# Mitsubishi Materials
# Investors' Guide 2024 August

MITSUBISHI MATERIALS

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# Company Profile

# Company Profile

- **Company Name：Mitsubishi Materials Corporation**
- **Head Office：**
  **2-3, Marunouchi 3-chome, Chiyoda-ku,**
  **Tokyo 100-8117 Japan**
- **Chief Executive Officer：Naoki Ono**
- **Originally Founded：1871**
- **Business Overview：**
  **Developing a wide range of businesses, from base materials such as copper and other nonferrous metals, to metal processing, semiconductor-related and electronic components, and energy and environmental businesses.**
- **Composition of Officers：**
  **Directors：11 (including 7 Outside Directors; 2 women)**
  **Executive Officers：8 (including 1 woman)**

- **FYE March 2024 Results（April 1, 2023 – March 31, 2024）**
  - **Consolidated Net Sales：¥1,540.6 billion**
  - **Consolidated Operating Profit：¥23.2 billion**
  - **Consolidated Ordinary Profit：¥54.1 billion**
  - **ROE： 4.8%**
- **As of March 31, 2024**
  - **Paid-in Capital：¥119.4 billion**
  - **Shares of Issued and Outstanding：131.48 million**
  - **Consolidated Number of Employees：18,323**

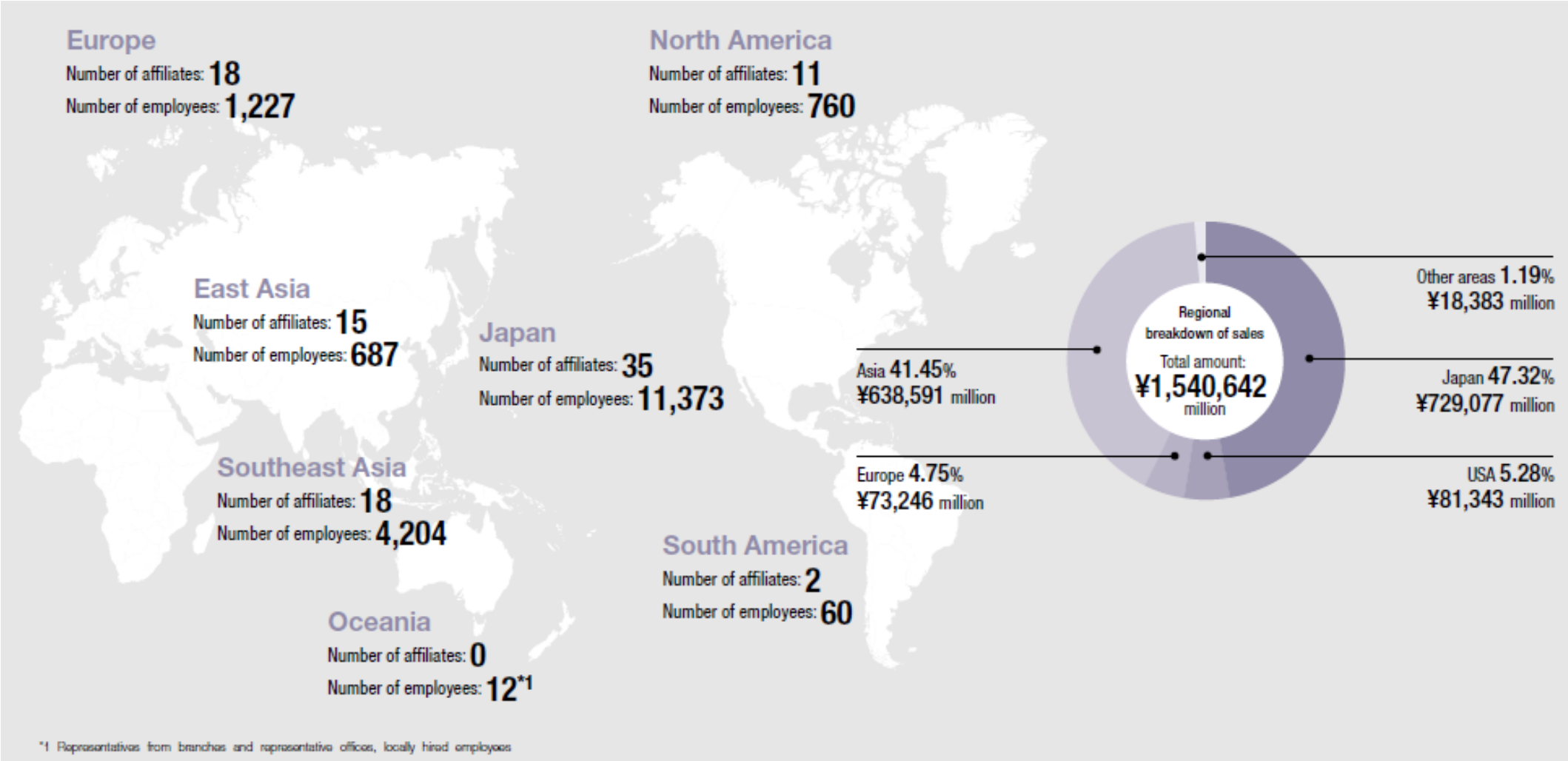
**【As of July 31, 2024】**

| | | |
|---|---|---|
| **Stock Price： ¥2,817** | **PBR ： 0.56 times** | **Dividend Yield：3.5%** |
| **Market Capitalization Value ：¥370.4 billion** | **PER ： 8.2 times** | |

*The denominator of PBR is the actual net assets per share as of March 31, 2024. The denominator of PER is the forecast for net income per share for the fiscal year ending March 2025
The numerator of the dividend yield is the forecast for the dividend per share for the fiscal year ending March 2025

# Status of Overseas Development

## Global operations in 32 countries and regions




*1 Representatives from branches and representative offices, locally hired employees

# Sales Breakdown by Company and Business Segment

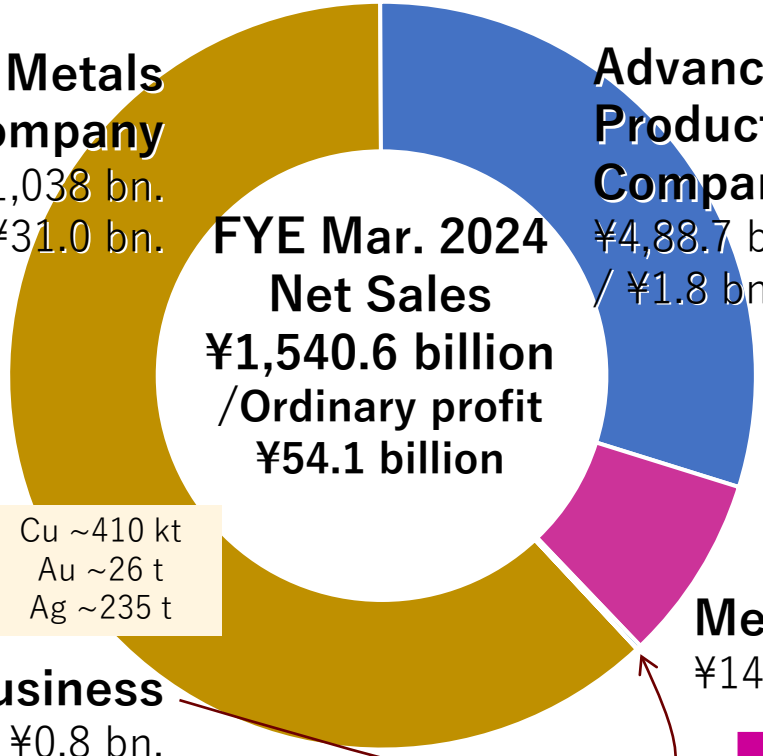
## ■ Resources business：

Investment in copper mines
Securing procurement of copper concentrate

## ■ Smelting & Resource Recycling business ：

Smelting of copper and by-products
E-Scrap home appliance recycling

## Sales Breakdown by Company and Business Segment




| Production FYE Mar. 24 Result | Cu ~410 kt<br>Au ~26 t<br>Ag ~235 t |
|---|---|

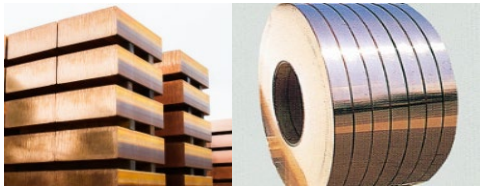
## Renewable Energy business

¥4.6 bn. / ¥0.8 bn.

## ■ Geothermal power generation, hydroelectric power generation, solar power generation, etc.

## ■ Copper & Copper Alloy business：

Manufacture and sales of processed copper products for the automotive and semiconductor markets



## ■ Electronic Materials & Components business：

Manufacture and sales of electronic materials for the semiconductor and automotive markets

## Metalworking Solutions Company

¥140.0 bn. / ¥12.2 bn.

## ■ Carbide tools business：

Manufacture and sale of cemented carbide tools for metal processing of automobiles, aircraft, etc.

Including net sales of ¥-130.7 bn. and ordinary profit of ¥+8.1 bn. as others and adjustments

# Overview of the Metals Business

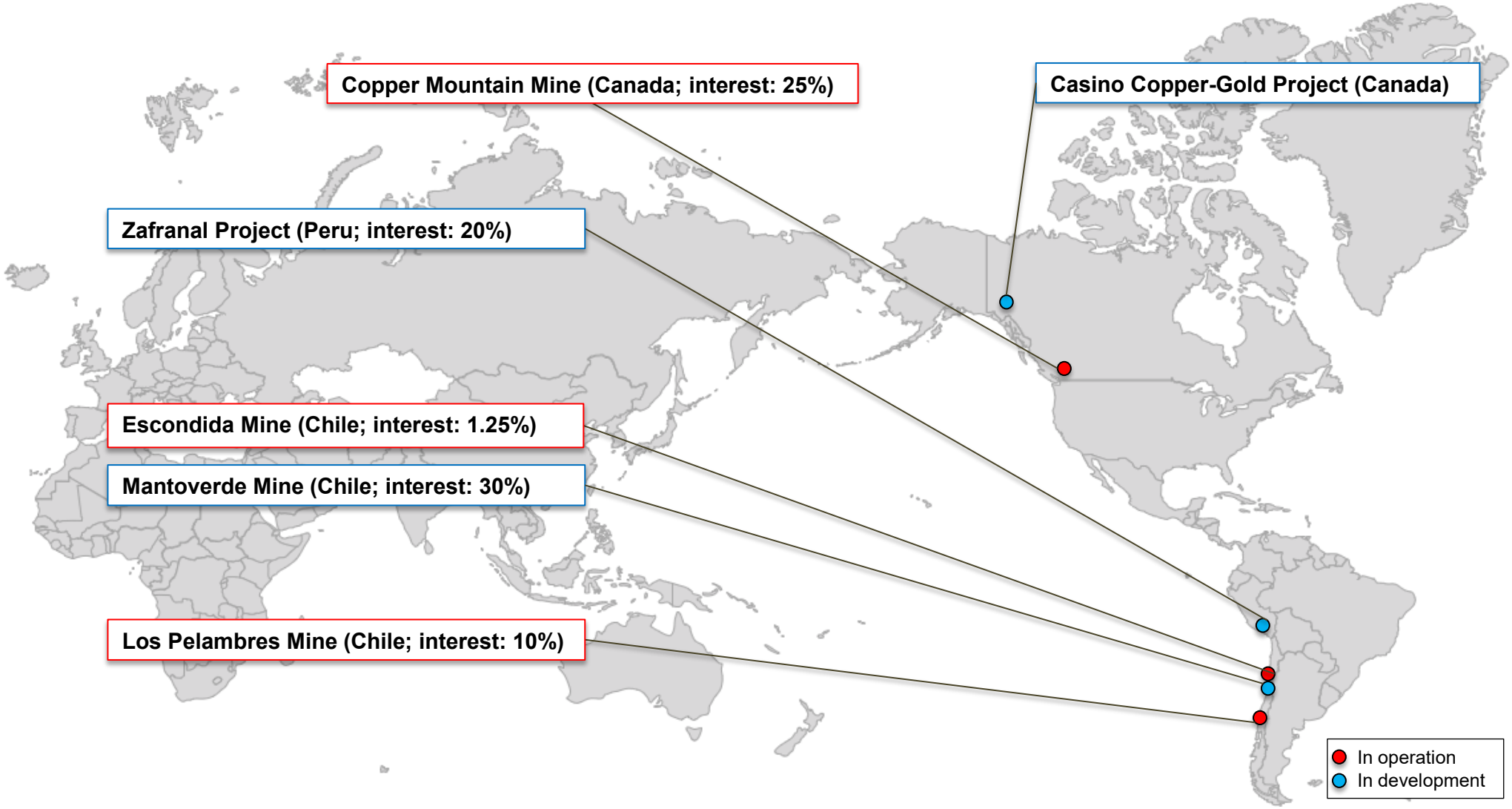


| Business | Business Overview | Strengths | Ordinary Profit | Market Opportunities and Prospects |
|---|---|---|---|---|
| **Resource Business** | ☐ Investment in overseas copper mines for stable procurement of clean copper concentrates | ☐ Years of experience in operating mines<br>☐ Long-lasting friendly relations with giant resource corporations | FYE March 2024 Result ¥20.1 billion<br>FYE March 2025 Forecast ¥17.9 billion<br>FYE March 2026 Plan ¥11.4 billion | <Market opportunities><br>☐ Review strategies according to the willingness of giant resource corporations to develop copper mines and decarbonization<br><Market prospects><br>☐ Increase in taxes, more stringent regulations, and opposition to development due to resource nationalism and raised environmental awareness<br>☐ New ore deposits that are deeper, located in isolated districts, deteriorated in quality, and contain more impurities |
| **Smelting & Resource Recycling Business** | ☐ Smelting of non-ferrous metals from copper concentrates, scrap metal and waste, etc.<br>☐ Sales of electrolytic copper, gold, silver, PGM(*), tin, lead and by-products (sulfuric acid/gypsum, etc.)<br>(*) Platinum-group metals<br>☐ Home appliance recycling, automobile recycling | ☐ Utilizing Mitsubishi's continuous copper smelting process boasting high efficiency and low environmental impact<br>☐ World's No. 1 E-Scrap processing capacity<br>☐ Advanced recycling technology and business foundation<br>☐ Consistent manufacturing system from raw materials to products<br>☐ Diverse production bases (copper, lead, tin, precious metals, PGM)<br>☐ Recycling technology<br>☐ Technology to recover rare earth metals, etc. | FYE March 2024 Result ¥11.6 billion<br>FYE March 2025 Forecast ¥19.0 billion<br>FYE March 2026 Plan ¥27.0 billion | <Market opportunities><br>☐ Enhance recovery and commercialization of trace constituents in production processes<br>☐ Transition to a recycling-oriented and decarbonized society<br>☐ Expansion of E-Scrap market in line with growing environmental awareness<br>☐ Copper consumption that is on the rise in the medium to long term<br>☐ Depletion of mineral resources: Increase in demand for recycled resources<br><Market prospects><br>☐ Intensifying competition for the collection of E-Scrap<br>☐ Strong sulfuric acid market, weak copper slag market<br>☐ Trends and emergence of competitors<br>☐ Reorganization of manufacturers<br>☐ Municipal trends |

# Mines in Which We Have Interests



- To expand our recycling business, it is crucial to invest in mines to secure copper concentrates with fewer impurities, which will lead to stable operations of copper smelters, the basic infrastructure of the recycling business, and we are making steady progress in this area
- Our main targets are medium-scale mining projects with low impurity content and a certain level of profitability



# Status of Mine Development



- **We will continue to acquire interests through continued investment in mines and promote efforts to secure stable copper concentrates as planned**
- **We have initiated a new mine development project, the Casino Copper-Gold Project**


## Los Pelambres Copper Mine (expansion work)

- The seawater desalination plant has been completed
- The expansion of the concentrator was completed in the fiscal year ending March 2024

**Expect to increase ore processing throughput at the concentrator after both facilities are in full-scale operation**

## Mantoverde Copper

- **Construction of the concentrator was completed in 2023**
- First copper concentrate production in June 2024


## Zafranal Project (under development)

- **Received regulatory approval from the authority in May 2023**
- Advance the development of engineering plans
- Full-scale production is planned to begin in 2028

**Secure approx. 150,000 tons of copper concentrate**

**Approx. 300,000 tons**

**Approx. 400,000 tons**

**Approx. 500,000 tons or more**

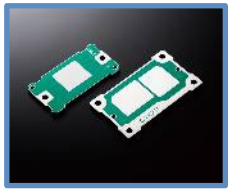
FYE March 2024 FYE March 2025 FYE March 2029 FYE March 2031

## New mine development: Casino Copper-Gold Project

- Verify the feasibility and economics of the Casino Project through technical committee meetings with Western Copper and Gold Corporation

# Overview of the Copper & Copper Alloy Business

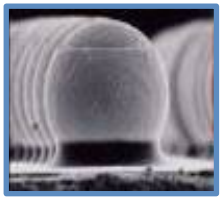
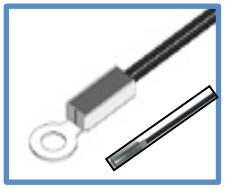


| Key markets | Uses | Main product groups | | Strengths |
|---|---|---|---|---|
| Automobiles<br>Transport equipment | Terminals and connectors | In-vehicle terminals<br>Copper strips for busbars |  | High-performance copper alloy casting/processing technologies |
| | | Plating | | Development capabilities |
| | Automotive parts | Lead-free brass |  | Development capabilities |
| Semiconductors<br>Electronics | Semi conductors | Lead frames |  | High-performance copper alloy casting/processing technologies |
| | Electronics | Copper strips for heat sink |  | High-quality oxygen-free copper casting/processing technologies |
| Infrastructure<br>Industrial equipment<br>Medical equipment | Equipment parts | Copper rods<br>Busbars |  | Oxygen-free copper/copper alloy casting and processing technologies |
| | MRI parts | Superconducting wires |  | Manufacturing/processing technologies |

| Ordinary profit | Market Outlook |
|---|---|
| FYE March 2024 Result<br>¥-0.5 billion<br><br>FYE March 2025 Forecast<br>¥7.3 billion<br><br>FYE March 2026 Plan<br>¥12.4 billion | ➢ Demand for automobiles and semiconductors is expected to continue to grow over the medium to long term due to the spread of next-generation automobiles and high-capacity communications.<br><br>➢ In response to past disruptions in their supply chains, major customers are increasingly aware of the importance of the concept of local production and local consumption. Furthermore, as a measure to deal with rising transportation and energy prices, we will work to optimize our value chain. |

# Overview of the Electronic Materials & Components Business



| Key markets | Uses | Main product groups | | Strengths | Ordinary profit | Market Outlook |
|---|---|---|---|---|---|---|
| Semiconductors Electronics | Semiconductor element bonding materials | Low alpha solders |  | ・Characteristic raw materials<br>・Evaluation technologies | FYE March 2024 Result ¥2.8 billion<br><br>FYE March 2025 Forecast ¥3.8 billionn<br><br>FYE March 2026 Plan ¥8.6 billion | ➢ Although the market for semiconductor materials is currently in a downturn phase, it is expected to expand in the medium- to long-term. Therefore, we will establish a system to increase production in anticipation of future demand growth, and develop products and business to gain new orders.<br><br>➢ The market for next-generation automobiles is expected to continue to grow, and we will continue to work to make our way into the market with a focus on thermistor sensors. |
| | Semiconductor manufacturing equipment parts | Silicon processed products |  | ・Material technologies<br>・Production processes (microfabrication technologies) | | |
| | | Sealing products |  | ・Material compounding technologies<br>・Custom shape designs<br>・Analysis/analytical technologies | | |
| Automobiles Transport equipment | Automotive glass interlayers | Heat-ray shielding paints |  | ・Characteristic raw materials<br>・Dispersion technologies | | |
| | Automotive parts | Thermistor sensors |  | ・Device development capabilities<br>・Customization capabilities (Injection molding technologies) | | |

