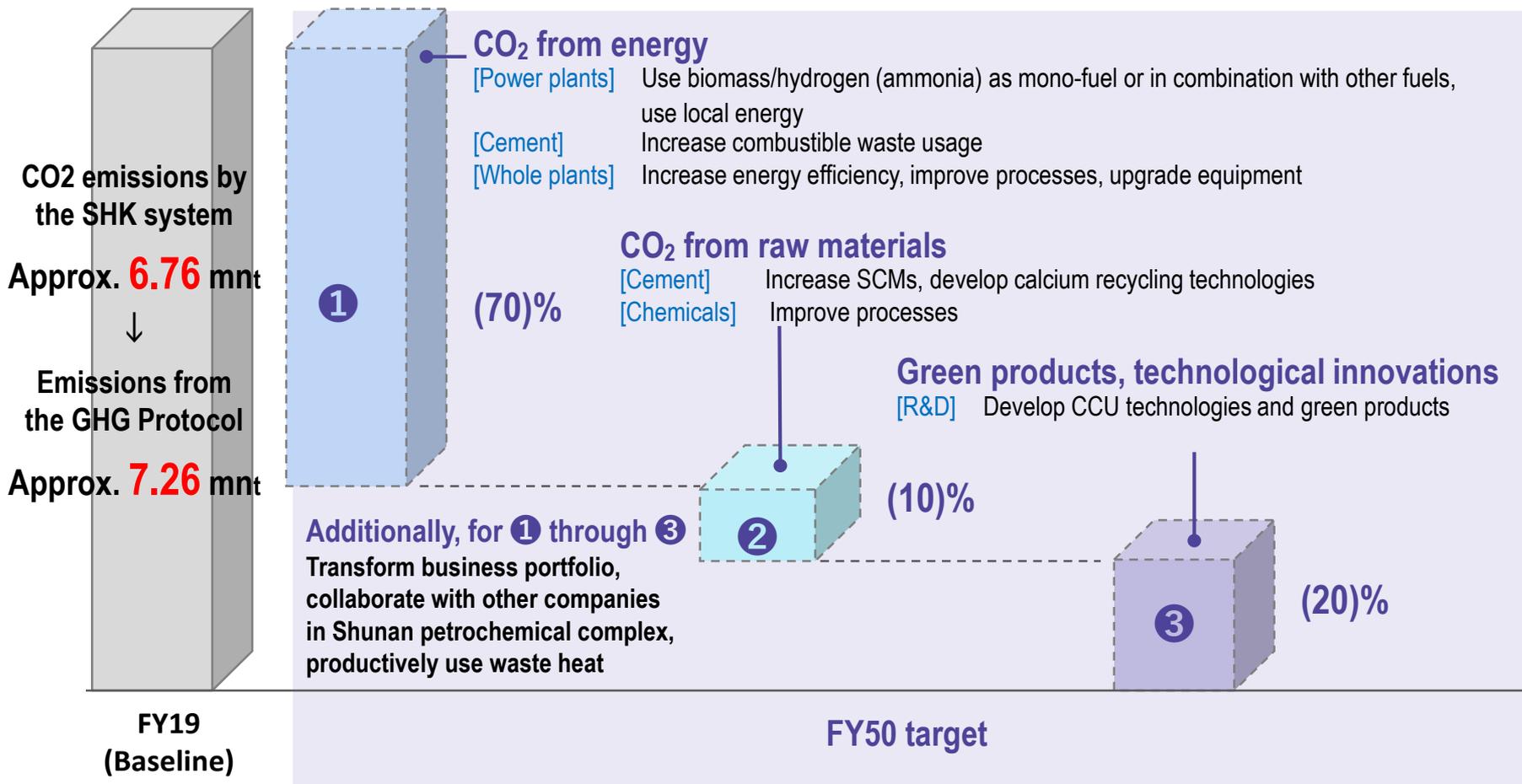
Energy consumption  
(including selling electric power)



\*Energy from thermal recycling of heavy oil ash, sludge (organic, fuel, valuable combustibles), etc., that is effectively utilized in cement processing is not included in energy originating from waste.

