Medium-Term Management Strategy 2031

For people, society and the earth, circulating resources for a sustainable future

February 16, 2023



Executive Summary

For people, society and the earth, circulating resources for a sustainable future

Review of FY2023 Strategy

Completed selection of business areas to focus on

- FY2023 mid-term management strategy "Optimization of Business Portfolio" generally completed, clarifying the business domains in which management resources should be concentrated
- ROIC excluding the Cement business improved to 5.0%, but missed the FY2023 mid-term target due to business restructuring, share of loss of entities accounted for using equity method, and other factors

Growth by expanding resource recycling and enhancing the supply of high-performance materials and products

Overview of FY2031 Strategy

Phase1 FY2024 – FY2026 Strengthening Competitiveness

Improving profit growth and profitability through strengthening cost competitiveness and investing in medium- to long-term growth areas such as resource recycling

Phase2 FY2027 – FY2031 Business Expansion

Increasing business scale through expansion of target areas and regional expansion, including overseas

- Strengthen metal resource recycling and promote the integration of Metals business and Environmental recycling business (Strengthening E-Scrap processing, recycling of LIB/xEV materials and tungsten, and strengthening recycling of wrought copper products)
- Supply of products to growing markets such as semiconductors and xEVs, and expansion of carbide tools and tungsten business
- Promotion of renewable energy projects such as geothermal power generation (efforts to achieve 100% self-sufficiency in renewable energy power by FY2051)
- Implementing GHG reduction measures to achieve carbon neutrality by FY2046

Financial Plans and Targets

	FY2026 Plan	FY2031 Target
EBITDA*1	150 billion yen	260 billion yen
ROIC	5.5%	9.0%
Economic Profit (EP)*2	17 billion yen	79 billion yen
Operating Cash Flow	280 billion yen (3 years)	790 billion yen (5 years)

^{*1} EBITDA = Ordinary profit + Interest expense + Depreciation + Amortization of goodwill

^{*2} EP= ((ROIC-WACC 4.1%)) x (Invested capital)

Our Commitment

Efforts to Improve Corporate Value

Business Strategy

Carbon Neutral

Strengthening Management Foundation

Changes in the Business Portfolio

Overview

- Due to the recovery of the market after COVID-19, the favorable trend of the metal market, and other factors, net sales and operating income will reach the target, but ordinary income and ROIC will not reach the target due to the recording of equitymethod investment losses.
- We have optimized our business portfolio and largely completed the selection and concentration of businesses.

FY2023 FY2023 Company-wide financial **Target** Strategy target and outlook variance Target Outlook 4.0 1.6 -2.4 1,410.0 1,680.0 +270.0600.0 610.0 +10.029.0 43.0 +14.038.0 15.0 -23.0

December 2020 Invested in Masan IN High-Tech Materials February 2021 Invested in Mantoverde Copper Mine

May 2021

Reorganized Electronic materials & components business into product portfolio level

March 2023

Onahama Smelting Co., Ltd. becomes a wholly owned subsidiary (planned)

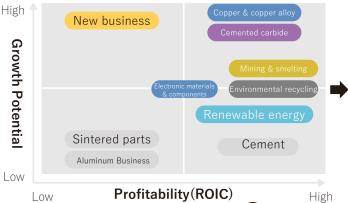
(Unit: Billion yen)

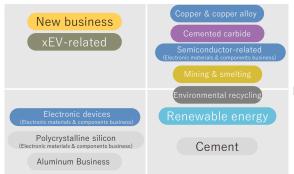
*Plot is a conceptual image

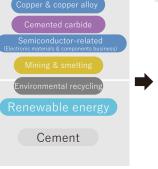
As of April 2020

As of May 2021

As of April 2023 (planned)











OUT

December 2020 Transferred sintered

parts business

March 2022

Transferred Aluminum business **April 2022**

Profitability(ROIC)

Established Mitsubishi UBE Cement Corporation(MUCC)

January 2023

Converted PT. Smelting to contract smelting

March 2023

Transfer of Polycrystalline silicon business (planned)

Financial effect

Reduction of interest-bearing liabilities through sales of assets, etc.