# Metalworking Solutions Business Overview



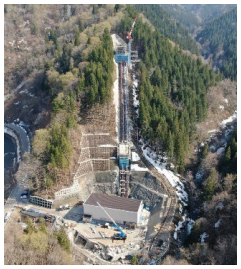
| Major industry | Main product group | | Company | Strengths | Ordinary profit | Market outlook |
|---|---|---|---|---|---|---|
| Automobiles<br>Transport equipment<br>Aerospace<br>Medical<br>Die & Mold | Cutting tools |  | Mitsubishi Materials<br><br>MOLDINO Tool Engineering | ・Cemented carbide material manufacturing technologies<br>・Coating technologies (CVD/PVD)<br>・Extensive lineup (indexable tools to solid tools) | FYE March 2024 Result<br>¥12.2 billion<br><br>FYE March 2025 Forecast<br>¥14.0 billion<br><br>FYE March 2026 Plan<br>¥25.0 billion | ・Despite concerns about the pandemic and global supply chain disruptions, the gradual recovery trend continues |
| Mine excavation<br>Secondary batteries<br>Steel | Rock tools<br>Wear-resistant tools |  | MMC Ryotec | ・Cemented carbide material manufacturing technologies<br>・Design capabilities as strength in wear-resistant and rock tools | | ・Mine excavation, construction, and secondary battery markets all continue to recover |
| Cemented carbide<br>Semiconductors<br>Secondary batteries | Tungsten powder<br><br>Advanced matal powder |  | Japan New Metals | ・Integrated production, from tungsten recycling to smelting | | ・Growing demand for high melting point materials due to the growth in electronic components |

# Overview of Renewable Energy Business

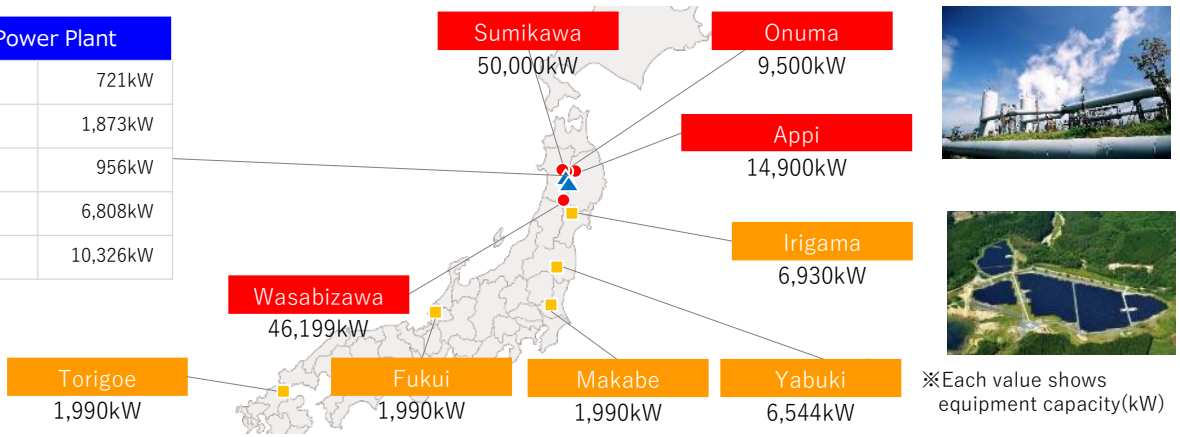


| Business overview | Strengths | Ordinary profit | Market opportunities and prospects |
|---|---|---|---|
| **Geothermal power generation** | Since the Onuma Geothermal Power Plant opened in 1974, we have developed a power generation business based on our extensive experience in geothermal development and operation, including the supply of steam to the Sumikawa Geothermal Power Plant. | FYE March 2024 Result ¥0.8 billion<br>FYE March 2025 Forecast ¥2.4 billion<br>FYE March 2026 Plan ¥2.3 billion | ● Opportunities<br>Economic: Environmental value enhanced due to increasing demand for renewable energy<br>Political: Contribution to national policies for the introduction of renewable energy<br>Social: Increased social demand on companies to introduce renewable energy and reduce $CO_2$ emissions<br>● Risks<br>Technological: Decline in competitiveness of facilities due to rapid technological innovation<br>Environmental: Decline in power generation due to change in weather patterns associated with climate change over a long period of time<br>Investment: Increased investment costs due to increase in construction costs |
| **Hydroelectric power generation** | We also possess many years of experience in the operation of hydropower generation since its introduction in Japan. | | |
| **Solar power generation** | Supply of electricity and extensive development and operating experience utilizing the Group's idle land | | |
| **Biogas** | Waste plastic and sludge generated during the treatment process are used as raw materials and as an alternative to thermal energy at the cement plants of affiliated companies. | | |
| **Wind power generation Storage batteries, etc.** | Idle land, including Approx. 14,000 ha of forest land which we own in Japan, is utilized as new power source development sites. | — | |

## Business Base



| Hydroelectric Power Plant | |
|---|---|
| Nagata | 721kW |
| Ikari | 1,873kW |
| Ooyu | 956kW |
| Komatagawa No.4 | 6,808kW |
| Komatagawa New | 10,326kW |








※Each value shows equipment capacity(kW)

| | |
|---|---|
| ● | Geothermal energy |
| ▲ | Hydroelectric |
| ■ | Mega solar |

## Provided Value

- Ensure a stable supply of clean energy
- Provide renewable energy

# Initiatives to Improve PBR in the FY2031 Strategy

| | | |
|---|---|---|
| **Recognition of issues** | **The PBR at the end of the fiscal year ending March 2024 was 0.6 times, far less than 1 time.<br>PBR is divided into ROE and PER; ROE is 4.8% and PER is 12.1 times, with ROE being particularly low.** | |
| **PBR recovery plan** | ● **Recovery to ROE above 10%: achieving the ROE target of 10.0% in FYE March 2026 based on the FY2031 Strategy**<br>● **Continuing to achieve ROE above 10%: maintaining and improving ROE above 10.0% from FYE March 2027 to achieve the ROE target of 13.6% in FY2031**<br>● **Demonstrating stable growth with little fluctuation in earnings through the above process and supporting the execution of the FY2031 Strategy, thereby raising future growth expectations and improving PER** | |
| | **ROE Improvement** | **<u>Improving profitability</u>**<br>● **Lowering the break-even point by reducing fixed costs (production cost reduction, yield rates improvement, SG&A cost reduction)**<br>(Total cost reduction of about ¥24.0 bn by FYE March 2031, ratio to operating profit about 13% in FYE March 2026 and about 19% in FYE March 2031)<br>● **Investing in medium- to long-term growth areas such as resource recycling and expanding the scope and regions**<br>(Maximize ROIC spread and economic profit (ROIC spread x invested capital) for all businesses by FYE March 2031) |
| | **PER Improvement** | ● **Stable growth of earnings through formulation and implementation of the FY2031 Strategy, which is a medium- to long-term growth strategy**<br>(Ordinary profit target　FYE March 2026: ￥87.0 bn, FYE March 2031: ￥180.0 bn)<br>● **Stable shareholder return** (aim to achieve a dividend payout ratio of 30% by FYE March 2026 and further increase thereafter)<br>● **Generate revenue from sustainability activities by formulating and implementing materiality and important themes, measures and KPIs**<br>● **Achieve strategic progress in line with the FY2031 Strategy, improve the expected growth rate by improving business performance, and reduce the cost of equity** |

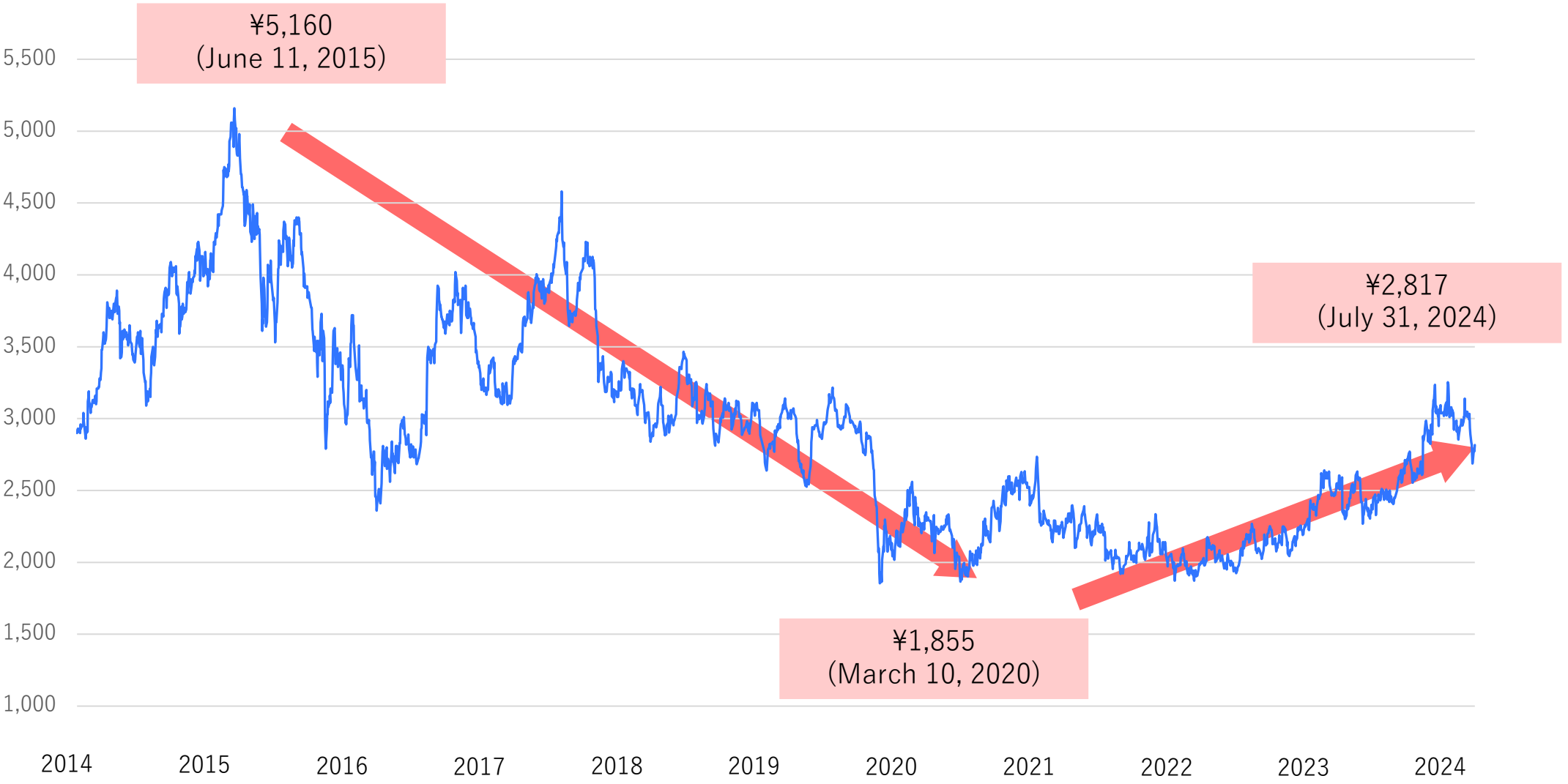
# Operating Results

(Billions of yen)

| | FYE March 2020 | FYE March 2021 | FYE March 2022 | FYE March 2023 | FYE March 2024 |
|---|---|---|---|---|---|
| **PL** | | | | | |
| Net sales | 1,516.1 | 1,485.1 | 1,811.7 | 1,625.9 | 1,540.6 |
| Ordinary profit | 49.6 | 44.5 | 76.0 | 25.3 | 54.1 |
| Profit (loss) attributable to owners of parent | (72.8) | 24.4 | 45.0 | 20.3 | 29.7 |
| **BS** | | | | | |
| Total assets | 1,904.0 | 2,035.5 | 2,125.0 | 1,891.7 | 2,167.6 |
| Net assets | 586.0 | 614.3 | 655.7 | 628.8 | 685.6 |
| **CF** | | | | | |
| Operating CF | 67.5 | 78.4 | 6.8 | 45.1 | 51.3 |
| Investment CF | (66.8) | (101.7) | (3.2) | (43.9) | (102.9) |
| Financing CF | 28.8 | 41.5 | (5.0) | 3.4 | 32.9 |
| Cash and cash equivalents at end of period | 127.2 | 147.5 | 153.6 | 141.0 | 131.1 |

# Share Price Trends (Past 10 Years)

**The Company's stock price had been on a downward trend, but has been gradually recovering since 2023.**




*Based on closing price.
On October 1, 2016, the Company carried out a reverse stock split at a ratio of 1 share for every 10 shares, and the share prices before that date have been adjusted as required to take into account the impact of the reverse stock split.

# Value Creation in Mitsubishi Materials

# Our Commitment

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

## Corporate Philosophy

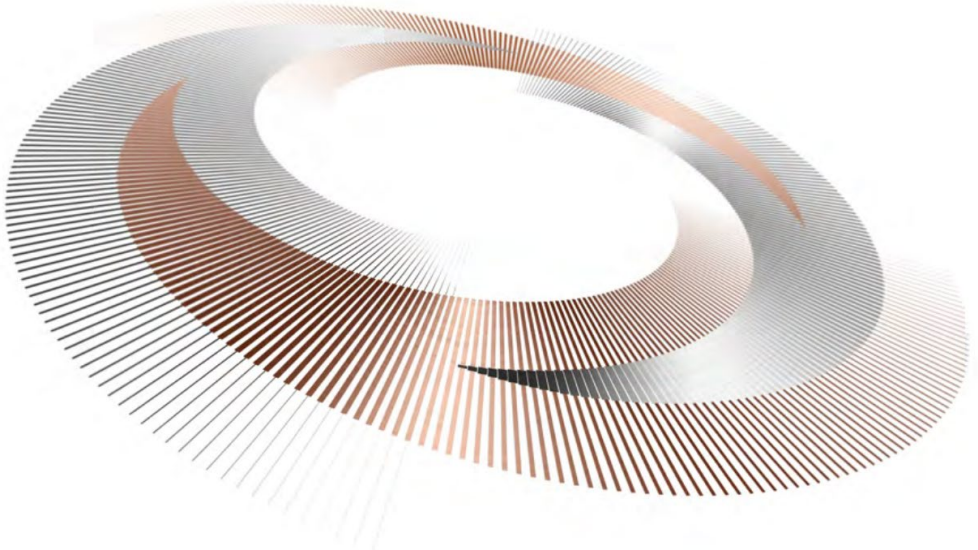
For People, Society and the Earth

Thoughts underlying our Corporate Philosophy

We have the desire to deliver.

The materials and products we make and deliver,
the solutions we offer,
all of our efforts,
and our very existence itself is “For People, Society and the Earth.”

This is our desire, which is reflected in our Corporate Philosophy.



## Our Vision

Circulating resources for a sustainable future

## Our Mission

Create a sustainable future

Prosperous society | Recycling-oriented society | Decarbonized society

# Value Creation Process

Invested capital → Our strengths → MMC's business → Output → Materiality → Outcomes

## Invested capital

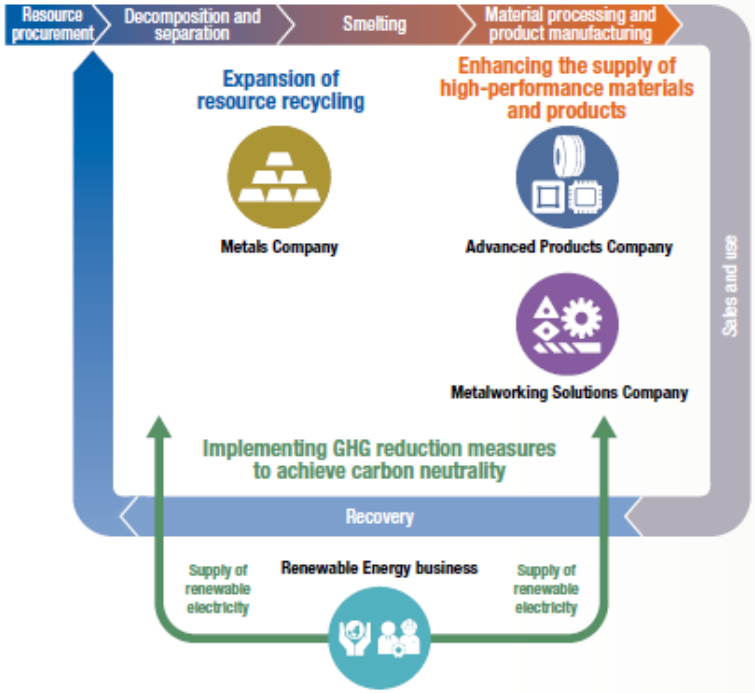
- Manufactured capital
- Human capital
- Intellectual capital
- Social and relationship capital
- Natural capital
- Financial capital

## Our strengths

1. A value chain that supplies high added-value copper products
2. Global collection network for E-Scrap and carbide tools
3. Advanced recycling technology
4. Development and production capabilities for high-performance materials and products
5. Renewable energy business foundation
6. Human resources and organizational climate and culture
7. Company-owned forest preserved for various purposes

## MMC's business

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




### FY2031 Strategy

**Business Strategies**

**Management foundation**

Manufacturing | Research and Development | Human Resources | DX | IT

**Governance**

## Output

### Products & Services

Nonferrous metals products made with smelting process with a low environmental load

Recycling system that facilitates resource recycling

High-function products for automobiles and electronics industries

Carbide tool products and services that achieve high productivity with a low environmental impact

Renewable energy

## Materiality

- Promotion of resource circulation
- Strengthening measures to address global environmental issues
- Enhancement of human capital
- Activation of communication
- Strengthening information security
- Strengthening response to SCQ issues
- Enhancement of sustainable supply chain management
- Deepening of DX
- Pursuit of value creation
- Geopolitical and geoeconomic risks
- Financial risks

## Outcomes

### Economic value

| | FYE March 2026 Plan | FYE March 2031 Target |
|---|---|---|
| Net sales | ¥1,940 billion | ¥2,000 billion |
| Operating profit | ¥70 billion | ¥130 billion |
| Ordinary profit | ¥87 billion | ¥180 billion |
| ROIC*1 | 5.5% | 9.0% |
| ROE | 10.0% | 13.6% |
| EBITDA | ¥150 billion | ¥260 billion |
| Net D/E ratio | 0.7 times | 0.5 times or lower |
| Net interest-bearing debt/ EBITDA ratio | 3.5 times | 2.0 times or lower |

### Social value

| | FYE March 2031 | FYE March 2046 |
|---|---|---|
| GHG reduction | 47% or more*2 | Carbon neutrality |

| | FYE March 2026 Plan | FYE March 2031 Target |
|---|---|---|
| E-Scrap processing capacity | 180,000 tons | 240,000 tons |
| Renewable electricity self-sufficiency ratio (100% by FYE March 2051) | 23% | 25% |
| Ratio of candidates on the Next-generation Leadership Talent Development Program to successors of Executive Officers | 70% | 80% |
| Ratio of diverse attributes among managers (women, non-Japanese people, mid-career hires, people with disabilities) | 20% | 30% |
| Positive response rate in employee engagement survey | 75% | 80% |

| | |
|---|---|
| Occupational accidents | FYE March 2025 target<br>0 accidents requiring 4 or more days off work |

*1 Cumulative planned total for FYE March 2024 to FYE March 2031 in the FY2031 Strategy
*2 Scope 1 and 2 compared to FYE March 2021, excluding GHG emissions from resource recycling efforts

# Materiality

- Based on the recognition that the sustainability of society as a whole will have a significant impact on the future of corporate activities, the Group has identified the most important social issues that we will resolve through corporate activities as material issues.