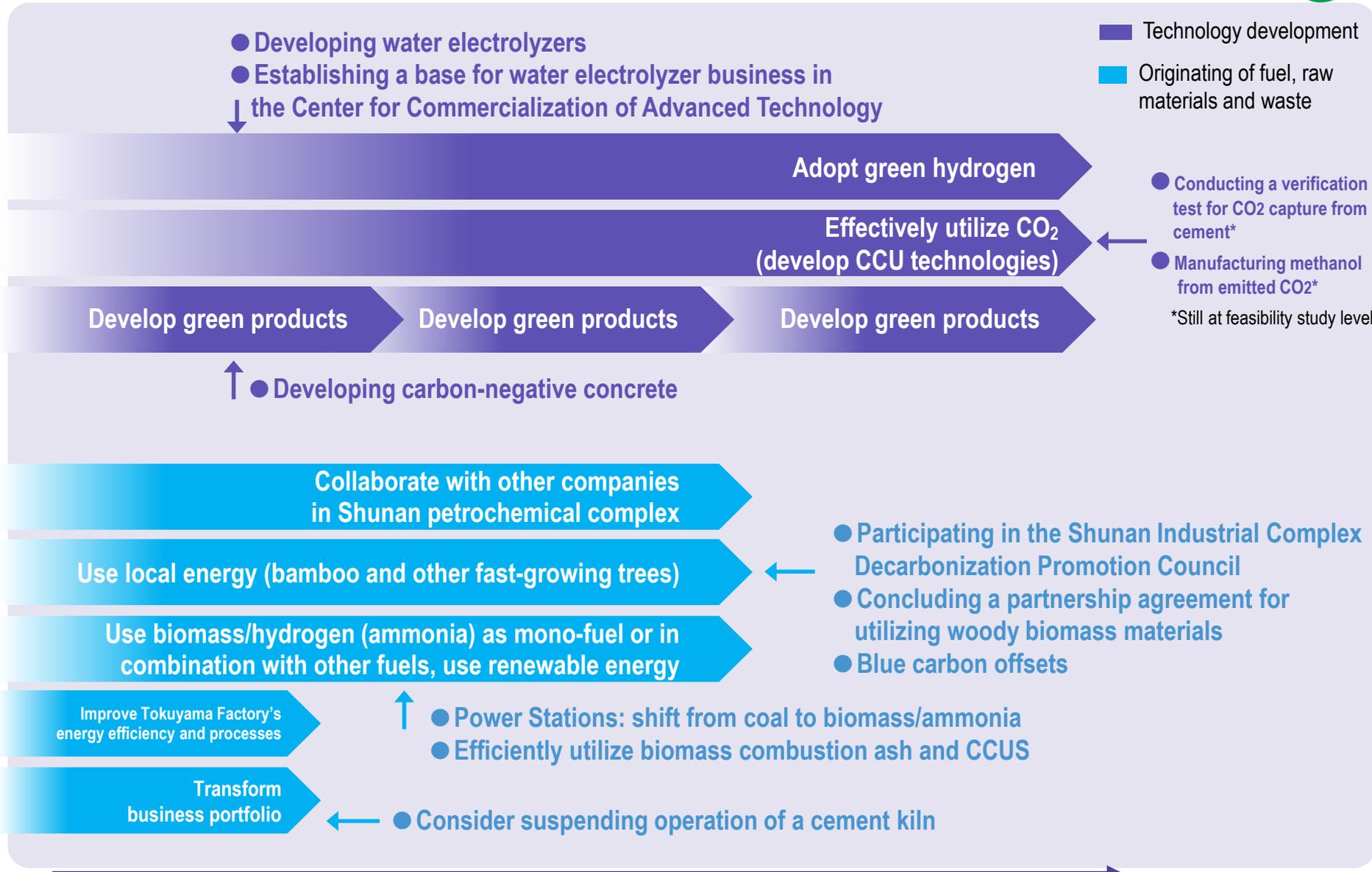
# GHG Emission Reduction Targets for FY2050

Aim to reduce energy-originated CO<sub>2</sub> emissions and achieve carbon neutrality by effectively utilizing CO<sub>2</sub> originating from raw materials, developing environmentally friendly products, etc.





# Initiatives in FY23



- Developing water electrolyzers
- Establishing a base for water electrolyzer business in the Center for Commercialization of Advanced Technology

Technology development  
Originating of fuel, raw materials and waste

Adopt green hydrogen

Effectively utilize CO<sub>2</sub> (develop CCU technologies)

- Conducting a verification test for CO<sub>2</sub> capture from cement\*
  - Manufacturing methanol from emitted CO<sub>2</sub>\*
- \*Still at feasibility study level

Develop green products

Develop green products

Develop green products

- Developing carbon-negative concrete

Collaborate with other companies in Shunan petrochemical complex

- Participating in the Shunan Industrial Complex Decarbonization Promotion Council
- Concluding a partnership agreement for utilizing woody biomass materials
- Blue carbon offsets