Reduction of invested capital through business restructuring, etc. ROIC improvement effect by reducing invested capital

Approx. -290 billion ven

Approx. -400 billion ven

Approx. $+1.3\%^{*1}$

^{*1} We estimate the ROIC improvement effect compared the case of executed of business restructuring with the case of continuing these business. (No NOPAT impact in each case)

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Market Conditions and Business Opportunities

Market conditions in the Company

Resources

• The amount of 5.5 million tons of copper in short supply in FY2031 as ore supply from copper mines fails to meet rising copper demand

E-Scrap

 By FY2031, the amount is more than twice the current level, but lock-in in each region is common

LIB

- The number of the used LIBs increases several dozen times by FY2031 with the acceleration of xEVs conversion
- Battery processing technology needs to be advanced

Automobile

- xEV market grows by 25% annually
- Increasing demand for higher currents and voltages, expanding needs for high-performance sensors and high-precision components for various control applications

Aerospace

- Demand recovers due to the calming down of COVID-19
- Increased use of high-performance materials partly due to environmental measures

Semiconductors

- The market is growing at an annual rate of 5%
- Advances in semiconductors and manufacturing equipment are accelerating

Business opportunities for the Company

Expansion of the resource recycling

Need to increase the rate of recycling metal resources, especially copper, for which demand is increasing, and to respond to recycling in new areas such as used LIBs by accelerating the adoption of xEV

Enhancing the supply of highperformance materials and products

Need to respond to the demand for xEV in automobiles, the high-performance materials in aerospace, and the product sophistication in semiconductors



Our Commitment

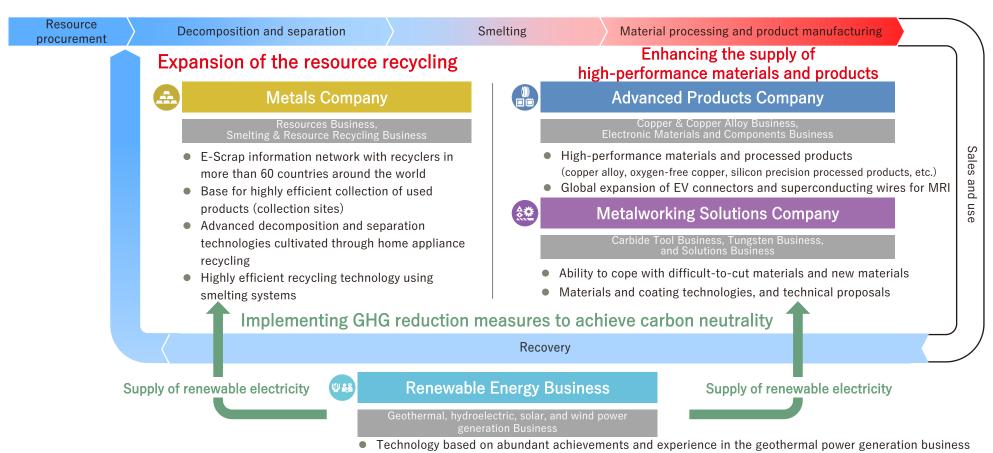
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Prosperous society

Recyclingoriented society Decarbonized society

Build a recycling system of metal resources based on our strengths and realize growth throughout the value chain by expanding the scope, regions, and scale of our operations



^{*}From April 2023, the environmental recycling business will be integrated into the Metals Company, and the renewable energy business will be organized under the direct control of the strategic headquarters



Strategic Roadmap

- Phase1 Improving profit growth and profitability by strengthening cost competitiveness and investing in medium- to long-term growth areas centered on resource recycling
- Phase2 Expansion of business scale through regional development including overseas, in addition to expansion of target business areas

FY2024 - FY2026

FY2027 - FY2031

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	Phase1 Strengthening Competitiveness	Phase2 Business Expansion	
Expanding the resource recycling	 Investment: 110 billion yen (3 years) Start LIB recycling Expansion of the Tungsten business 	Investment: 140 billion yen (5 years) New copper mine investment Capacity expansion of copper smelters	
Enhancing the supply of high-performance materials and products	Investment: 70 billion yen (3 years) Strategic investment in semiconductor manufacturing equipment area Improving supply chain efficiency	 Investment: 110 billion yen (5 years) Expanding the scale of carbide tools Expanding the supply of xEVs materials 	
Investment in renewable energy	Investment: 5 billion yen (3 years)	Investment: 25 billion yen (5 years)	
Strengthening cost competitiveness	Ratio of improvement in ordinary profit to net sales:+5.4%*1	Ratio of improvement in ordinary profit to net sales: +4.9%	
Operating Cash Flow	280 billion yen (3 years)	790 billion yen (5 years)	
EBITDA*2growth rate (CAGR)	16.5%*3	11.5%	