| Materiality | Key themes |
|---|---|
| Promotion of resource circulation | Promotion of designing resource recycling through advanced recycling technology |
| | Developing and providing recyclable products |
| Strengthening measures to address global environmental issues | Strengthening initiatives to achieve carbon neutrality |
| | Biodiversity retention and reducing environmental impact |
| | Developing and promoting the use of renewable energy |
| Enhancement of human capital | Addressing labor shortage issues |
| | Enhancing talent retention and development |
| | Promotion of DE&I (Diversity, Equity & Inclusion) |
| | Promotion of flexible working styles |
| | Respect for individuals and fundamental human rights |
| Activation of communication | Enhancement of engagement with stakeholders |
| | Improving customer satisfaction |
| | Promotion of dialogue and coexistence with local communities |
| Strengthening information security | Strengthening IT global governance |
| | Prevention of information leakage |
| | Strengthening IT asset management |
| Strengthening response to SCQ (*1) issues 【Issues related to occupational safety and health, health management, compliance, environmental management, and quality management】 | Prevention of occupational accidents |
| | Creating mentally and physically pleasant workplace |
| | Prevention of infectious diseases |
| | Reinforcing compliance |
| | Enhancing internal control through Group governance |
| | Enhancement of corporate governance |
| | Preventing leakage of harmful substances outside the site and eliminating environmental law violations |
| | Elimination of serious quality non-conformities |

| Materiality | Key themes |
|---|---|
| Enhancement of sustainable supply chain management | Diversifying procurement of raw materials |
| | Consideration of human rights in the supply chain |
| Deepening of DX | Business process innovation |
| | Operational enhancement |
| | Enhancement of customer contact points; reform of business model |
| Pursuit of value creation | Building and execution of new business creation processes |
| | Strengthening of manufacturing |
| Geopolitical and geoeconomic risks (*2) | Periodic review of investment strategies |
| | Collecting and sharing information on overseas risks and individual country risks from overseas bases |
| | Creation and regular review of risk reduction and avoidance measures, and BCP for overseas businesses |
| | Building a procurement portfolio of copper concentrates, E-Scrap, and other raw materials |
| Financial risks | Introduction and operation of the Group's optimal cash management system |
| | Grasping the market value of assets held and confirming the indication of impairment of fixed assets |
| | Monitoring of the management and financial condition of debt guarantee underwriting affiliates, etc. |
| | Investment allocation considering safety and profitability in pension asset management |

*1 Safety & health (Safety & health come first), Compliance & environment (Compliance & environment to ensure fair activities), Quality (Quality of products and services provided to our "customers")
*2 Risk that a country will try to achieve geopolitical goals (national interests) through economic means

# Seven Strengths of the Mitsubishi Materials Group

## A value chain that supplies high added-value copper products

- Investment in overseas copper mines through long-term friendly relationships with major resource companies
- Processes enabling efficient, environmentally friendly smelting and refining of clean copper concentrate
- Strong customer base and Japan's top capabilities for processed copper production

Mantoverde Copper Mine (Chile)

## Global collection network for E-Scrap and carbide tools

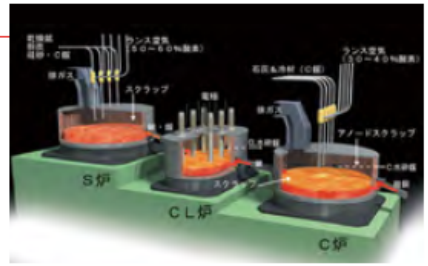
- Global E-Scrap collection network through overseas bases such as MM Metal Recycling BV in the Netherlands
- Domestic network for the collection of used carbide tools

*** E-Scrap: Waste circuit boards of electronic equipment, etc. that contain trace amounts of various precious metals.**

Example of E-Scrap for being accepted/processed

## Advanced recycling technology

- Efficient processing of E-Scrap through the Mitsubishi Process for continuous copper smelting
- Material Grid framework enabling collection of a wide range of nonferrous metals including platinum group metals, lead and tin
- Automatic dismantling and sorting processes for items such as home appliances, enabling recycling of a wide range of resources
- The technology and know-how to recycle tungsten recovered from carbide tool scrap, etc. as a raw material




The Mitsubishi Process for continuous copper smelting

## Development and production capabilities for high-performance materials and products

- Development and production of oxygen-free copper, copper alloy, lead-free brass, etc.
- Supply of materials and components for semiconductor manufacturing equipment (columnar crystal silicon, sealing products)
- Supply of high-efficiency carbide tool products that utilizeour materials and coating technologies

Products made from GloBrass®, a lead-free brass material with superior machinability

Manufactured capital | Human capital | Intellectual capital | Social and relationship capital | Natural capital

# Seven Strengths of the Mitsubishi Materials Group

## Renewable energy business foundation

- Advanced exploration and analysis technology for geothermal resources
- Decades of business experience in areas such as geothermal and hydroelectric power generation

Appi Geothermal Power Plant
(entire construction area)

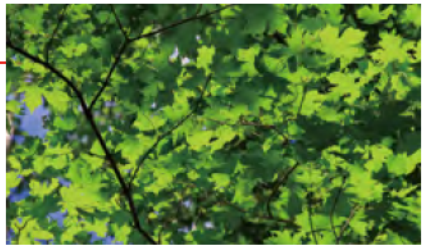
## Human resources and organizational climate and culture

- Talent with wide-ranging expertise in a variety of roles
- A team that can unite to resolve issues
- Mutual trust between colleagues and between management and employees

Company-wide Implementation of 1-on-1

## Company-owned forest preserved for various purposes

- Appropriate development and management of company-owned forest to preserve biodiversity and carry out sustainable forestry operations (SGEC certified)
- Company-owned forests are utilized for education and community exchange activities
- Wood from company-owned forests is utilized as a building material



Acer miyabei Maxim in Hayakita Forest
(vulnerable species)

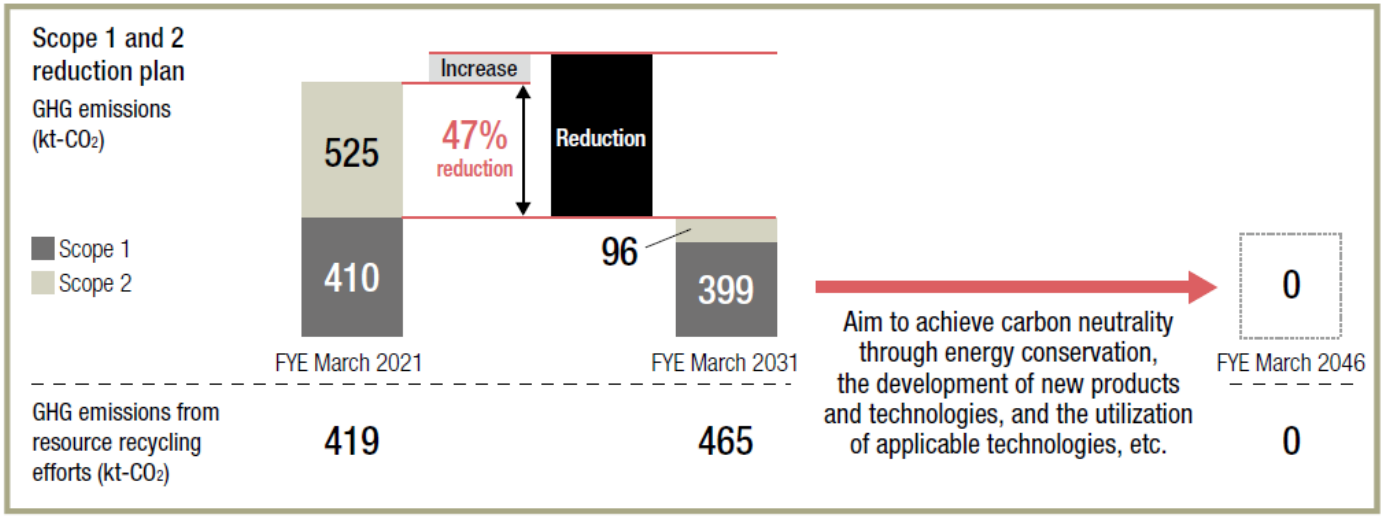
Manufactured capital | Human capital | Intellectual capital | Social and relationship capital | Natural capital

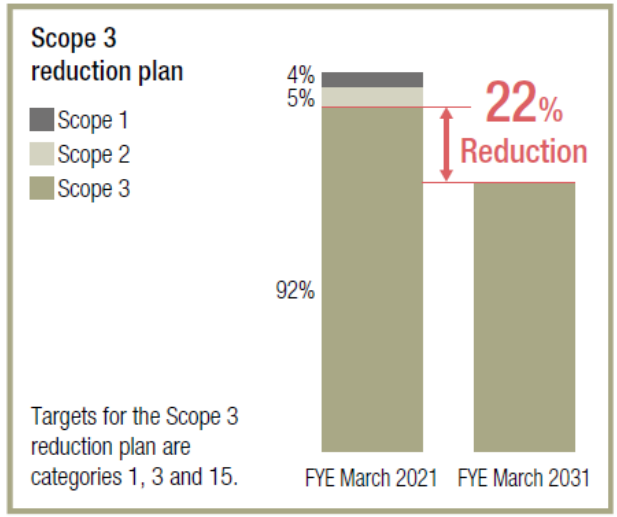
# GHG Reduction Targets toward Carbon Neutrality

- We set the fiscal year ending March 2046 as our target year for carbon neutrality (Five years ahead of the Japanese government's target year of the fiscal year ending March 2051)
- We will achieve 100% self-sufficiency in renewable energy electricity by the fiscal year ending March 2051 (amount of renewable energy generated equivalent to our own electricity consumption).

**Scope 1: Direct emissions of greenhouse gases by companies themselves (Fuel combustion, industrial processes)**
**Scope 2: Indirect emissions from the use of electricity, heat and steam supplied by other companies**
**Scope 3: Indirect emissions other than scope 1 and scope 2 (Emissions from other companies related to business activities)**

| | FYE March 2021 | 2026 | 2031 | 2036 | 2041 | 2046 | 2051 |
|---|---|---|---|---|---|---|---|
| GHG reduction target | | | Compared to FYE March 2021<br>Scope 1 + 2: 47% reduction<br>Scope 3: 22% reduction | | | Achieve carbon neutrality | |
| Renewable energy for electricity utilization rate | | 30% | 80% | 100% | | | |
| Renewable energy for electricity self-sufficiency rate | | 33% | 37% | 67% | | | 100% |




*GHG emissions for Scope 1 and 2 are based on the calculation of adjusted emissions under the Act on Promotion of Global Warming Countermeasures (excluding GHG emissions from resource recycling efforts).
*GHG emissions exclude businesses and subsidiaries that have been or will be removed from the scope of consolidation due to business portfolio adjustment by the fiscal year ended March 2024.

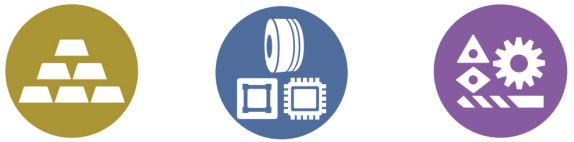
# Direction of Carbon Footprint (CFP) Initiatives

*1 Carbon footprint of products (CFP) is part of Life Cycle Assessment(LCA) and extracts items related to GHG emissions.
LCA is a method of quantitatively evaluating input resources, environmental load and environmental impact across the life cycle of a product.

Applications and calculation methods for CFP are being investigated from a variety of perspectives by governments, industry organizations, and others. As interest in CFP initiatives is growing both in Japan and abroad, we will move forward with our own CFP initiatives in the following directions.

## Deployment

- Continue sequentially calculating CFP for our main products.
- Begin building systems for ensuring data reliability.



## Verification & Disclosure

- Proceed as necessary with third-party verification and disclosure for products for which CFP has already been calculated.
- Aim to complete third-party verification for our electrolytic copper during this fiscal year.

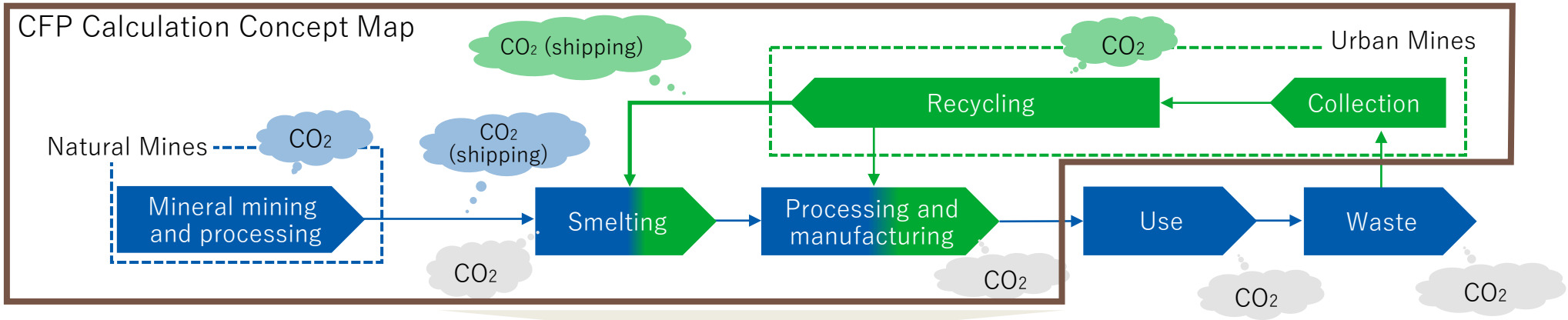
## Reduction

- Make systematic plans to reduce CFP (fuel conversion, increased processing of E-Scrap, etc.).
- Increase engagement *2 with suppliers, and promote consistent GHG reduction initiatives both upstream and downstream.

* 2 Supplier engagement progress: Approximately 40% of Scope3 Category 1 (purchased products and services) emissions

# Promotion of recycling and reduction of GHG emissions

- We have estimated the CFP of our copper and tungsten products and worked to improve the accuracy of our calculations.






E-Scrap

Copper Concentrate


Electrolytic Copper




Billets & Cakes
Wire



Flat strips & Rods




Tungsten Scrap

Tungsten Concentrate

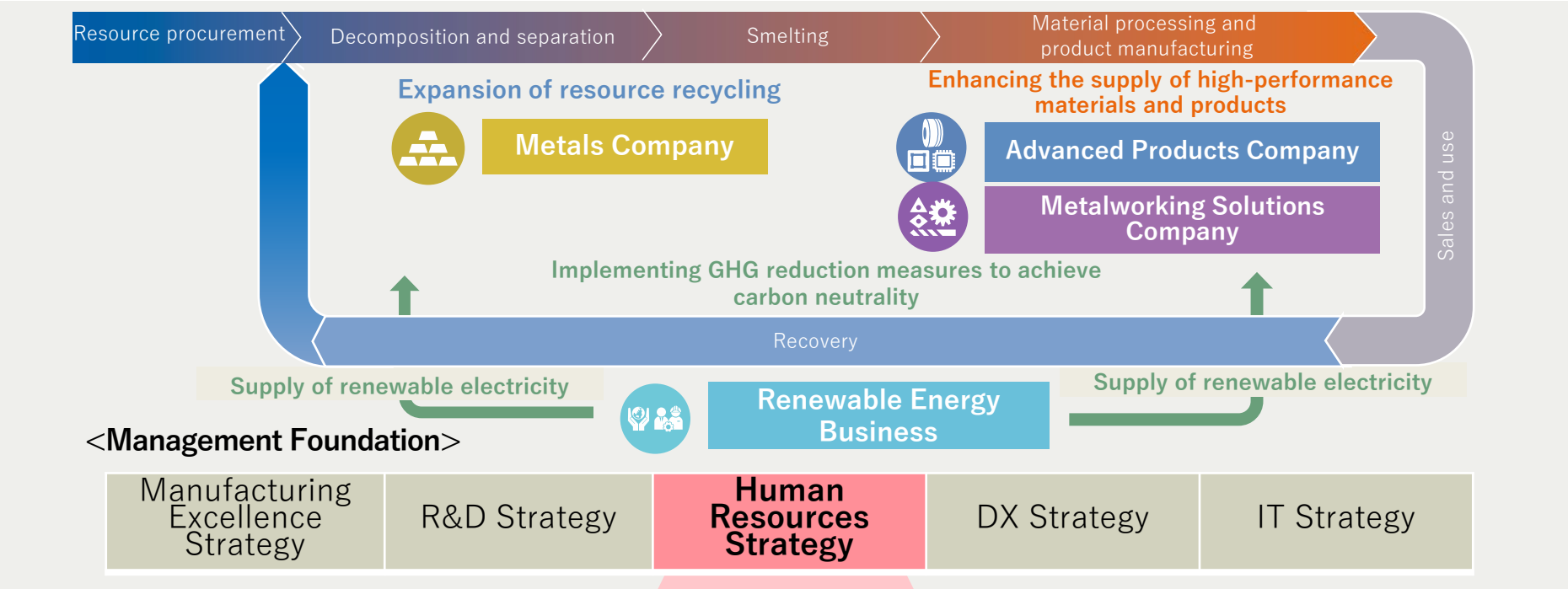

Tungsten Carbide


Inserts

Reduce GHG emissions from natural resources by promoting recovery from used products, recycling scrap generated in manufacturing processes, etc.

With the aim of realizing a recycling-oriented society and a decarbonized society, we will contribute to promoting social change through our business activities while simultaneously promoting our own recycling and reducing GHG emissions.

# Human Capital Initiatives




## The MMC Group's Approach to Human Capital

### 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

**"Individual employees and the Company grow together and achieve enhanced corporate value"**

# Human Capital Initiatives

## Maximizing the Value of Human Resources and Creating an Organization Dedicated to Winning

### Developing and retaining human resources for business growth

- Developing and retaining candidates for management leaders
- Developing and retaining talents necessary to strengthen competitiveness and manufacturing capabilities
- Strategically selecting recruitment channels and employment patterns in line with business strategy

Next-Generation Leadership Talent Development

### Realizing flexible employment and work styles

- Advancing human resources management aligned with external labor market
- Promoting flexible work styles that are not restricted by time and place

Job-based HR System

Supporting flexible work styles

### Maximizing capabilities of individuals and supporting autonomous growth

- Creating an organization dedicated to winning through performance management
- Supporting autonomous growth and building a learning organization

Internal Job Posting System

1-on-1

New Training System

## Building a foundation for co-creation and growth

### Accelerating transformation through integrating diverse human resources and values

- Developing and retaining diverse human resources
- Cultivating awareness and culture to create new values from different opinions by embracing each other's diverse individuality

Measures to Drive Diversity and Inclusion

### Fostering job fulfillment through well-being

- Continuously improving employee engagement
- Driving health and productivity management

Engagement Survey

Health and Productivity Management

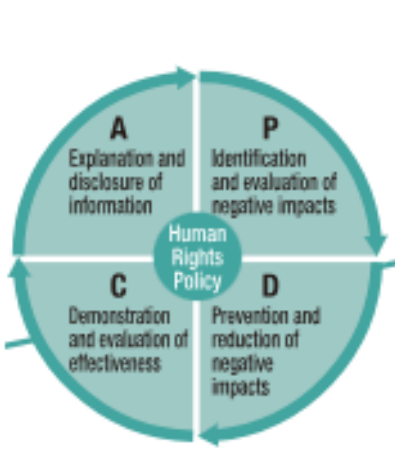
### Maximizing organizational capability through data utilization

- Enhancing talent management by utilizing HR system
- Developing environment for further utilization of human resources data and promoting data-driven measures

Talent Management System

# Human Rights Initiatives

- Based on the results of the analysis of the self-checklists conducted in the fiscal year ending March 2023 and the fiscal year ending March 2024, the Group formulated a roadmap for its efforts to respect human rights over the five years from the fiscal year ending March 2025 to the fiscal year ending March 2029.
- While continuously implementing human rights due diligence, the Group will identify issues related to human rights, identify risks, and implement improvement measures.