Use local energy (bamboo and other fast-growing trees)

Use biomass/hydrogen (ammonia) as mono-fuel or in combination with other fuels, use renewable energy

Improve Tokuyama Factory's energy efficiency and processes

- Power Stations: shift from coal to biomass/ammonia
- Efficiently utilize biomass combustion ash and CCUS

Transform business portfolio

- Consider suspending operation of a cement kiln

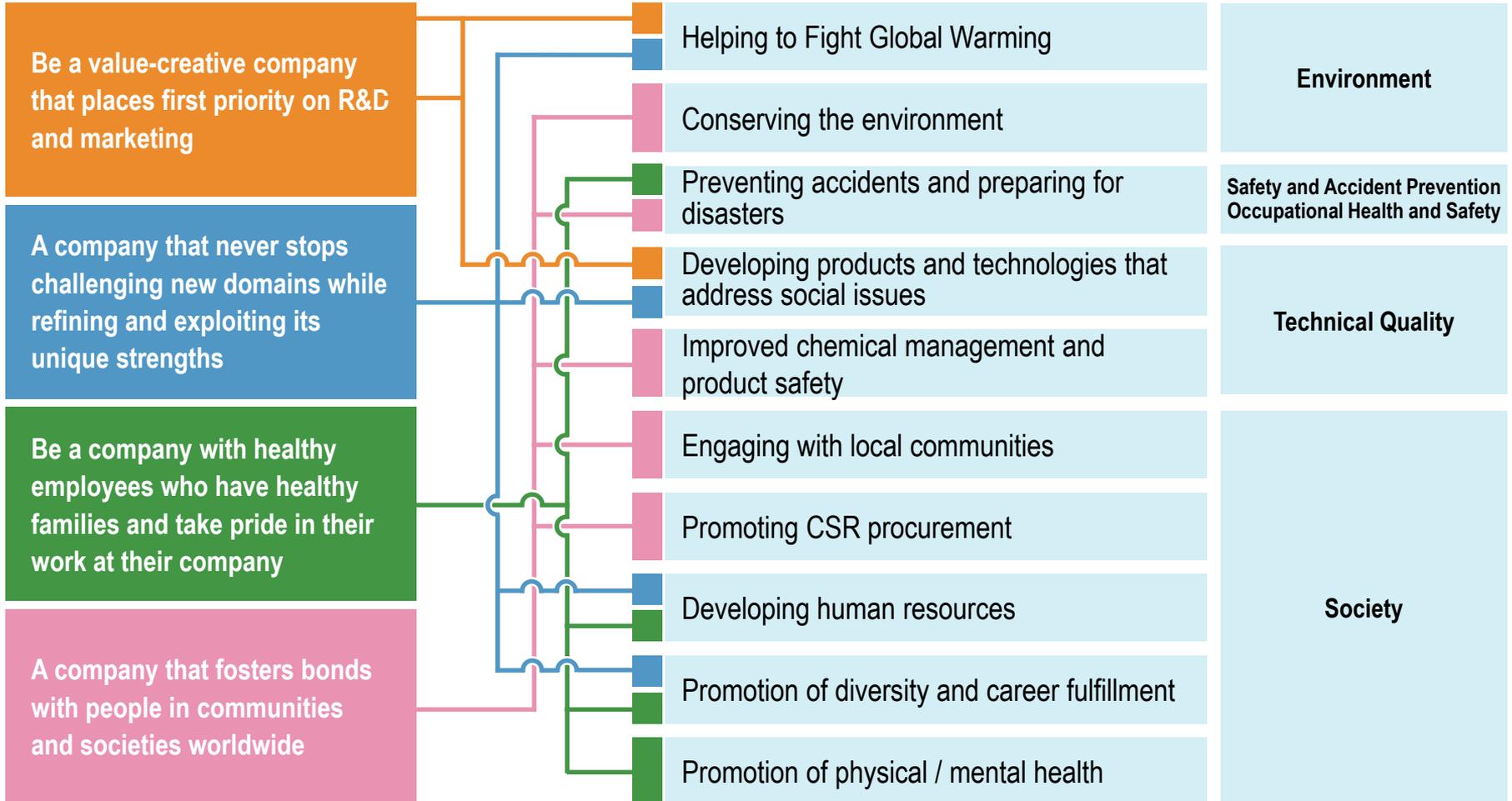
FY22 FY30 FY50

# CSR Priorities

Committed to addressing CSR priorities (materiality) through concrete action plan aimed at realizing vision