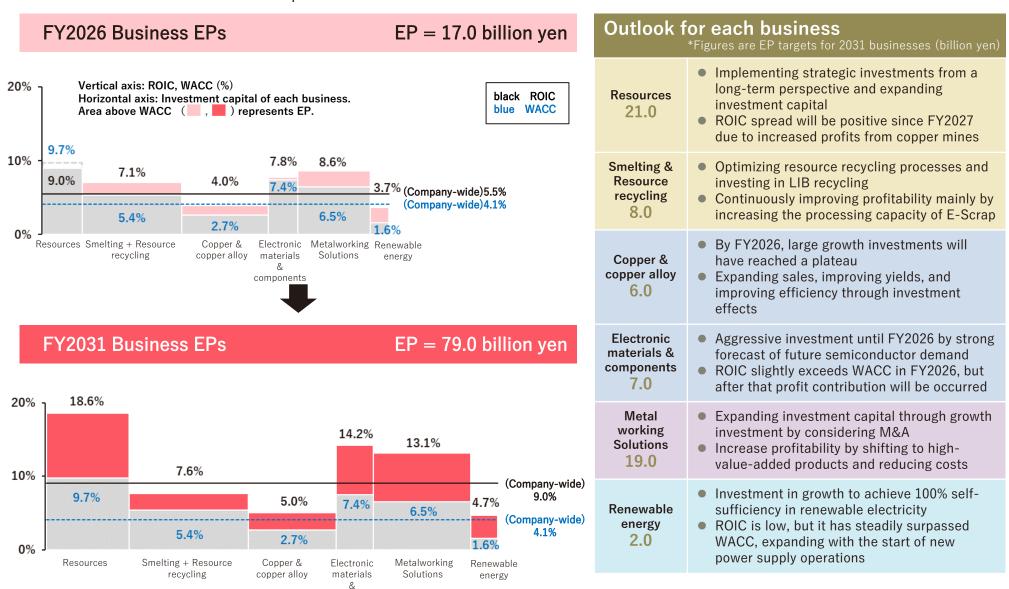
^{*1} Range of improvement in the ratio of ordinary profit to net sales. Net sales excluding metal.

^{*2} EBITDA=Ordinary profit+Interest expense+Depreciation+Amortization of goodwill (same as below)

^{*3} Cement business loss in FY2023 excluded

Business Management Indicators (ROIC, ROIC Spread, EP)

- Optimize the allocation of management resources from a company-wide perspective and aim to increase the ROIC spread and expand Economic Profit (EP) by increasing investment capital
- ROIC will be lower than WACC in the Resources Business in FY2026, but higher than WACC in all businesses in FY2031, and an increase in EP will increase corporate value



components

Financial Plans and Targets

		FY2023 Forecast	FY2026 Plan	FY2031 Target
Net sales (Net sales excluding metal)	billion yen	1,680 (610)	1,940 (690)	2,000 (850)
Operating profit	billion yen	43	70	130
Ordinary profit	billion yen	15	87	180
ROIC ^{※1} (before deducting non-risk inventories)	%	0.6%	5.5%	9.0%
ROE	%	1.1%	10.0%	13.6%
EBITDA	billion yen	66	150	260
Net D/E ratio	times	0.7	0.7	less than 0.5
Net interest-bearing debt /EBITDA ratio	times	6.1	3.5	less than 2.0

Assumptions for FY2024 and beyond: Exchange rates: 135 Yen/\$, 135 Yen/€, Copper price: 360 ¢/lb

^{*1} Calculate ROIC by deducting the amount of inventories (non-risk inventories) that were previously risk-free due to price hedged from invested capital From the FY2031 Strategy, the calculation method will be changed prior to the non-risk inventory deduction mainly due to the shift to management based on the ROIC spread based on the WACC of each business

Capital Allocation

• In terms of shareholder returns, we will pay out for a dividend with a target payout ratio of around 30% in Phase 1 and we will also aim to enhance shareholder returns in Phase 2

• Phase 2: Reducing interest-bearing debt and improving the soundness of the balance sheet FY2024 - FY2026 (Unit: billion yen) FY2027 - FY2031 Phase1 Strengthening Competitiveness Phase 2 Business Expansion 790 billion ven Decrease in interest-Decrease in bearing debt due to interest-bearing debt **Operating CF** 70 improvement in CF 790 Enhance shareholder Dividends, etc. returns in FY2027 and 180 beyond 420 billion yen Price revision. Maintenance and yield improvement, upgrading investment cost reduction, Dividends, etc. 210 Sale of assets 40 Dividend payout ratio: **CCC** improvement 60 Increase in interest-30% bearing debt Maintenance and 100 Major growth investment From FY2027 upgrading investment onward, operating 130 Expanding the resource CF will increase Major growth investment recycling: 140 billion yen due to business Expanding the resource Enhancing the supply of expansion based **Growth investment** recycling: 110 billion yen **Operating CF** on enhanced high-performance 330 **Growth investment** competitiveness materials and products: 280 Enhancing the supply of 230 110 billion yen high-performance materials and products: Investment in renewable 70 billion ven energy: 25 billion yen