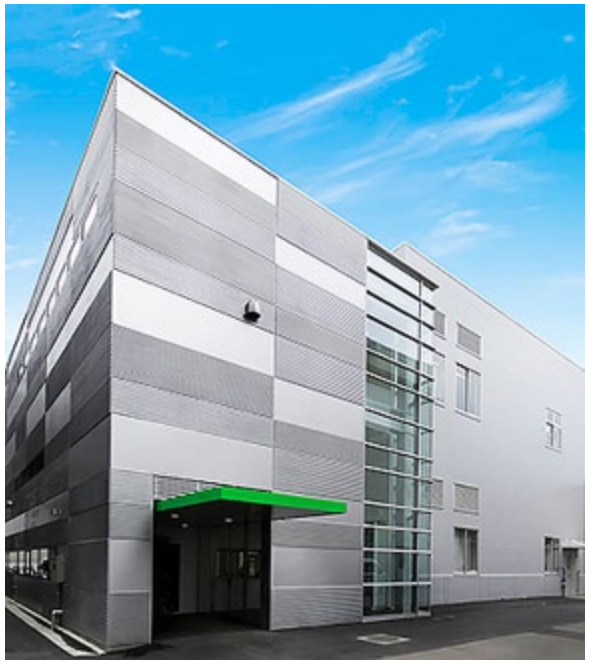



| | Short term (FYE March 2025) | Medium term (FYE March 2026 to 2027) | Long term (FYE March 2028 to 2029) |
|---|---|---|---|
| Dissemination of Our Commitment to Human Rights Policy | • Engagement with stakeholders inside and outside the Company | • Reflection of results of internal and external engagement in individual measures<br>• Expansion of human rights awareness training and scope of application | • Consideration of expansion of human rights education specific to certain fields<br>• Consideration of new roadmap measures<br>• Consideration of review of human rights policy |
| Implementation of human rights due diligence and risk reduction measures across the Group | • Acquisition and maintenance of Responsible Minerals Initiative certification<br>• Expansion of the scope of human rights due diligence to suppliers other than resources | • Disclosure of commitment to non-discrimination in hiring process<br>• Review of initiatives for Responsible Minerals Initiative | • Consideration of formulation of a new SAQ operation manual<br>• Continuation of implementation |
| Remedial actions | • Consideration of expansion of the functions of the external reporting system | • Enhancement of external reporting system | |

# Occupational safety and health

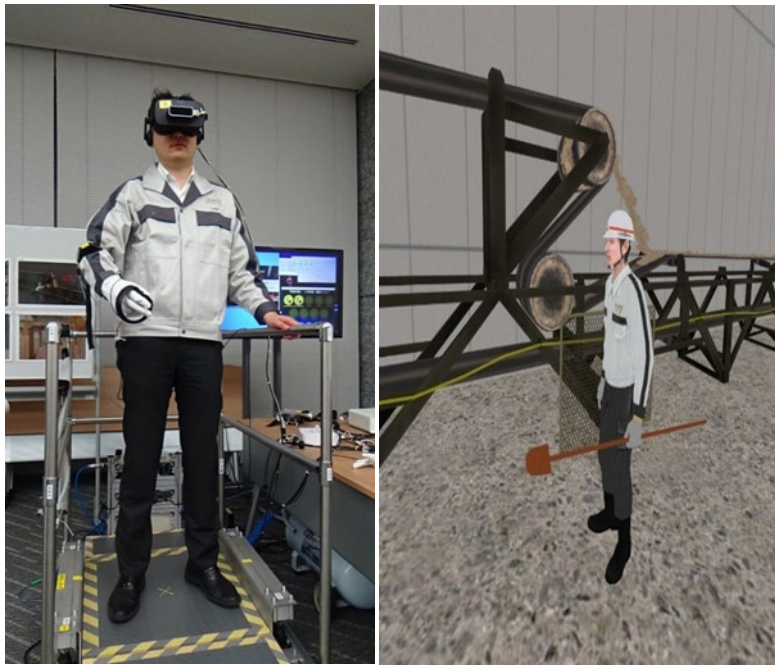
## ■ Promoting Hazard Sensitivity & Other Safety and Health Education

At the Safety and Health Education Center, Midori-kan, onsite at our Saitama Office (Saitama Prefecture, Saitama City), we provide hazard sensitivity training (50 types of simulation equipment) and safety and health education for MMC Group employees.



**Safety and Health Education Center - "Midori-kan"**

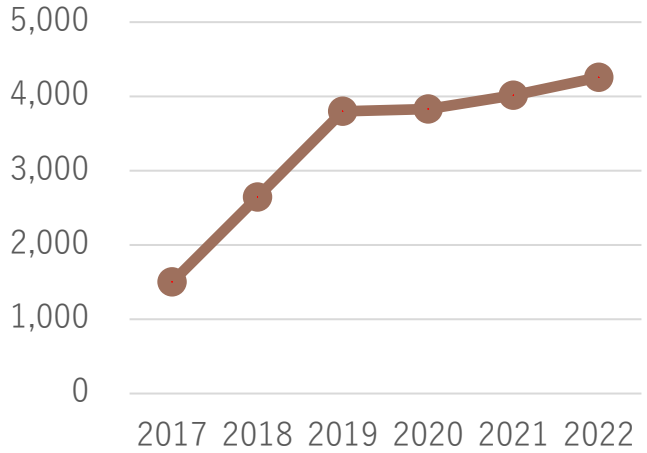
This facility is equipped to provide
•hazard sensitivity training designed to improve risk sensitivity among employees, and
•various other types of safety and health education
to employees of MMC and other Group companies.



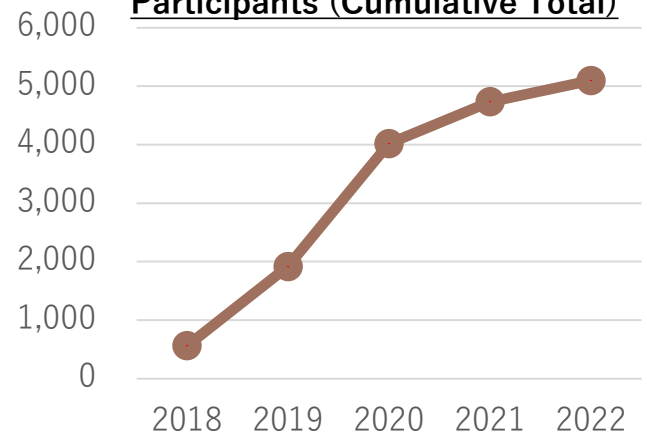
**Hazard Sensitivity Training Using VR**

To enable participants to experience hazardous situations that are difficult to simulate with conventional equipment, we began using VR hazard sensitivity training in May 2018.
The equipment is portable, making safety education possible at any site.

**Hazard Sensitivity Training Participants (Cumulative Total)**

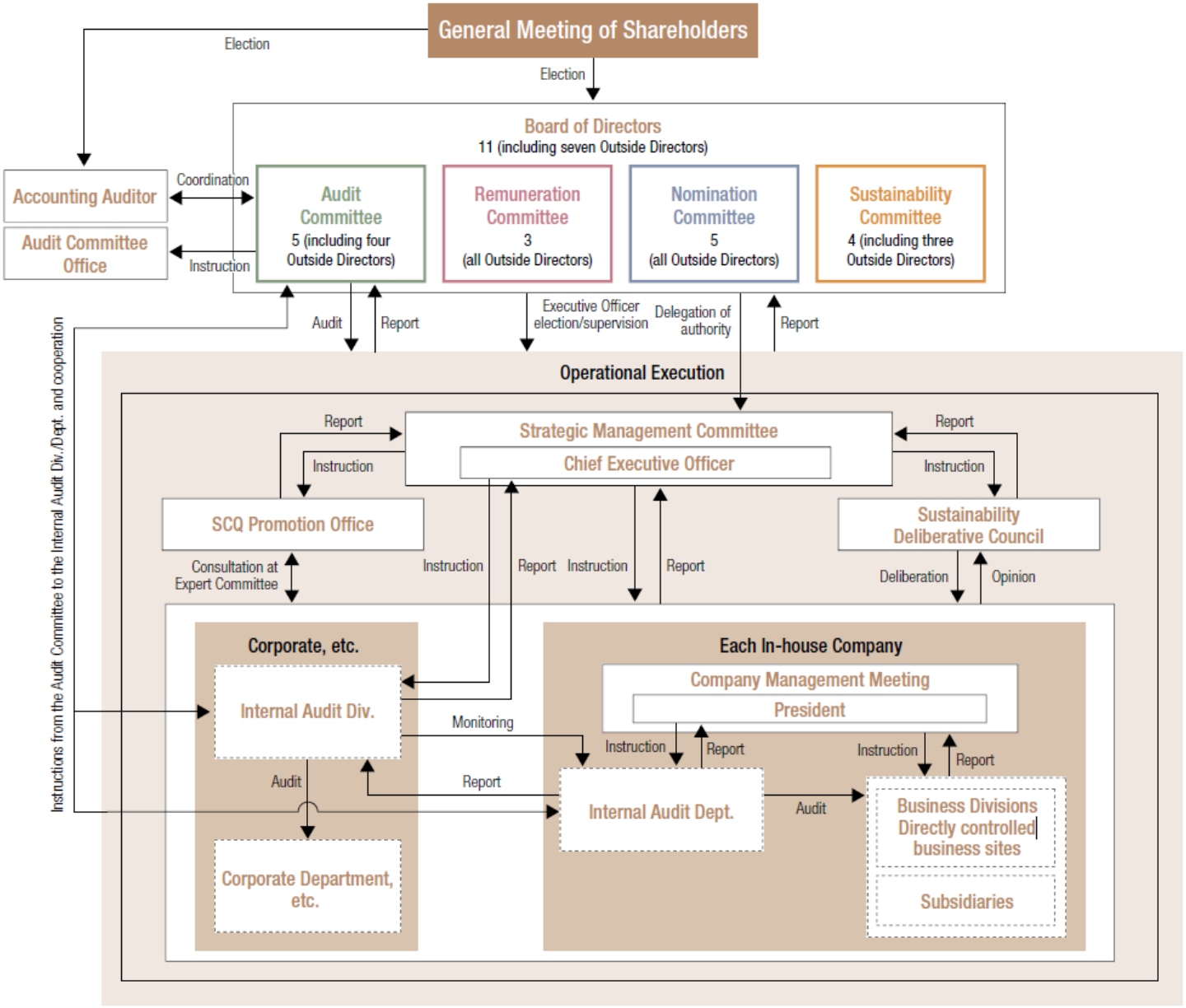



**VR Hazard Sensitivity Training Participants (Cumulative Total)**



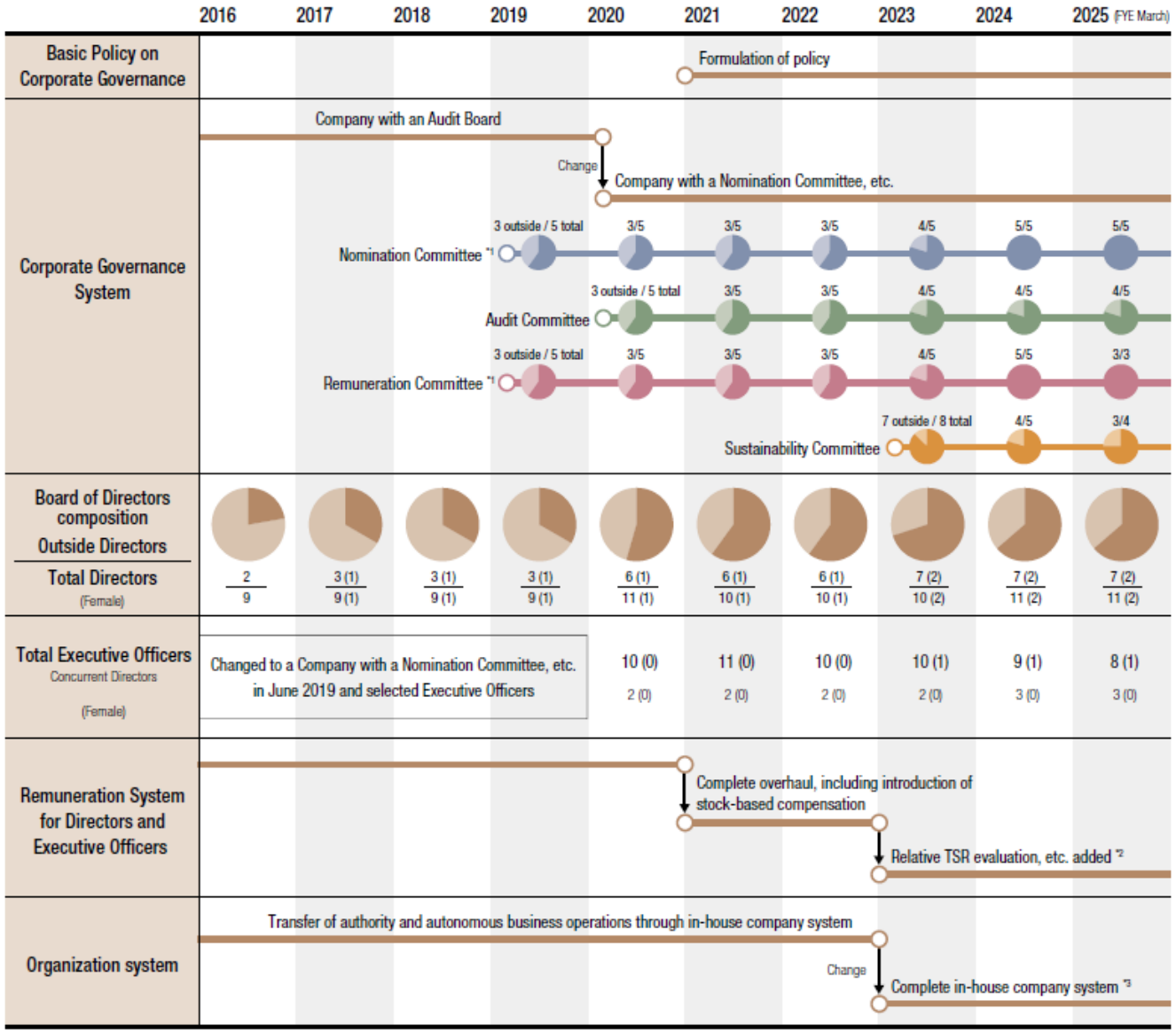
# Corporate Governance System

- In 2019, the Company transitioned from a company with a board of corporate auditors to a company with a nominating committee, etc. In 2022, the Company established the Sustainability Committee in order to increase corporate value over the medium- to long-term.



# Changes in Corporate Governance System

- Achieved a high level of governance, with the members of each committee consisting mainly of independent Outside Directors, and the Nomination Committee and Remuneration Committee consisting solely of Outside Directors.

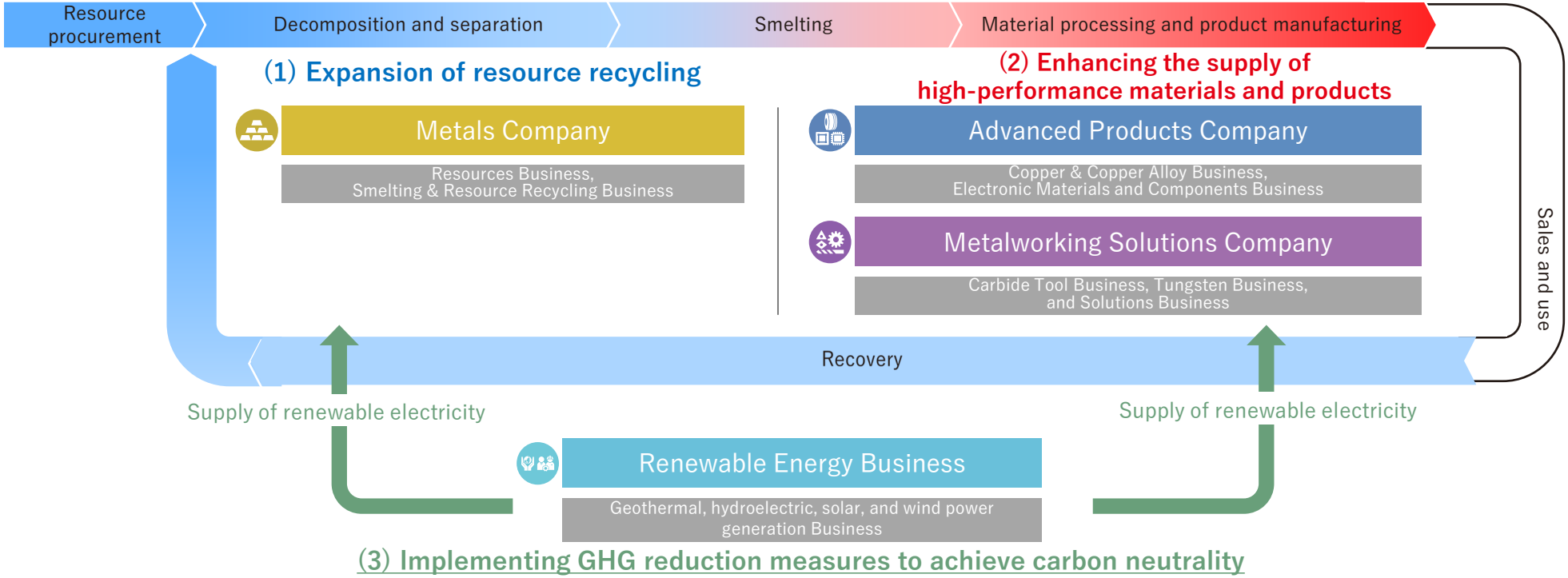



*1. Set up in fiscal 2019 as a voluntary committee and became a statutory committee from June 2019.
*2. With regard to the annual bonus of the remuneration system for Executive Officers, we added relative TSR evaluation as an evaluation item and adopted a system to evaluate targets set for each Executive Officer, including initiatives in line with the Sustainability Policy, as non-financial evaluation items.
*3. Transitioned from April 1, 2022 to a complete in-house company system, having all functions necessary for business operations in the in-house company.