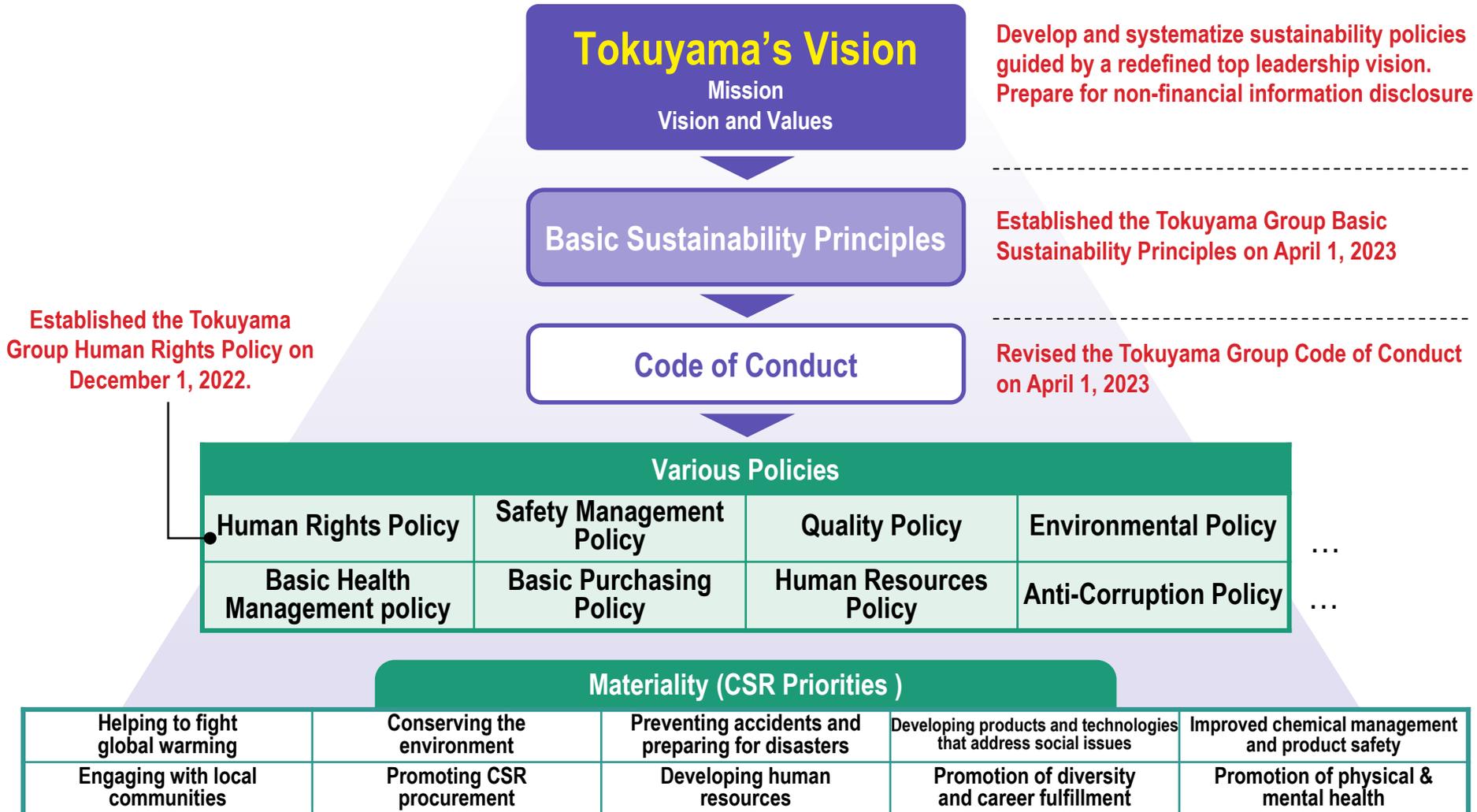
## Tokuyama's Vision

## CSR priorities



# Development and Systematize of Sustainability Policies

Develop and systematize our corporate approach and view on sustainability, which are at the foundation of CSR management implementation, in order to accelerate materiality initiatives



# Promotion of Physical and Mental Health

Chosen for the 2023 Health & Productivity Stock Selection for the first time

This is a major step forward for the “promotion of physical and mental health,” which is one materiality



Japan’s Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange have jointly been selecting outstanding listed enterprises engaging in a health management program. Tokuyama’s steady endeavors toward health management were recognized for the first time when it became one of the 49 companies in 31 industries chosen in the 2023 selection.

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