IN

Investment in renewable

energy: 5 billion yen

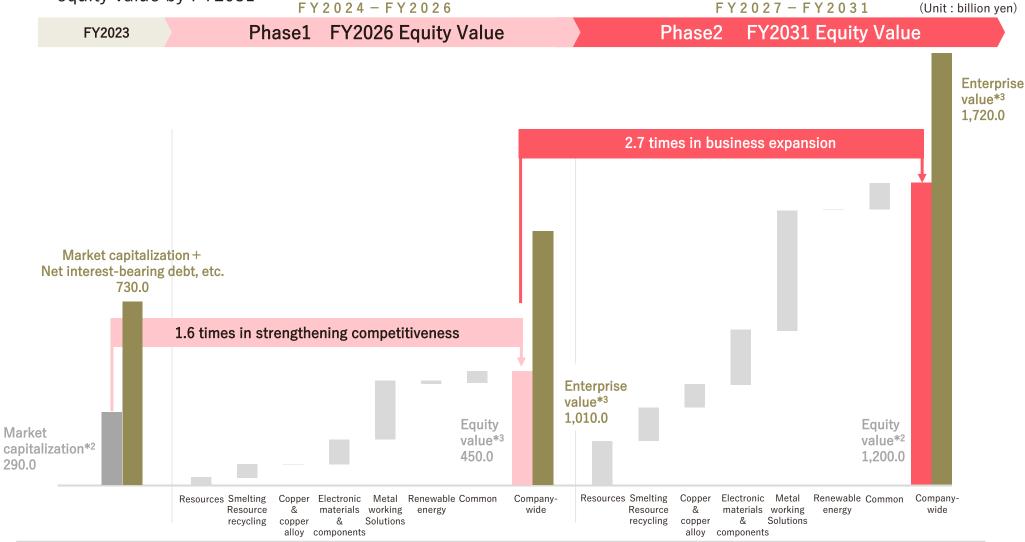
OUT

IN

OUT

Enhancing Equity Value and Enterprise Value (by SOTP*1 Analysis)

Under the Medium-Term Management Strategy 2031, the company aims to grow EBITDA and improve its balance sheet to increase its equity value and enterprise value, and to achieve approximately four times its equity value by FY2031



^{%1} Sum-of-the-Parts

Enterprise value and equity value are figures calculated independently by the Company using SOTP analysis based on the business performance forecast of the FY2031 Strategy and the Company does not guarantee the stock price

^{X2 Equity value for FY2023 is as of the end of January 2023}

^{**3} Enterprise value is calculated by multiplying EBITDA for each business by a multiple that takes into account the same industry, and net interest-bearing debt is deducted from enterprise value to calculate equity value

Our Commitment

Efforts to Improve Corporate Value

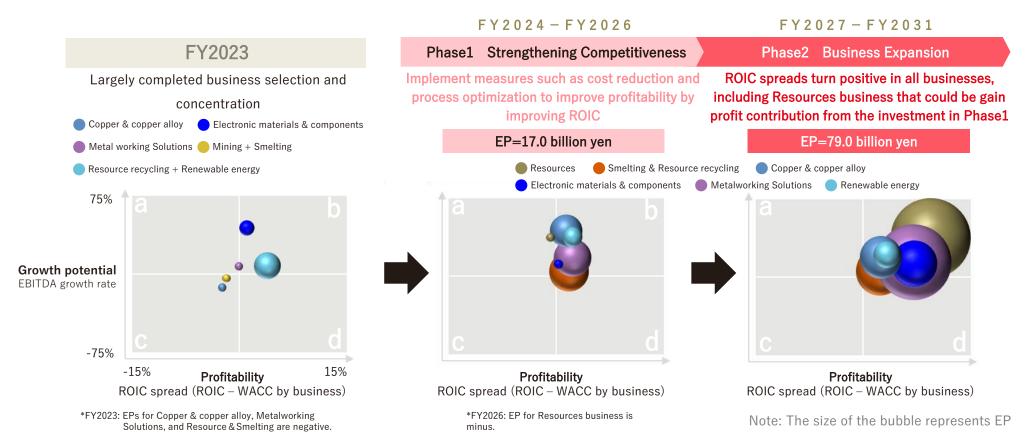
Business Strategy

Carbon Neutral

Strengthening Management Foundation

Business Portfolio Management

- Optimize allocation of management resources by managing the business portfolio with two axes of growth and profitability
- Evaluate business growth potential by EBITDA growth rate and supplement it by the market growth rate
- Aim to increase EP while maintaining and improving ROIC spread to improve enterprise value
- Accelerate the improvement of business value by improving efficiency through the integration of the Metals company and the Environmental recycling business (smelting and resource recycling)



- a. Ascertain the direction of growth amid expectations for growth
- b. Maintain and improve growth and high earnings by strengthening investment
- c. M&A and business withdrawal will be considered while implementing profit structure improvement
- d. Maintain and improve profitability through operational efficiency and M&A