# Overview and Progress of the FY2031 Strategy

# Medium-term Management Strategy FY2031 (the FY2031 Strategy)

In order to fulfill “Our Commitment,” we will 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




① Expansion of resource recycling

**Expansion of recycling targets (E-Scrap processing, LIB/xEV material, Tungsten, Wrought copper products) and expansion of recycling regions**

② Enhancing the supply of high-performance materials and products

**Supply of products for growth markets such as semiconductors and xEVs**
**Expansion of tungsten business in cemented carbide tools**

③ Implementing GHG reduction measures to achieve carbon neutrality

**Promotion of geothermal power generation in the Renewable Energy business (100% self-sufficiency in renewable power electricity in the fiscal year ending March 2051)**
**Implementation of GHG reduction measures to achieve carbon neutrality in the fiscal year ending March 2046**

# Review of FYE March 2024, Forecast for FYE March 2025

- Operating profit in the fiscal year ended March 2024 fell short of our initial plan, due to the effects of weakening automobile and semiconductor markets. In contrast, we made efforts to enhance cost competitiveness, such as by implementing cost reduction measures in each of our businesses, ahead of schedule in the FY2031 Strategy.
- In the fiscal year ending March 2025, demand for both automotive and semiconductor products is expected to recover from the second half of the fiscal year.
- We can achieve our strategy targets by implementing the various measures provided in the FY2031 Strategy and enhancing our cost competitiveness.

| | | FYE March 2023 Result | FYE March 2024 Initial Forecast | FYE March 2024 Result | FYE March 2025 Forecast | FYE March 2026 Plan | FYE March 2031 Target |
|---|---|---|---|---|---|---|---|
| Net sales (Net sales excluding metal charges) | Billions of yen | 1,625.9 (608.0) | 1,670.0 (706.0) | 1,540.6 (548.1) | 1,950.0 (652.0) | 1,940.0 (690.0) | 2,000.0 (850.0) |
| Operating profit | Billions of yen | 50.0 | 50.0 | 23.2 | 41.0 | 70.0 | 130.0 |
| Ordinary profit | Billions of yen | 25.3 | 58.0 | 54.1 | 63.0 | 87.0 | 180.0 |
| ROIC | % | 1.4% | 4.1% | 3.8% | 4.3% | 5.5% | 9.0% |
| ROE | % | 3.5% | 6.8% | 4.8% | 6.7% | 10.0% | 13.6% |
| EBITDA | Billions of yen | 75.7 | 113.0 | 105.0 | 117.4 | 150.0 | 260.0 |
| Net D/E ratio | Times | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 or less |
| Net interest-bearing debt / EBITDA ratio | Times | 5.2 | 4.1 | 4.5 | 4.3 | 3.5 | 2.0 or less |
| Dividend per annum | Yen | 50 | 94 | 94 | 100 | | |

# Market Conditions and Business Opportunities

## Market conditions in the Company

**Resources**

- The amount of 5.5 million tons of copper in short supply in the fiscal year ending March 2031 as ore supply from copper mines fails to meet rising copper demand

**E-Scrap**

- In the fiscal year ending March 2031, 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 in the fiscal year ending March 2031 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 high-performance materials and products

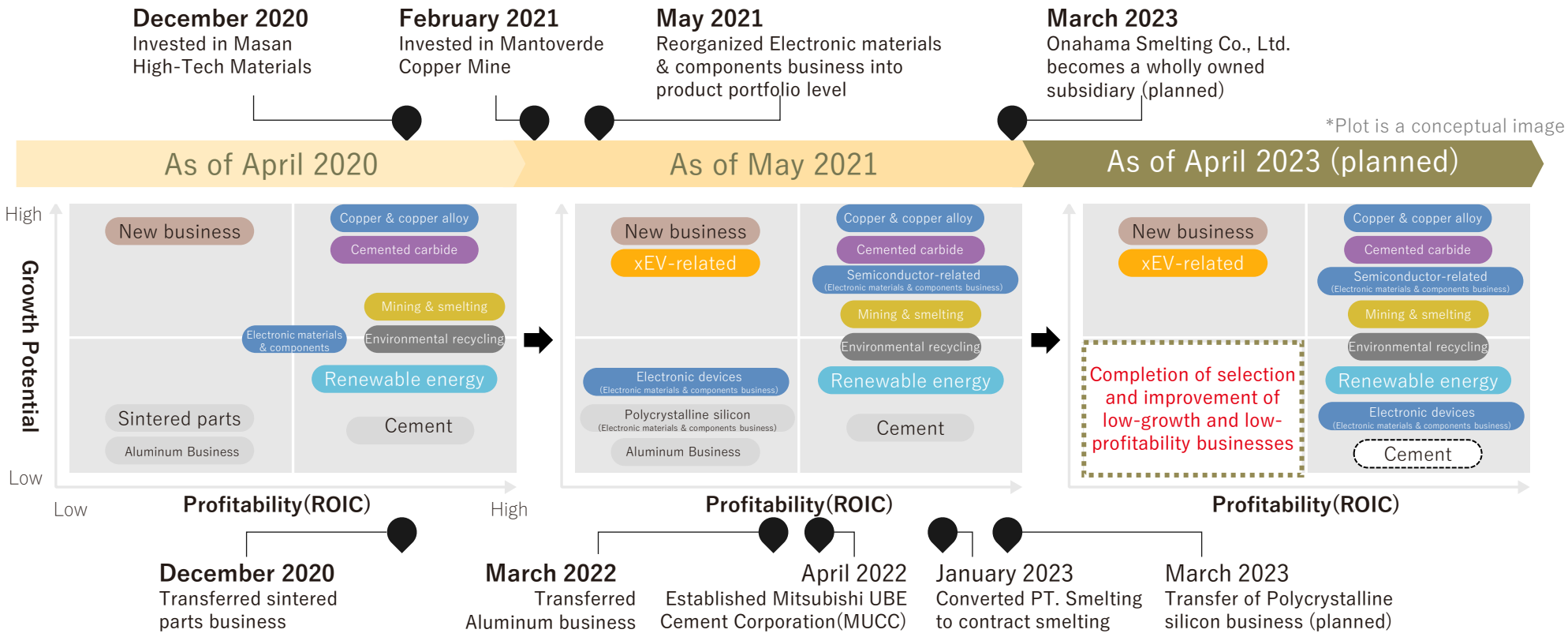
Need to respond to the demand for xEV in automobiles, the high-performance materials in aerospace, and the product sophistication in semiconductors

# Trends in the External Environment

| | | |
|---|---|---|
| **Copper** | **Demand** | ● Growth is slowing due to a generally sluggish global economy and delayed economic recovery in China; however, in the medium- to long-term, demand for copper will remain strong due to demand for EVs and renewable energy, as well as demand for data centers as the digitalization society progresses. |
| | **Copper Price** | ● Copper price was 379¢/lb in FYE March 2024 (full year), down from 388 ¢/lb in the previous fiscal year, but are now around 400 ¢/lb . Steady movement is expected due to anticipated long-term growth in demand. |
| | **TC/RC** | ● Supply concerns have led to strong buying by Chinese smelting operations and traders, and spot TC/RCs are extremely low; as smelting capabilities continue to grow in Indonesia and India, there are concerns that TC/RCs will remain low. |
| **Automobile Industry** | | ● In Q1 FYE March 2025, the automoile sales increased year-on-year worldwide but decreased in Japan. Demand for our wrought copper and cemented carbide products remained sluggish, especially in Japan.<br>● A gradual recovery in automobile sales is expected in Q2 and beyond. However, there is a view that growth will slow down, and we need to continue to monitor demand trends closely. |
| **Semiconductor Industry** | | ● In Q1 FYE March 2025, the semiconductor market is showing signs of recovery, especially for generative AI.<br>● A full-fledged recovery in demand from semiconductor material manufacturers located upstream is expected to occur in H2 onward. |

# Changes in the Business Portfolio

- During the previous the Medium-term Management Strategy period (FYE March 2021 – FYE March 2023), we restructured our business portfolio and focused on businesses with high profitability and growth potential
- Although the current business environment is facing headwinds, we will pursue profitability and growth potential in our core businesses




## Financial effect (from FYE March 2021 to FYE March 2023)

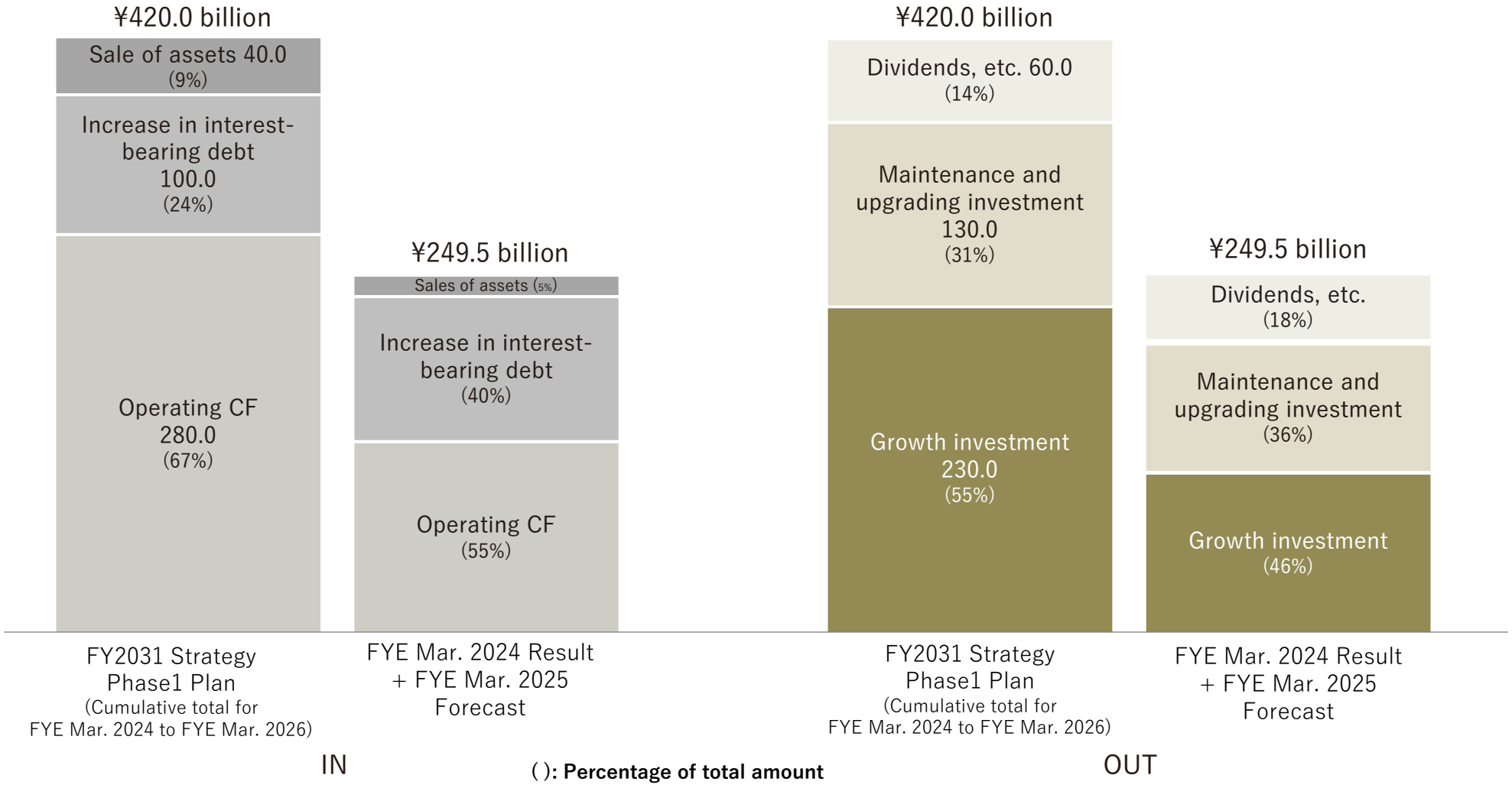
| Reduction of interest-bearing liabilities through sales of assets, etc. | Reduction of invested capital through business restructuring, etc. | ROIC improvement effect by reducing invested capital |
|---|---|---|
| Approx. ¥-290.0 billion | Approx. ¥-400.0 billion | Approx. +1.3%*1 |

*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)

# Capital Allocation

- Cash inflow: Operating CF for FYE March 2024, the first year of Phase1, was lower than expected. As for FYE March 2024 results and FYE March 2025 forecasts, the D/E ratio to the FY2031 Strategy Phase1 plan has increased.
- Cash outflow: We will execute required growth investment.
- While the market is currently recovering, we are aiming to realize the cash allocation envisaged in Phase1.
  Even if the operating CF does not reach the target level, we will realize an appropriate cash allocation while securing the growth investment necessary to realize the strategy.

**■Comparion of FYE March ended 2024 result and FYE March 2025 forecast to the FY2031 Strategy Phase1 plan (Progress rate: 59.4%)**



# 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

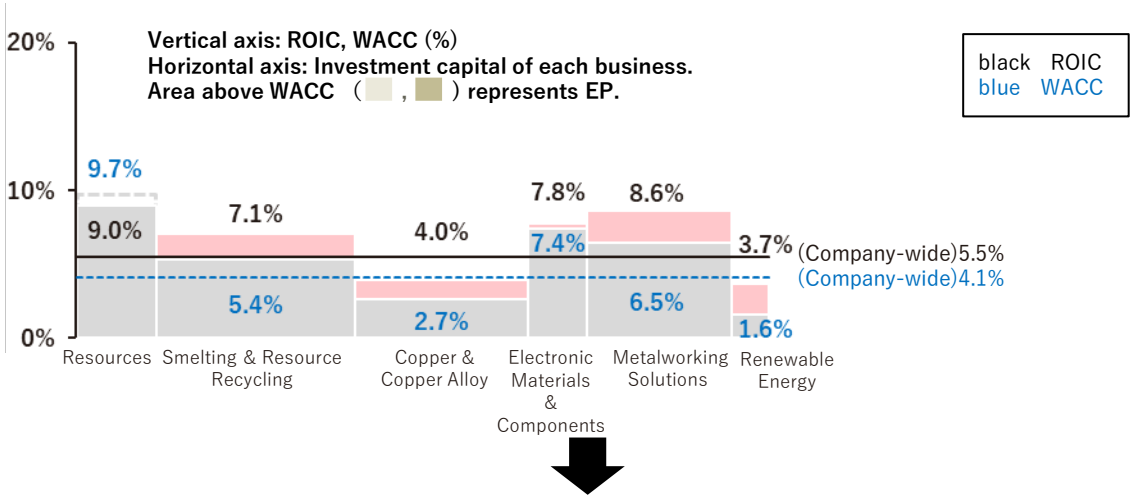
| | FYE March 2024 - FYE March 2026<br>Phase1 Strengthening Competitiveness | FYE March 2027 - FYE March 2031<br>Phase2 Business Expansion |
|---|---|---|
| Expanding the resource recycling | **Investment: ¥110 billion (3 years)**<br>● Start LIB recycling<br>● Expansion of the Tungsten business | **Investment: ¥140 billion (5 years)**<br>● New copper mine investment<br>● Capacity expansion of copper smelters |
| Enhancing the supply of high-performance materials and products | **Investment: ¥70 billion (3 years)**<br>● Strategic investment in semiconductor manufacturing equipment area<br>● Improving supply chain efficiency | **Investment: ¥110 billion (5 years)**<br>● Expanding the scale of carbide tools<br>● Expanding the supply of xEVs materials |
| Investment in renewable energy | **Investment: ¥5 billion (3 years)** | **Investment: ¥25 billion (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 (3 years) | ¥790 billion (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 FYE March 2023 excluded

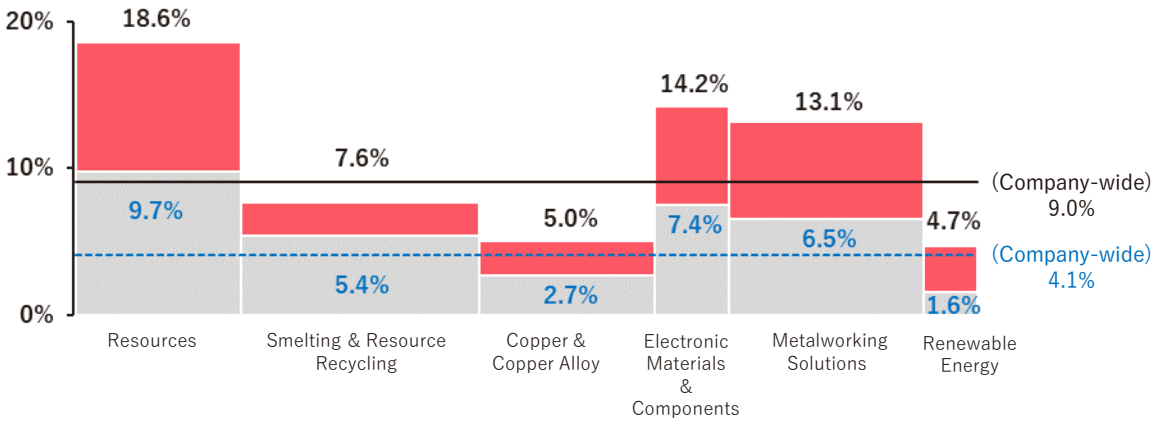
# Business Management Indicators (ROIC, ROIC Spread, EP)

- 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 the fiscal year ending March 2026, but higher than WACC in all businesses in the fiscal year ending March 2031, and an increase in EP will increase corporate value

## FYE March 2026 Business EPs — EP = ¥17.0 billion




## FYE March 2031 Business EPs — EP = ¥79.0 billion



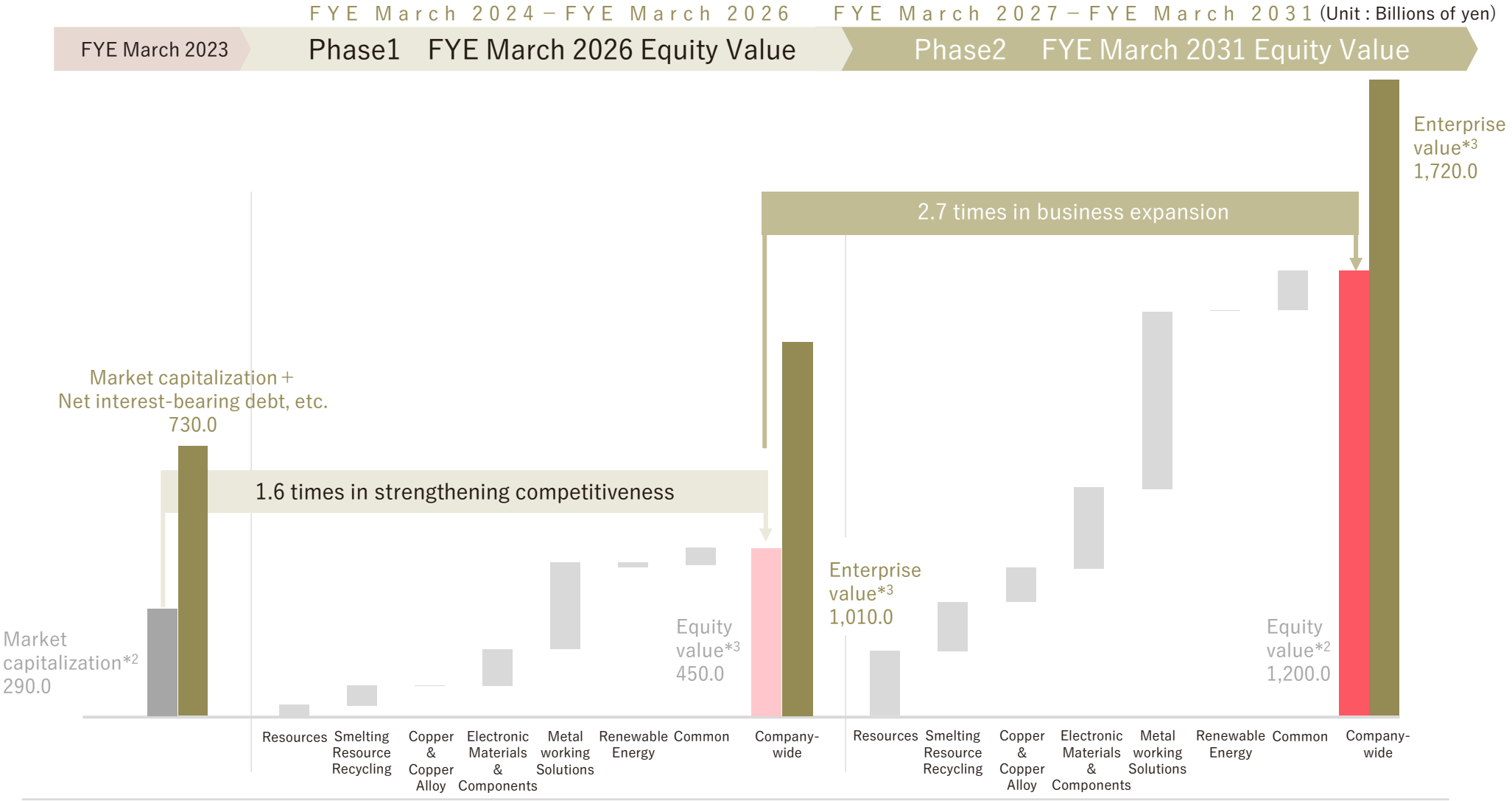

## Outlook for each business

*Figures are EP targets for 2031 businesses (billion yen)

| | |
|---|---|
| **Resources** 21.0 | ● Implementing strategic investments from a long-term perspective and expanding investment capital<br>● ROIC spread will be positive since FYE March 2027 due to increased profits from copper mines |
| **Smelting & Resource Recycling** 8.0 | ● Optimizing resource recycling processes and investing in LIB recycling<br>● Continuously improving profitability mainly by increasing the processing capacity of E-Scrap |
| **Copper & Copper Alloy** 6.0 | ● By FYE March 2026, large growth investments will have reached a plateau<br>● Expanding sales, improving yields, and improving efficiency through investment effects |
| **Electronic Materials & Components** 7.0 | ● Aggressive investment until FYE March 2026 by strong forecast of future semiconductor demand<br>● ROIC slightly exceeds WACC in FYE March 2026, but after that profit contribution will be occurred |
| **Metal working Solutions** 19.0 | ● Expanding investment capital through growth investment by considering M&A<br>● Increase profitability by shifting to high-value-added products and reducing costs |
| **Renewable Energy** 2.0 | ● Investment in growth to achieve 100% self-sufficiency in renewable electricity<br>● ROIC is low, but it has steadily surpassed WACC, expanding with the start of new power supply operations |