Investment Allocation and Profit Contribution

Approach to investment allocation

1 Investment characteristics

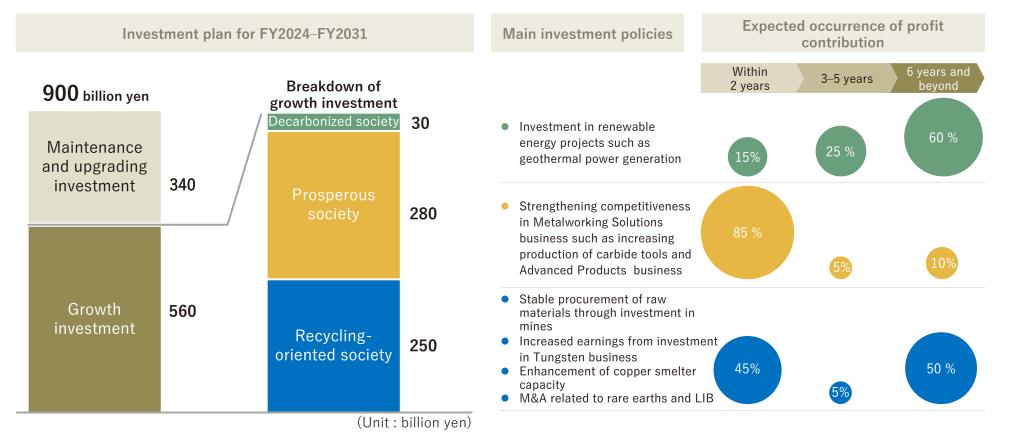
Select investment targets considering the mission suitability, the balance between maintenance and upgrading, and growth investment

2 Business efficiency

Evaluate returns based on business characteristics and allocate them appropriately among businesses

3 Financial soundness

Maintain financial discipline with an overall net D/E ratio of $1 \times$ or less while maintaining financial soundness for each business



In addition to investing in Carbide tools business and Electronic Materials & Components businesses that are expected to contribute to profits in the short term, we are also investing in Resources and Smelting & Resource recycling businesses, which will increase in EP in the long term in order to realize a recycling-oriented society

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Resources Business



FY2031 Target: Leader in Resource Recycling of Nonferrous Metals

- Securing at least 500,000 tons of copper concentrate from mines owned by the Company
- Establishing supply chains for electrolytic copper (SX-EW*1)

Business strategy

FY2024 - FY2031

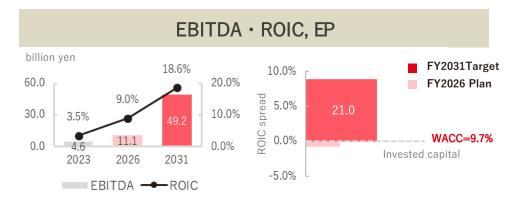
- Promotion of technological development to recover rare metal resources contained in copper deposits
- Acquisition of copper mining interests and securing copper concentrates through continuous investment in mines
- Expansion of electrolytic copper supply through SX-EW operations at copper mines

Business environment

- Demand for copper will continue to increase, but supply will not keep up with demand growth from FY2026, resulting in a supply shortage of 5.5 million tons by FY2031
- The amount of copper concentrate collected from mines owned by the Company currently remains at 150,000 tons
- Mine production costs will rise further
- Demand for rare metals such as cobalt is also growing, while supply will be running short







Important measures

FY2024 - FY2031

- Promotion of the Mantoverde Sulfide Mine Project (including development of new technologies such as cobalt recovery)
- New participation in medium-scale copper mines
- Participation in hydrometallurgy operations at copper mines
- Increasing amount of copper concentrate collected from the current 150,000 tons to 500,000 tons or more in FY2031 (Increasing the ratio in the amount of copper concentrate processed in the Naoshima Smelter & Refinery and the Onahama Smelter & Refinery from the current 10% to 30% in FY2031)

^{*1} Solvent extraction and electrowinning: A two-step hydrometallurgical process consisting of solvent extraction and electrolysis collection

Smelting & Resource Recycling Business



FY2031 Target: Leader in Resource Recycling of Nonferrous Metals

- Major and leading-edge operator in the resource recycling of nonferrous metals
- Expanding processes of nonferrous metal resources not limited to E-Scrap
- Becoming a core supplier in the resource recycling loop based on the world's top-class electrolytic copper supply capacity

Business strategy

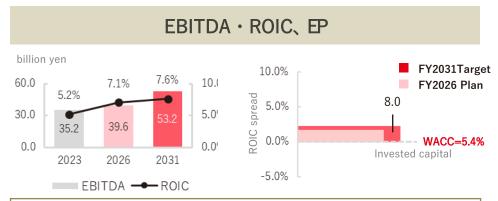
FY2024 - FY2031

- Strengthening and expanding the networks to promote resource recycling
- Expansion of electrolytic copper production capacity
- Increasing the recycling rate by expanding the treatment of recycled products containing metal resources
- Creation of rare earths and rare metals recycling businesses
- Accelerating business developments in Japan and overseas (E-Scrap, home appliances, automobile recycling)

Copper Recycling

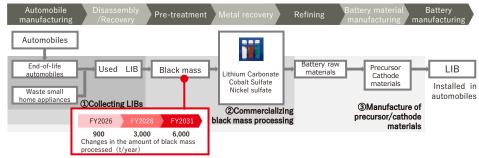
 Achieving increased competitiveness and business expansion at an early stage through expanding the scope of resource recycling by strengthening cooperation in our value chain centered on copper as well as improving the efficiency of resource recycling by developing new processes





LIB Recycling

- Ensuring global competitiveness through early development of a set of recycling processes from LIBs to battery materials, collection of black mass *1 leveraging the network established in the E-Scrap business, and highly efficient recovery of lithium carbonate, cobalt sulfate, and nickel sulfate from black mass
- The Company is expanding its business area through three stages: collecting used LIBs from end-of-life automobiles(1), commercializing black mass processing in cooperation with business partners(2), and developing manufacture of precursor/cathode materials(3)



- *1 Concentrated slag of lithium, cobalt, and nickel discharged, dried, crushed, and sorted LIBs
- *2 A base where parts disassembled from home appliances and automobiles are collected and processed to make them suitable for recycling

Copper & Copper Alloy Business

FY2031 Target: Global First Supplier

- Japan: Establishing an overwhelming position as Japan's No. 1 manufacturer of wrought copper products as the largest supplier
- Overseas: Strengthening key account (KA) strategy based on alloy development capabilities

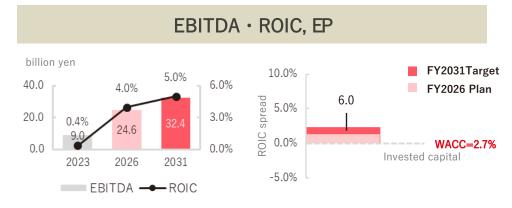
Business strategy

FY2024 - FY2031

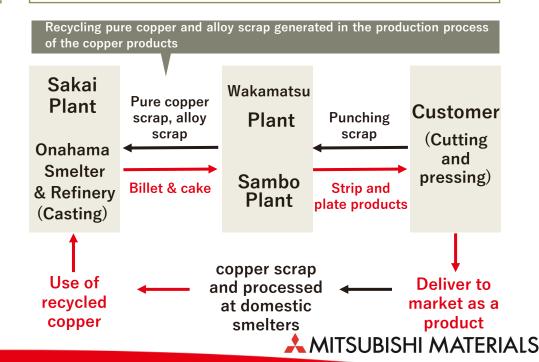
- Improve the recycling rate of wrought copper products and establish a scrap platform base
- Overseas (Luvata): Rapid entry into growing markets (xEV, healthcare, and environment)
- Expand sales and strengthen services to overseas customers with establishes a new overseas plant which carries out a downstream process, with the domestic plants as a mother ones

Establish a competitive position in the rolling business

	Terminal and bus bar for xEVs	Terminal and bus bar for automobiles
Target market	EV/HV market	Automobile markets, particularly in emerging countries
Sales plan	Expand sales of pure copper products FY2022-FY2031 CAGR 4.3%	Expand sales of developed alloys FY2022-FY2031 CAGR 3.7%
Production increase plan	+1,800t/month (FY2031)	+1,100t/month (FY2031)



Improvement of copper recycling rate



Electronic Materials & Components Business



FY2031 Target: Global First Supplier

- Providing products and solutions with added value through concept-in(promoting the adoption of our products at the initial concept-setting stage of product development), focusing on the semiconductor and xEV markets
- Highly profitable business entity and sustainably growing entity that is recognized as an indispensable partner in the market

Business strategy

FY2024 - FY2031

- Highly capital-efficient management through continual restructuring of the business portfolio
- Strategic investment in focused products in growth areas
- Developing and securing human resources for the creation of new businesses and the promotion of business alliances
- Enhancing manufacturing capabilities and DX to enhance production sophistication and profitability
- Providing business and social value (SDGs) for carbon neutrality

Expanding business of focused products

Silicon precision processed products and columnar crystal business:
 Establish a foundation for business expansion and strengthen production and development systems

Investment amount Phase1 11 billion yen Phase2 4 billion yen

Sealing business:

Establish a second production base, promotion of automation, and enhancement of the development system

Investment amount Phase1 8 billion yen Phase2 7 billion yen

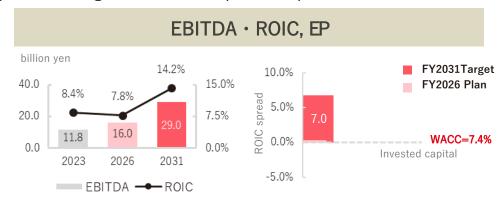
Thermistor sensor business:

Strengthen mass production and development system of products for xEVs

Investment amount Phase1 2 billion yen Phase2 2 billion yen

Strengthening manufacturing capabilities and DX

- Enhancement of manufacturing capabilities, cost competitiveness, and labor savings
 (Taking measures for further quality stabilization and to strengthen the production management system)
- Enhancement of profitability by speeding up decision-making through enhanced information coordination through DX (strengthening KA strategy and cost understanding)



Strengthening marketing capabilities

- Strengthen marketing capabilities and promote innovation, new products and new business creation
- Collaborate in sales, development, manufacturing, and management to efficiently and quickly provide customers with the functions and value they demand.