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

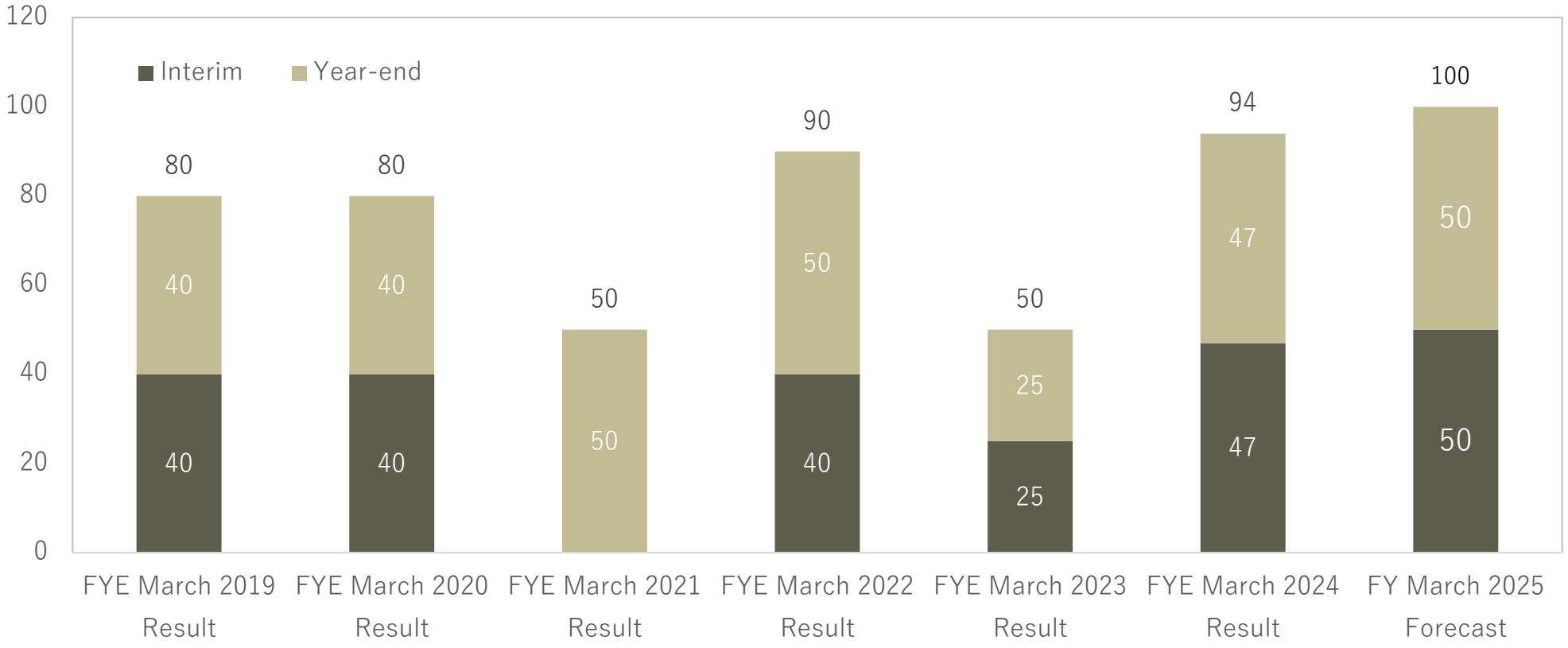
- Under the Medium-Term Management Strategy FY2031, the company aims to grow EBITDA and improve its balance sheet to increase its equity value and enterprise value, and to achieve approximately four times its equity value by the fiscal year ending March 2031




※1 Sum-of-the-Parts
※2 Equity value for FYE March 2023 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
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

# Enhance shareholder returns

- From FYE March 2023 to FYE March 2025 (Phase 1 of the FY2031 Strategy), we will aim for a payout ratio of 30% in shareholder returns.
- From FYE March 2027 to FYE March 2031 (Phase 2 of the FY2031 Strategy), we will enhance shareholder returns
- We will consider flexible share buybacks based on cash flow conditions, stock price, net D/E ratio, and other financial discipline




*Breakdown of FYE March 2022 Dividends
Interim Dividend: Ordinary Dividend ¥ 25.00 Special Dividend ¥15.00
Year-end Dividend: Ordinary Dividend ¥35.00 Special Dividend ¥15.00

# Specific Measures to Increase Corporate Value

# Overview of the FY2031 Strategy for Each Business Segment

*Explanation of initiatives related to business-specific strategies in blue

| | | 1) Expansion of resource recycling | 2) Enhancing the supply of high-performance materials and products |
|---|---|---|---|
| Metals Company | Resources Business | ● **Promotion of technological development to recover rare metal resources contained in copper deposits**<br>● **Acquisition of copper mining interests and securing copper concentrates through continuous investment in mines**<br>● **Expansion of electrolytic copper supply through SX-EW operations at copper mines** | |
| | Smelting & Resource Recycling Business | ● Strengthening and expanding the networks to promote resource recycling<br>● Expansion of electrolytic copper production capacity<br>● **Increasing the recycling rate by expanding the treatment of recycled products containing metal resources**<br>● Creation of rare earths and rare metals recycling businesses<br>● **Accelerating business developments in Japan and overseas (E-Scrap, home appliances, automobile recycling)** | *Considering the recent deterioration in TC/RC, sulfuric acid prices, etc., we are currently reviewing a change in the direction of our strategy. |
| Advanced Products Company | Copper & Copper Alloy Business | ● Improve the recycling rate of wrought copper products and establish a scrap platform base | ● Overseas (Luvata): Rapid entry into growing markets (xEV, healthcare, environment)<br>● **Expand sales and strengthen services to overseas customers by establishing a new overseas plant which carries out a downstream process, with the domestic plants as mother ones** |
| | Electronic Materials& Components Business | | ● Highly capital-efficient management through continual restructuring of the business portfolio<br>● **Strategic investment in focal products in growth areas**<br>● Developing and securing human resources for the creation of new businesses and the promotion of business alliances<br>● Enhancing manufacturing capabilities and DX to enhance production sophistication and profitability<br>● Providing business and social value (SDGs) for carbon neutrality |
| Metalworking Solutions Company | | Tungsten Business<br>● **Expansion of business scale for rechargeable batteries in addition to carbide tools, etc.**<br>● Strengthening environmental responsiveness | Cemented Carbide Tools Business<br>● **Stable supply of the world's top quality, high-efficiency products utilizing the strength of materials and coating technology**<br>Solutions Business<br>● Commercialization of solution sales to manufacturing sites |

## 3) Supply of renewable electricity

| | |
|---|---|
| Renewable Energy Business | ● **New development at one location every three years to expand business**<br>● New entrants into wind power generation where power generation costs are expected to decline in the future<br>● Further development of new biogas plants |

# Medium-term Management Strategy FY2031 Targets and Progress by Business

| (Billions of yen) | | FYE March 2023 Result | FYE March 2024 Result | FYE March 2024 Forecast | FYE 2031 Strategy Plan | FYE 2031 Strategy Target | Direction for achieving FY2031 Strategy targets |
|---|---|---|---|---|---|---|---|
| Resources | Ordinary profit | 2.4 | 20.1 | 17.9 | 11.4 | 48.3 | • Operations are ramping up thanks to the expansion of Los Pelambres Copper Mine, and the mine dividend is in line with plan<br>• In the fiscal year ending March 2026, ROIC is expected to temporarily decrease and EP is expected to be negative due to investment in mines. |
| | EBITDA | 2.5 | 19.0 | 16.6 | 11.1 | 49.2 | |
| | ROIC | 1.1% | 11.7% | 10.5% | 9.0% | 18.6% | |
| | EP | | 2.1 | 0.9 | | 21.0 | |
| Smelting & Resource Recycling | Ordinary profit | 25.9 | 11.6 | 19.0 | 27.0 | 35.0 | • Profit increased due to a review of metal prices and a reduction in hedging costs in response to an increase in electricity costs<br>• ROIC is on an improving trend due to an increase in profits<br>• Strengthening the collection system in Europe based on the supply and demand outlook for E-Scrap by region |
| | EBITDA | 42.6 | 28.8 | 33.4 | 39.6 | 53.2 | |
| | ROIC | 8.3% | 2.9% | 5.7% | 7.1% | 7.6% | |
| | EP | | -7.4 | 1.0 | | 8.0 | |
| Copper & Copper Alloy | Ordinary profit | -0.0 | -0.5 | 7.3 | 12.4 | 16.4 | • Lower break-even point by improving yield and productivity<br>• Lower raw material costs by improving recycling rate<br>• Promote sales expansion of key accounts in Japan and expand to overseas sales channels<br>• Accelerate sales shift to high-profit products |
| | EBITDA | 9.3 | 10.6 | 20.5 | 24.6 | 32.4 | |
| | ROIC | 0.6% | 0.6% | 3.2% | 4.0% | 5.0% | |
| | EP | | -4.5 | 1.1 | | 6.0 | |
| Electronic Materials & Components | Ordinary profit | 7.7 | 2.8 | 3.8 | 8.6 | 20.4 | • Semiconductor market, effects of increased production due to recovery and growth in demand for automobiles (mainly EVs), additional sales expansion measures (Si semi & finished products, device products)<br>• ROIC improvement through implementation of growth investment plans tailored to semiconductor market conditions |
| | EBITDA | 11.5 | 6.9 | 8.7 | 16.0 | 29.0 | |
| | ROIC | 8.7% | 3.3% | 3.8% | 7.8% | 14.2% | |
| | EP | | -2.7 | -2.7 | | 7.0 | |
| Metalworking Solutions | Ordinary profit | 14.5 | 12.2 | 14.0 | 25.0 | 52.7 | • Strengthen tungsten business (recycling, manufacture and sale of high-performance powders and alloys) through Acquisition of H.C. Starck, Germany<br>• Improve sales efficiency and productivity using DX<br>• Reduce inventories and improve capital efficiency |
| | EBITDA | 27.4 | 24.5 | 28.8 | 39.9 | 68.7 | |
| | ROIC | 6.9% | 5.2% | 5.3% | 8.6% | 13.1% | |
| | EP | | -2.1 | -2.0 | | 19.0 | |
| Renewable Energy | Ordinary profit | 0.9 | 0.8 | 2.4 | 2.3 | 4.3 | • Contribution to earnings from stable operation of Appi Geothermal Power Plant<br>• Promotion of geothermal and wind power generation projects under investigation<br>• Search for potential new geothermal power generation sites<br>• Consideration of wind power generation using its own Company-owned forests |
| | EBITDA | 1.9 | 2.2 | 5.1 | 4.6 | 8.1 | |
| | ROIC | 3.8% | 3.4% | 4.7% | 3.7% | 4.7% | |
| | EP | | 0.5 | 1.3 | | 2.0 | |

# Expansion of Resource Recycling

- **In terms of resource recycling, we will expand the scope, regions and scale of our operations based on trends and laws and regulations in each country and region.**

## Expanding the Scope of Resource Recycling

- **E-Scrap recycling** (Improving processing capacity)
- **LIB recycling** (Pilot plant design in progress)
- **In-process recycling of the Copper & Copper Alloy business** (Cost reduction, copper smelter load reduction → Increasing E-Scrap)
- **Cobalt recovery at a copper mine** (Pilot plant testing underway at Mantoverde Copper Mine)
- **Tungsten Recycling**
  (Cutting tool raw materials, aiming to become global top through acquisition of H.C. Starck)
- **Construction of resource recycling loop**
  - Home appliances: Scaling up in Japan and overseas
  - Automobile recycling: Scaling up targeting EV vehicles
  - Creating a recycling system to extract important mineral resources from various products and supply them as raw materials for products

## Expanding Business Regions

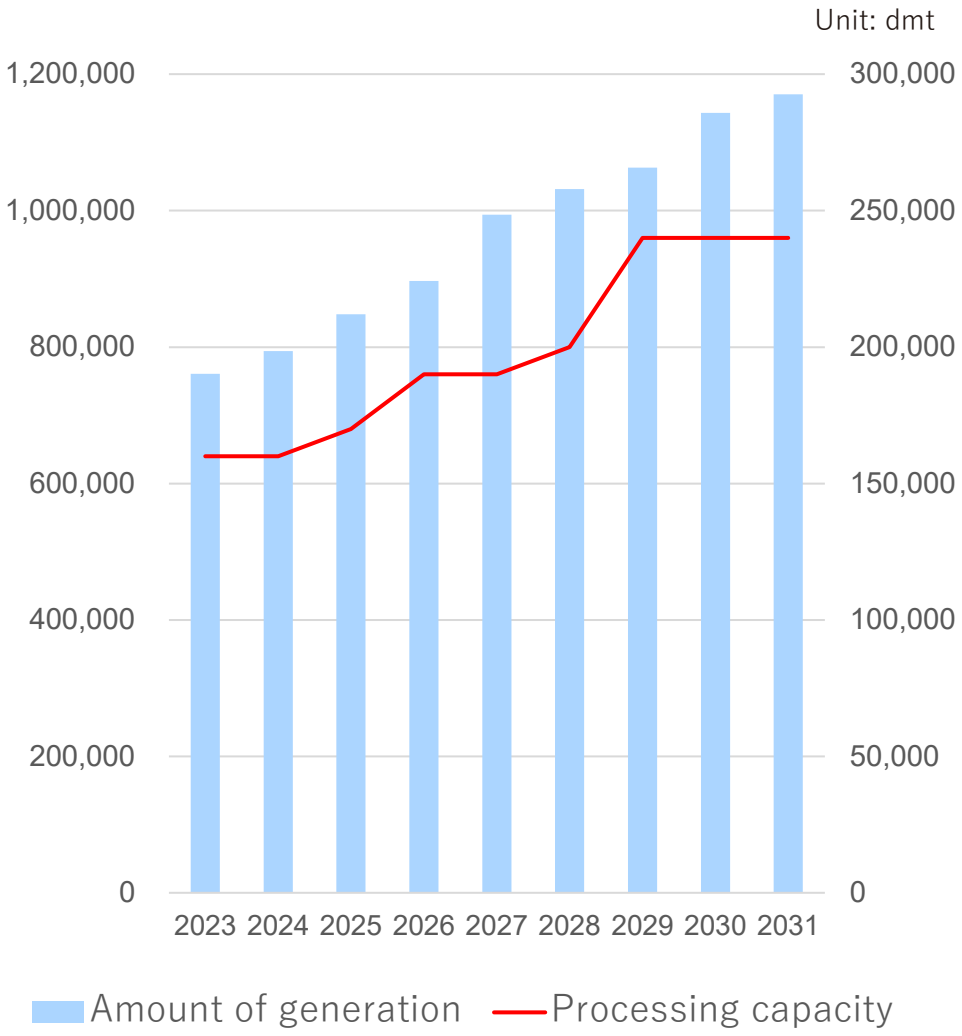
Economic bloc, enclosure of important mineral resources
Japan: Economic security
USA: IRA law
EU: Various regulations
↓
**Toward intraregional circulation**

- **Establishment of a new company in Europe**
  - Development of resource recycling strategies in Europe and rapid implementation (E-Scrap/Copper-based scrap/LIB/Tungsten)
- **Enhancement of E-Scrap Recycling by Domestic Smelters**
  - Enhancement of E-Scrap processing capacity by improving smelting and pretreatment capacity
  - Expansion of Collection Centers in Europe
  - Investment in mines to secure low-impurity copper concentrates
  - Enhancing functions of MEX* *Online E-Scrap trading system
- **Investment in Exurban**
  - Participation in the construction and operation of a recycling plant in Indiana, USA
  - Expansion outside the USA

# Business Environment -Trends in E-Scrap Market Size and Competitors



Estimated E-Scrap generation and our processing capacity




Source: The Company's own estimation

**Maintaining the top level of global market share of approximately 21%, according to E-Scrap-based estimates**

Our processing capacity：160kdmt/y(2022)→240kdmt/y(2028)

**<Trends in competitors to increase E-Scrap processing capacity>**

**Company A**
Construction of a dedicated E-Scrap furnace
(Processing capacity)
60Kdmt/Y to 100Kdmt/Y

**Company B**
Expansion of the smelters processing capacity
(Processing capacity)
30Kdmt/Y to 43Kdmt/Y

**Company C**
E-Scrap processing capacity: 120,000 tons per year

**Company D**
Plans to introduce pretreatment furnace

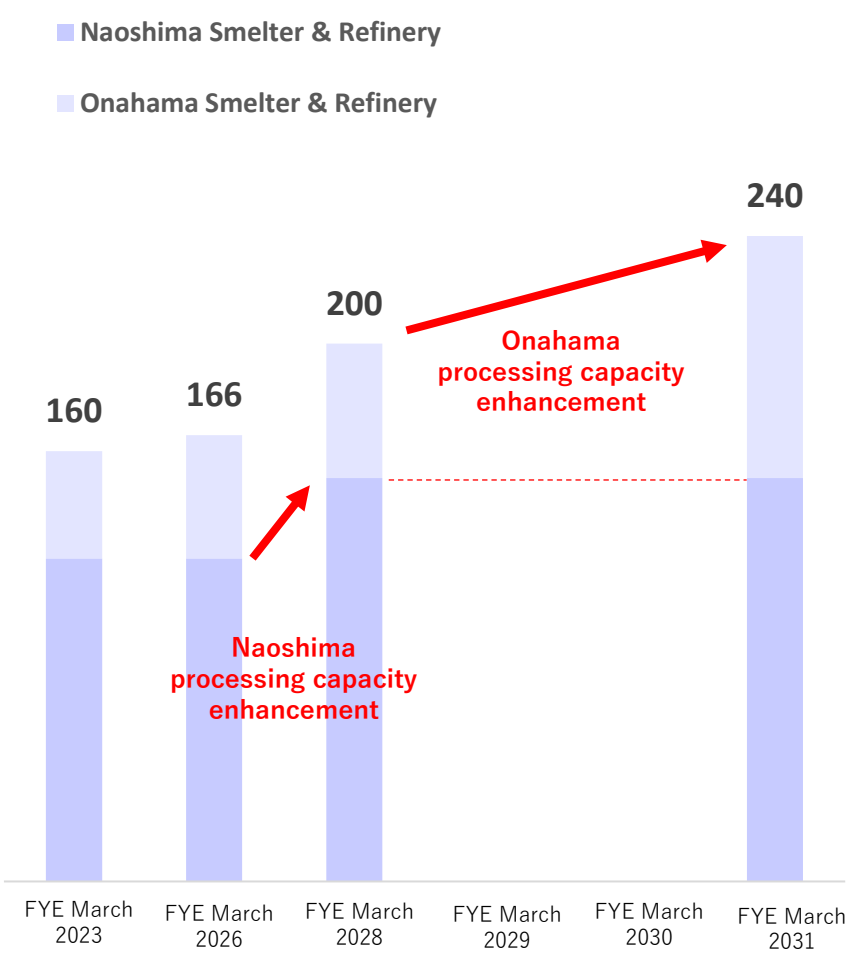
**Company E**
Announcement to rise the ratio of recycled materials in their raw materials to 50% by 2040

**Company F**
Operation of sampling facilities

# Improvement of E-Scrap Processing Capacity

- We are aiming to maximize our E-Scrap processing capacity to reach 240,000 tons by the fiscal year ending March 2031.
- As for Naoshima Smelter & Refinery, we will increase our copper smelting and other facilities, thereby increasing the processing capacity by the fiscal year ending March 2028.
  In Onahama Smelter & Refinery, we will build a pretreatment facility for increasing the processing capacity and start operation in the fiscal year ending March 2029.