Acquisition of new business

- Development of businesses and technologies focusing on semiconductor materials and components
- (Next-generation packaging materials, highly heat- resistant materials, functional composite materials, sensors for power devices, etc.)
- Establishment of a new cross-functional R&D structure
 (e.g. Organize a Semiconductor New Technologies & Materials
 Business R&D Center)

 MITSUBISHI MATERIALS

FY2031 Target: A Leading Company in Tungsten Products Recognized by Customers Globally

- Providing tungsten products and solutions with outstanding technology to manufacturing sites around the world
- In addition to the core business of carbide tools, the tungsten business and the solutions business will be the mainstay of earnings

Business strategy

FY2024 - FY2031

Transforming into a truly global company with the aim of autonomous business development in strategic markets

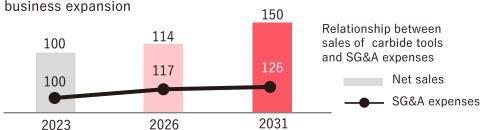
- Stable supply of the world's top quality, high-efficiency products utilizing the strength of materials and coating technology (Carbide tools business)
- Expansion of business scale for rechargeable batteries in addition to carbide tools, etc. (Tungsten business)
- Strengthening environmental responsiveness (Tungsten business)
- Commercialization of solution sales to manufacturing sites (Solution business)

Autonomous business development in strategic markets

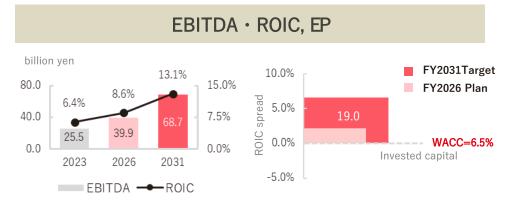
- Strengthen local market responsiveness through a global circulation of development, manufacturing, sales, and recycling
- (Europe, Americas, China, Japan, Southeast Asia and India)
- Reduce GHG emissions in transportation by strengthening supply chains

Enhancing cost competitiveness by utilizing DX

 Reducing SG&A expenses by limiting cost increases associated with business expansion



*Comparing the index with FY2023 sales and SG&A expenses at 100



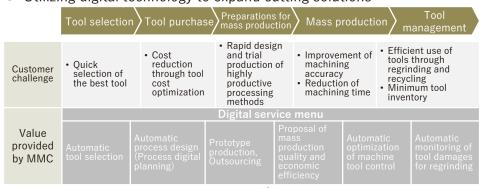
Respond to environmental and social issues from product supply to recycling

- Provide carbide tool products and tungsten for secondary batteries
- Global collection and recycling of used products



Providing solution-selling to manufacturing sites

Utilizing digital technology to expand cutting solutions



Renewable Energy Business



FY2031 Target: Expansion of Renewable Power Generation to Achieve 100% Self-sufficiency in Renewable Power Electricity

- Further expansion of geothermal power generation business
- Expansion of business areas (wind power generation and power generation-related businesses)

Business strategy

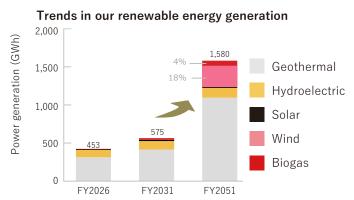
FY2024 - FY2031

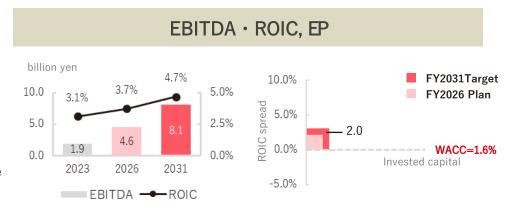
Consolidate the renewable energy business in the Strategic Headquarters as a company-wide effort to expand the business from a long-term perspective

- New development at one location every three years to expand business (Geothermal)
- New entrants into wind power generation where power generation costs are expected to decline in the future (Wind)
- Further development of new biogas plants (Biogas)

Expansion of renewable electricity

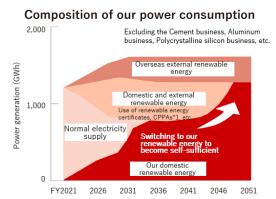
 Accelerate establishment of geothermal power development system and business expansion, with the aim of generating power equivalent to our electricity consumption in FY2051. Expand into new renewable energy generation, mainly wind power





Composition of our power consumption

 Achieve 100% of electricity from renewable energy in real terms in FY2036. Achieve renewable energy generation equivalent to our electricity consumption and achieve 100% self-sufficiency in renewable energy in real terms in FY2051.





^{*1} CPPA (Corporate Power Purchase Agreement)

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Business Strategy

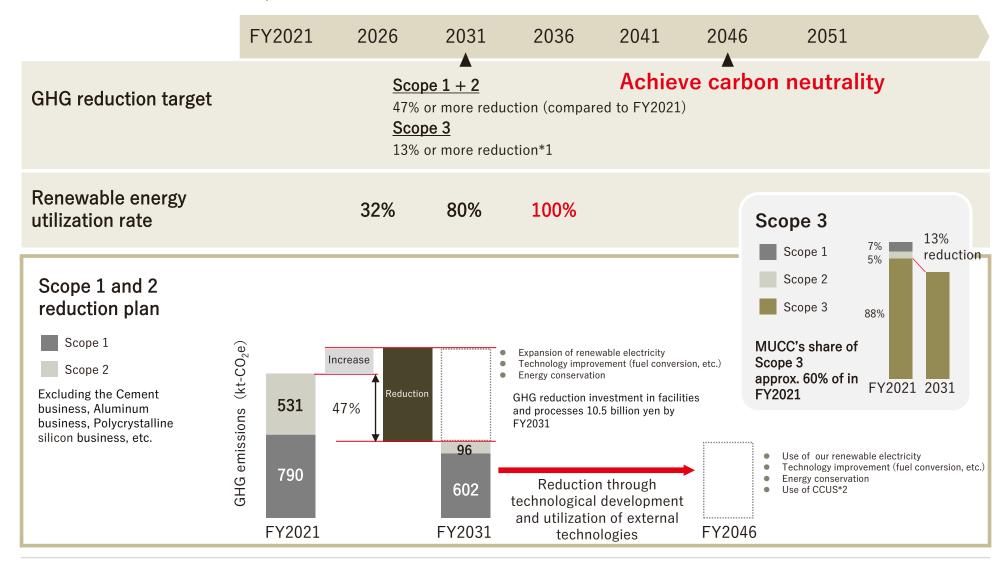
Carbon Neutral

Strengthening Management Foundation

INDEX

Carbon Neutral: GHG Reduction Targets

- Target of carbon neutrality by FY2046 and 100% self-sufficiency in renewable energy power by FY2051
- Reduction focused on Scope 2 for FY2031



^{*1} Category 1, 3, 15 compared to FY2021 *2 Carbon dioxide Capture, Utilization, and Storage

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Strengthening Management Foundation

Strengthening Management Foundation

Manufacturing Strategy and R&D

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Major measures

Achieving sustainable enhancement of corporate value through the creation of new businesses, specialization in manufacturing strategy, and maintenance and development of key technologies

Manufacturing Strategy

 Strengthening of digital technology and development of new systems and facilities applying this technology

 Strengthening manufacturing infrastructure through reforming production preparation processes and strengthening on-site capabilities

Research and development

 Expansion of business areas in technology and markets that circulate resources

 Focus areas: Resource recycling, decarbonization (carbon neutrality), semiconductor-related materials, and mobility

 Accelerate the creation of new businesses by increasing the number of training business themes, M&As that contribute to business growth, and developing human resources to promote commercialization

Human Resources

Target

Major measures

Individuals and the Company grow together to realize corporate value

Maximizing the value of human resources and creating an organization dedicated to winning

- Developing and retaining human resources for business growth
- Realizing flexible employment and work styles
- Maximizing capabilities of individuals and supporting autonomous growth

Building a foundation for co-creation and growth

- Accelerating transformation through integrating diverse human resources and the values
- Fostering job fulfillment through well-being
- Maximizing organizational capability through data utilization

DX

Target

Major measures

Transition to MMDX 2.0 by reorganizing themes and strengthening the structure Strengthening business value added, operational competitiveness, and management speed

ı

Reorganization in five areas: (1) Business-related DX, (2)
 Manufacturing related DX, (3) R&D DX, (4) Company-wide DX, and (5) Renewing key operation

Promotion of the following three points:

- Strengthening manufacturing and R&D areas
- Further promotion of business-related DX themes (from strengthening customer contacts)
- Development of DX human resources and activation of bottom-up activities

IΤ

Target

Promote IT modernization to support business from the viewpoint of data utilization, work style, and security

Major measures

- Realization of "MMC Group IT WAY" centered on IT governance and group synergy
- Transition from legacy to global standard IT infrastructure and implementation of appropriate information security measures
- Transition from legacy to global standard IT infrastructure and implementation of appropriate information security measures

For People, Society and the Earth



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