E-Scrap processing capacity (unit: thousand tons)

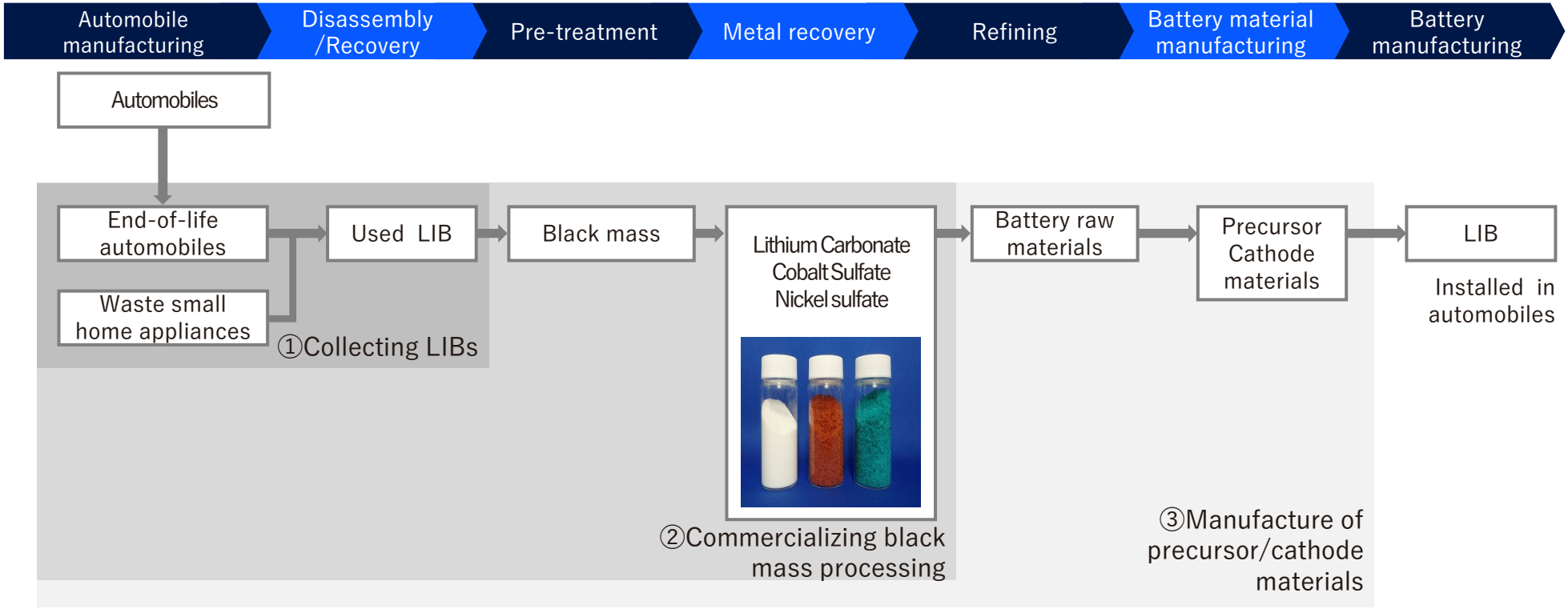



Naoshima Smelter & Refinery

Onahama Smelter & Refinery

# LIB Recycling

- We will establish a recycling technology to recover rare metals at high efficiency by using our smelting technology and know-how we have cultivated over the years, including recovery of copper and precious metals.
- We aim to contribute to the establishment of an integrated recycling system from lithium-ion battery (LIB) processing to the stable supply of lithium-ion battery materials.




- Secured global competitiveness through the “early development of a consistent recycling process from LIB to battery materials,” “collection of black mass utilizing the network built through the E-Scrap business,” and the “efficient recovery of lithium carbonate, cobalt sulfate and nickel sulfate from Black Mass"
- Expanding the Company's business domain through the recovery of LIBs from end-of-life vehicles (1), commercialization of Black Mass processing through collaboration with other companies (2), and further development of precursor/cathode material manufacturing (3)
- Constructing a pilot plant at Onahama Smelter & Refinery site (scheduled to start operation in 2025) and further developing technologies toward commercialization of highly efficient recovery of rare metals from Black Mass

# Progress of Mantoverde PJ (Copper Concentrate Production and Cobalt Recovery)



- **Copper concentrate production began in June 2024. Full-scale operation is expected in the second half of 2024.**
- **Profitability forecasts for the current period project negative profits for the first half of the fiscal year, which is the launch period, but profitability will be achieved for the year overall as operations ramp up moving into the latter half of the fiscal year.**
- **A pilot plant test for cobalt recovery has started since January 2024.**

< Concentrator >

< Aerial overview>

< Overview >

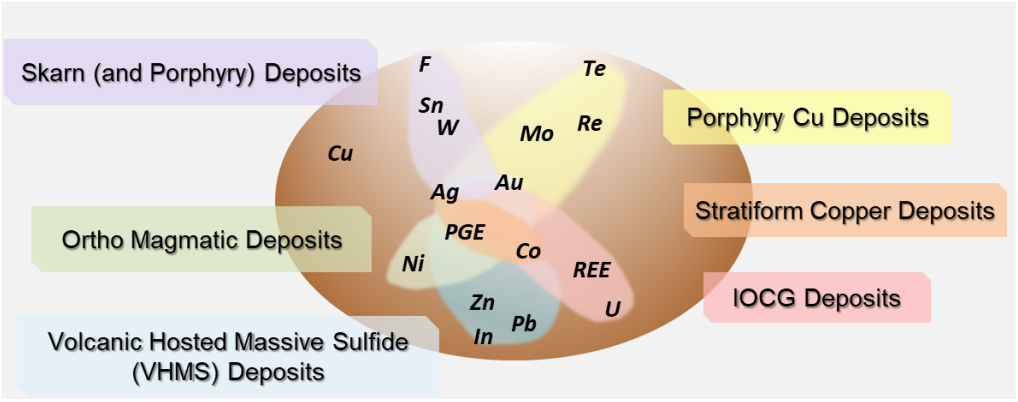
| | |
|---|---|
| Location and Geography | Atacama Region, Northern Chile<br>Approx. 50 km from the coastline and 176 km to the nearby city of Copiapo<br>Altitude: 880 m<br>Although located in a desert area with little rainfall, the mine has a seawater desalination plant. |
| Resources (contained metal) | 5.7 million t Cu |
| Reserves (contained metal) | 2.1 million t Cu |
| Mining method | Open pit |
| Copper production | 1.7 million t Cu over mine life |
| Mine life | 2041 |

# Industrialization of the Recovery of Valuable Metals from Copper Deposits



## Purposes

- To recover valuable metals unique to each deposit type of mines we have invested in




## Initiatives for the future

- Develop elemental technologies through joint research between Mitsubishi Materials' Institute of Mining and Technology and other domestic and overseas research institutes including universities
- Implement pilot-scale demonstration tests to start commercial production (use of subsidies)
- Implement FS on the recovery of valuable metals in cooperation with partners of the mines, etc. we have invested in and venture companies possessing the necessary technologies

## Case example at Mantoverde Copper Mine

- At the Mantoverde Copper Mine, both sulfide ore and oxide ore contain trace amounts of cobalt. Technologies are being developed to establish a process to separate and recover this as cobalt and nickel tailings.
- Commercial production is scheduled to begin around 2027.
- Efforts are also planned to be made to promote the valuable metals recovery business at other mines for which our company owns mining concessions in the future.

# Agreement for the Acquisition of Shares of H.C. Starck Holding

- Mitsubishi Materials (“MMC”) has reached an agreement to acquire all shares of H.C. Starck, one of the world's leading manufacturers of tungsten products.
- For cemented carbide tools, which uses tungsten as its main raw material, we will accelerate efforts to secure global collection and recycling capacity for used cemented carbide tools.
- By leveraging tungsten business bases in Japan, Europe, North America and China, Mitsubishi Materials Group and H.C. Starck will develop a global tungsten recycling business.

**Strengthening R&D capabilities through the cooperation between Japan New Metals Co., Ltd. Corporation (Wholly owned subsidiary of MMC) and H.C. Starck**

**Creating synergies and improving corporate value through cross-selling initiatives**

**Global business development of tungsten recycling by utilizing recycling technologies and bases owned by both companies**

<Company Profile of H.C. Starck Holding (Germany) GmbH>

| | |
|---|---|
| **Address** | Gosler, Germany |
| **CEO** | Dr. Hady Seyeda (Managing Director) |
| **Business** | Manufacture high-quality powders made of tungsten powder, tungsten carbide powder, and its alloys in Europe, North America, and China and has sales networks worldwide, including Japan<br>Own the world's largest tungsten recycling capacity |
| **Share Capital** | €25,000 (approx. ¥4 million) |
| **Year of Establishment** | 1920 |
| **Major Shareholders and Shareholding Ratio** | Masan Tungsten Limited Liability Company 100%<br>(Wholly owned subsidiary of Masan Hi-Tech Materials Corporation, Vietnam) |
| **Net Sales (FYE March 2024)** | Approx. €334 million (approx. ¥52.4 billion) |

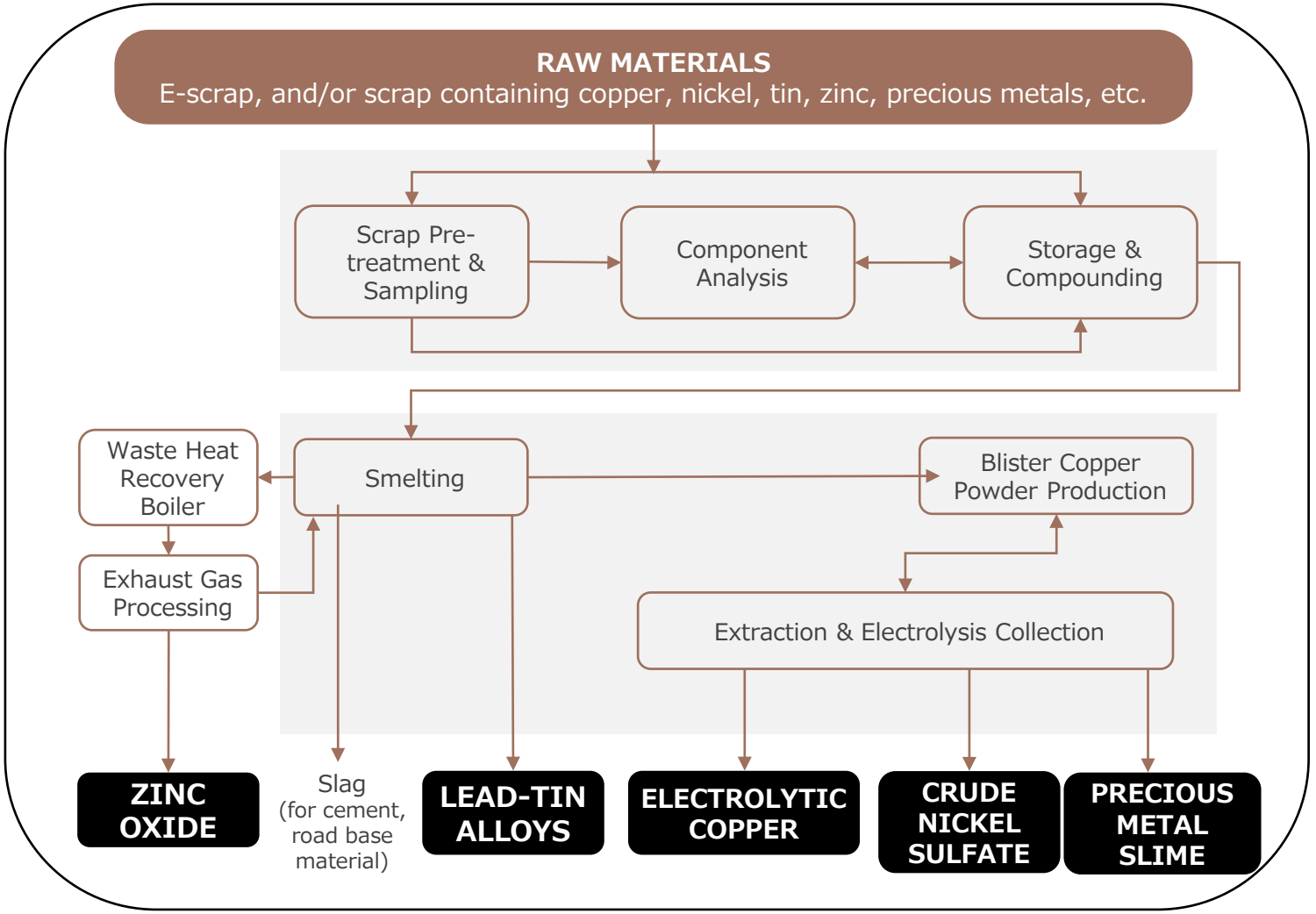
# Exurban Project Progress

- As we anticipate continuing trends toward local recycling within regions and local production for local consumption in North America, we are participating in this project as a means of gaining a foothold in the N. America region, and to acquire technology specialized for smelting secondary raw materials.
- With Exurban, we aim to provide solutions for building resource recycling systems.
- The Feasibility Study for our new recycling plant construction project in Indiana, USA will soon be completed.

## Exurban Project

### Recycled Products

- Electrolytic Copper
- Precious Metal Slime
- Crude Nickel Sulfate
- Tin & Lead Alloys
- Slag, etc.



# Copper & Copper Alloy Business: Capacity Expansion Investment in the Rolling Business

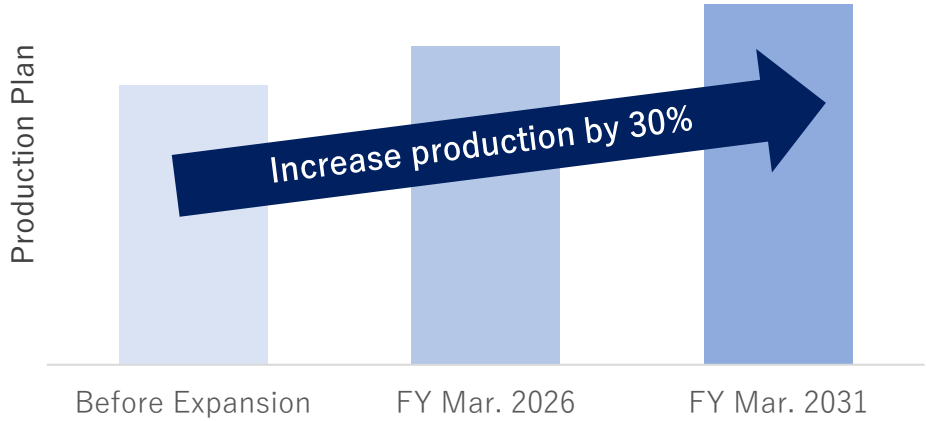
- We are progressing capacity expansion investment in the rolling business as planned. Since production capacity is anticipated to improve after the completion of the work in Sambo Plant, we will strive to expand sales in order to match up sales to production.



**Increase production of copper sheet and strip products**

- ◆ Strengthen and expand core businesses (copper sheets and strips)
- ◆ Further expand market share in the domestic market
- ◆ Taking on the challenge of the global market

Production capacity expansion plan for copper sheets and copper strips




| | | Sakai Plant | Sambo Plant | Wakamatsu Plant |
|---|---|---|---|---|
| Location | | Sakai City, Osaka Prefecture | Sakai City, Osaka Prefecture | Aizuwakamatsu City, Fukushima Prefecture |
| Products targeted for increase production | | Copper cake | Copper sheet and strip | Copper strip |
| Plan | Increase in production | Increase production by approximately 30% | | |
| | Investment | Enhancement of casting facilities | Installment of additional cleaning machine, slitter, and packaging machine | Installment of additional slitters and packing machines and enhancement of reflow tin plating line |
| Commencement of operation | | Started operation | Scheduled to start operation in October 2024 | Scheduled for October 2024 |

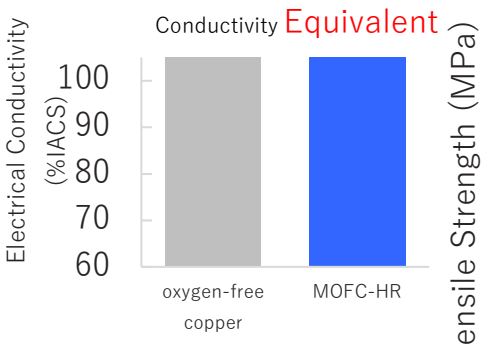
# Copper & Copper Alloy Business Oxygen-free Copper



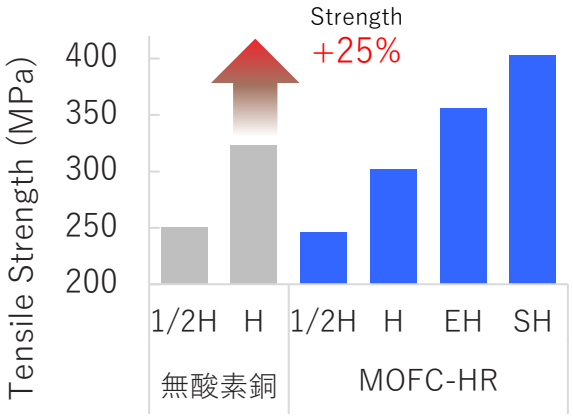
- We developed MOFC-HR (Mitsubishi Oxygen Free Copper - Heat Resistance), an oxygen-free copper with the world's highest level of strength and heat resistance, and are promoting its adoption as a material that requires high current and high heat dissipation in harsh environmental conditions, such as xEVs and next-generation energy

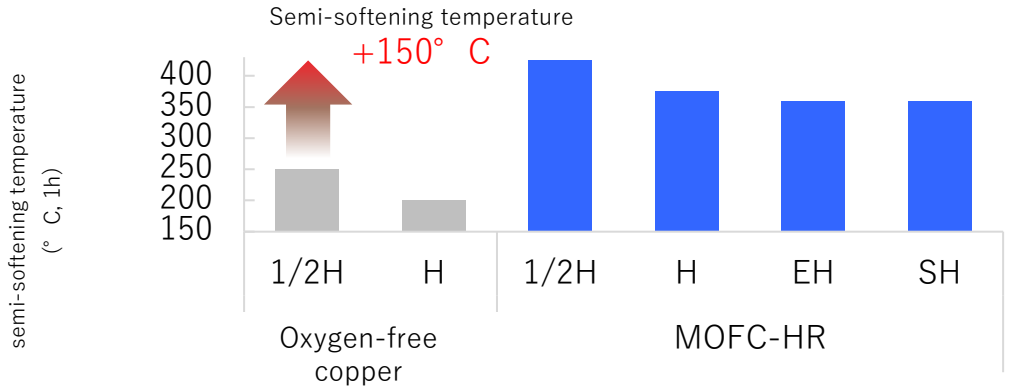
**Oxygen-free copper's outstanding properties** × **Copper-alloy class high performance**

Electrical and thermal conductivity

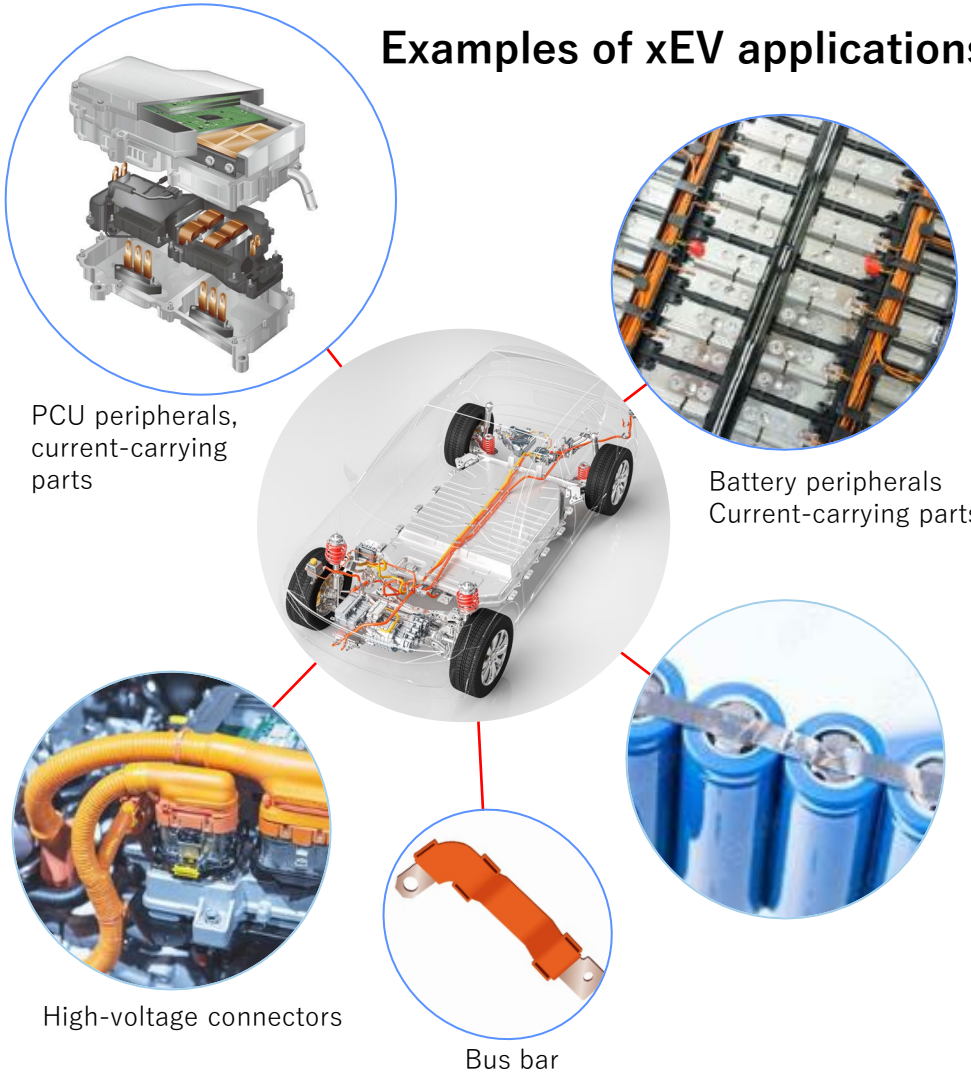



High strength and heat resistance



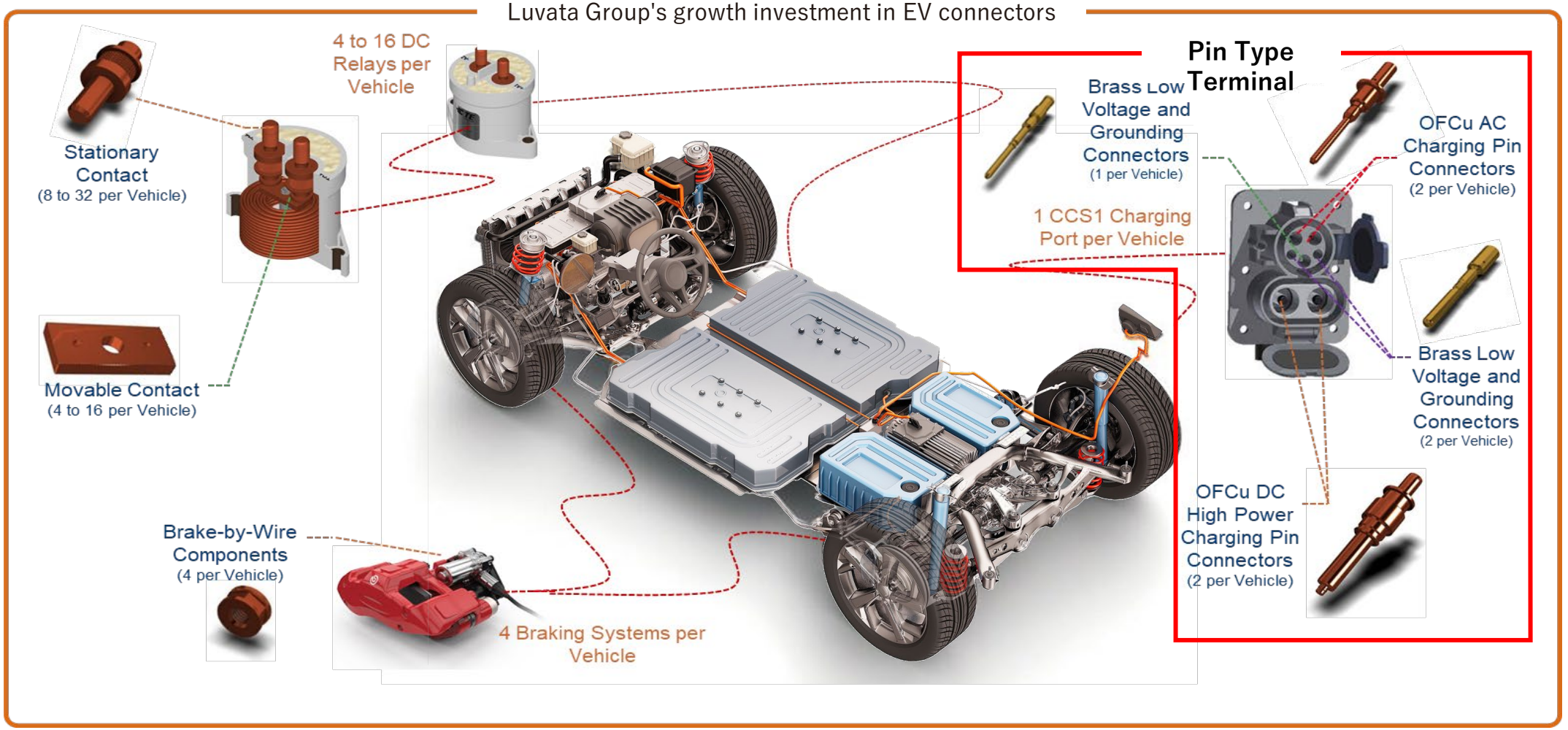

## Examples of xEV applications



# Luvata Group's Growth Investment in EV Connectors

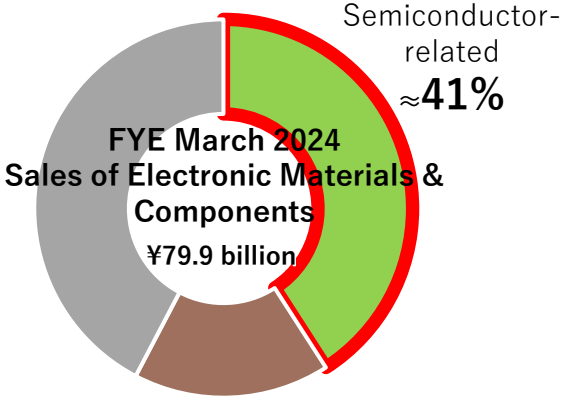
- We will expand sales of pin-type terminals in the expanding EV market by leveraging the cold forging technology cultivated in the welding electrode business.
- We are proceeding with capital investments to build a production system in the Americas, Europe, and Asia.
- In the Americas, we are moving ahead with mass production. As the demand is strong, and we will gradually expand the market.
- The market is expected to grow as EV production increases, with an average annual growth rate of 21% by 2029.

Luvata Group's growth investment in EV connectors



# Electronic Materials & Components Business: Status of Semiconductor Products

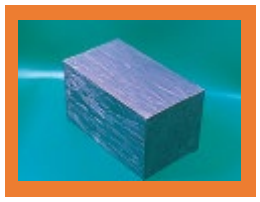
- While the precise timing will differ for each of our products, we anticipate demand to recover in or around the latter half of FYE March 2025.
- Since the business environment for precision silicon products has deteriorated, we will reassess the planned investments in increased production and shift to other growth areas. We will also work on measures to increase sales shares among major customers, acquire new customers, enter new fields, etc.
- We will continue to strengthen cost competitiveness by reducing fixed costs such as labor and maintenance costs, mainly in the functional materials business.




■ Advanced Materials (≈ 24%) ■ Chemical Business (8%) ■ Seals(9%)

Coating Diffusion Sources

Columnar Crystal Silicon



Investment to increase production capacity by about 1.3 times (compared to FYE March 2022) is progressing as planned.

Photo Acid Generator for Photo Resists

Raw Material Manufacturers

Equipment Component Manufacturers

Semiconductor-related Industry

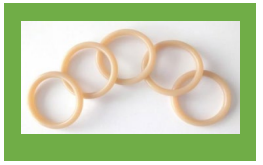
Semiconductor Materials Manufacturers

Semiconductor Equipment Manufacturers

Semiconductor Device Makers

Precision Silicon Products

Reassess investment in increased production announced in FY2031 Strategy



Sealing Products

Investment to increase production capacity by about 1.5 times (compared to FYE March 2022) is progressing as planned.

Silver-coated Powder

Thin Film Forming Materials Sol-Gel Solution

Low α emission solder (Precision Mounting Material)

AuSn Solder Paste (Precision Mounting Material)

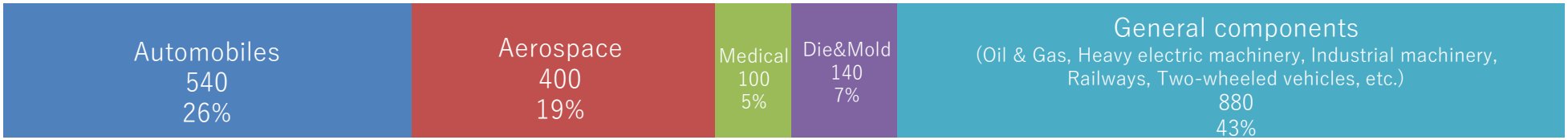
Some products for semiconductor device makers show signs of recovery in demand.

# Cemented Carbide Cutting Tool Market Outlook

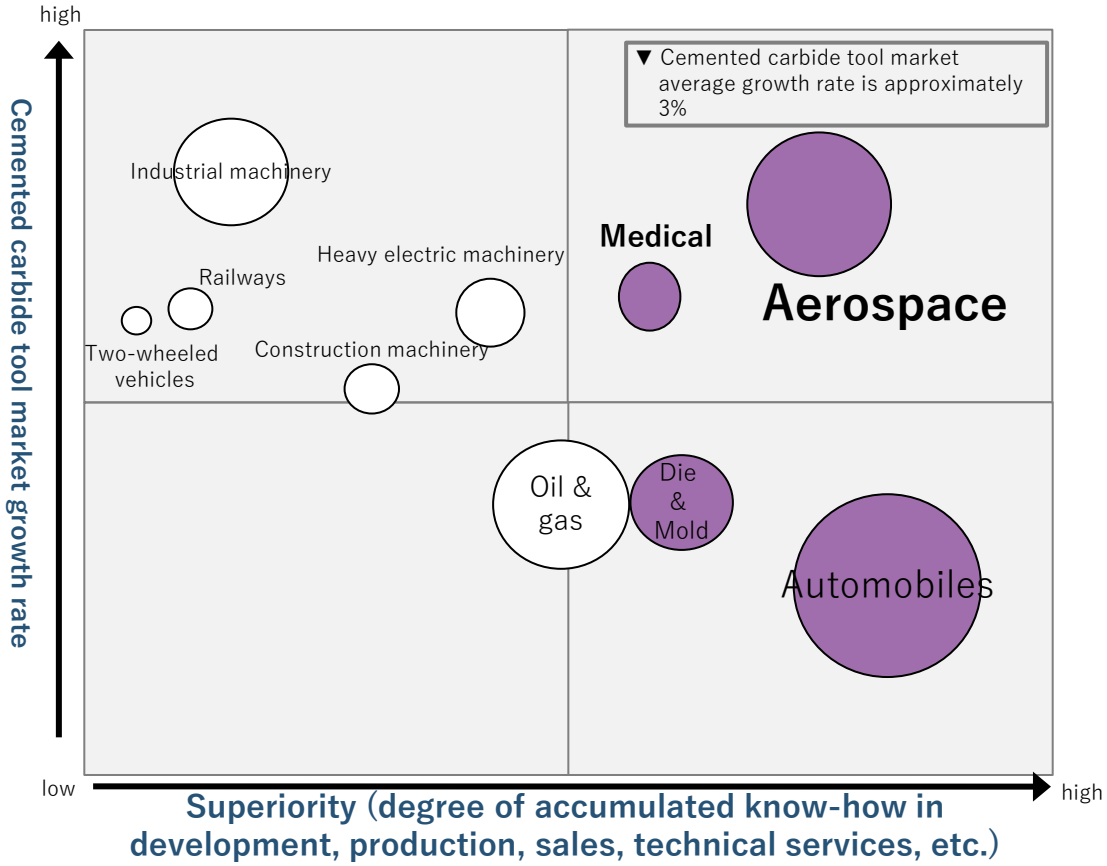


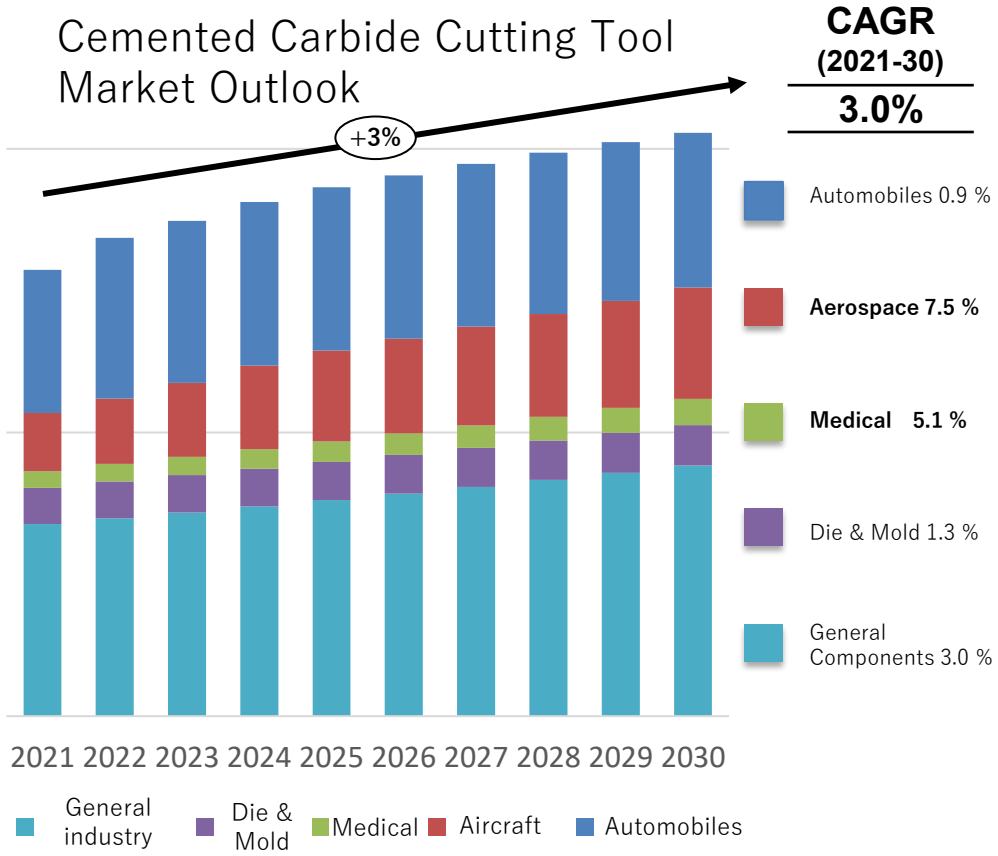
- **Demand for cemented carbide cutting tools is expected to grow at an annual rate of about 3%, reaching approximately 2.6 trillion yen per year in 2030.**

[Unit: Billions of yen]




Note: our estimate.




Note: Market size in 2022: ¥1.69 trillion/year (our estimate)

# Metalworking Solutions Business
# Providing New Products & Services for the Automobile, Aerospace, and Medical Industries



- Under the FY2031 Strategy, we make use of our accumulated technology & experience, putting effort into product development in the areas of difficult-to-process & difficult-to-cut materials
- We are expanding our product lineup in the automobile, aerospace, medical, and metal mold markets, and market development is advancing steadily
- We are moving forward with development of drills that revolutionize small-hole drilling, and also cutting tools with unprecedented functionality

**New Product Ratio**

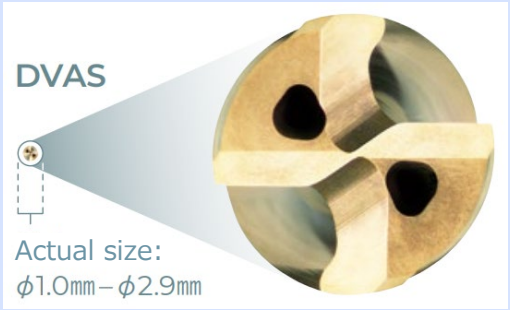
**FYE Mar. 25 Target 18%**

**FYE Mar. 24 Result 9.4%**

| | | Sales Ratio in Major Industries | Market Growth Rate CAGR (2021-30) Our Estimate |
|---|---|---|---|
| **Automobile** | • Adding turning products featuring highly oriented $Al_2O_3$ coatings<br>• **Expanding our range of long-life milling products featuring our Al-Rich coating** | Approx. 50% | 0.9% |
| **Aerospace** | • Entered supply contract with major French OEM. Specific initiatives are under consideration.<br>• Strengthening cooperation with domestic Japanese heavy industrial makers<br>**→Advancing blade processing applications, etc.** | Approx. 10% | 7.5% |
| **Medical** | • **Adding more small-bore solid tools for difficult-to-cut materials**<br>→Now developing a growing market share, mainly in North America | Approx. 5% | 5.1% |
| **Metal Molds** | • Building our end mill series for machining of hardened steels<br>• Expanding our solutions for high-difficulty processes | Approx. 35% | 1.3% |

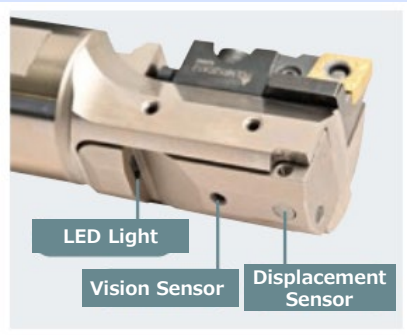
## ■ Developing New Products

### TRISTAR Drill - DVAS




- We successfully balance improved durability and chip disposal by modifying the spiral design of the coolant holes.
- We help avoid delays and maintain machine efficiency by avoiding breakages.

### Sensing Tools



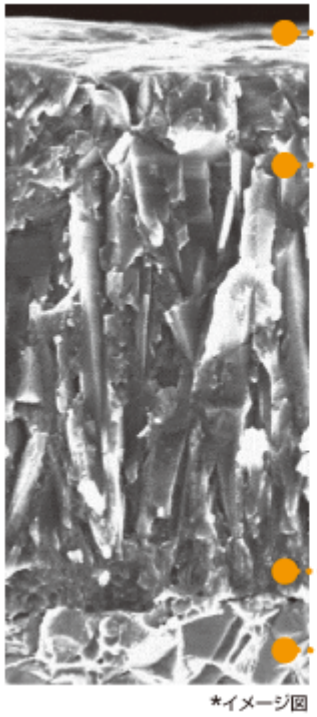

- Cutting tools featuring a displacement sensor that measures the dimensions of the material being cut, and a vision sensor that photographs the cut surface.
- Allowing measurement of cut material immediately after cutting, automatic adjustment, imaging of the cut surface, and more.

# Metalworking Solutions Business: Our Unique Technology

- Using the industry's top-class aluminum-titanium film formation deposition technology, "Al-rich Coating Technology," we have developed cutting tools with high adhesion and wear resistance, and developed them for use in heat-resistant alloy processing applications in the aerospace industry.

## Cutting insert grades MV series (MV1020, MV9005)

Cross-sectional view of cutting tool surface



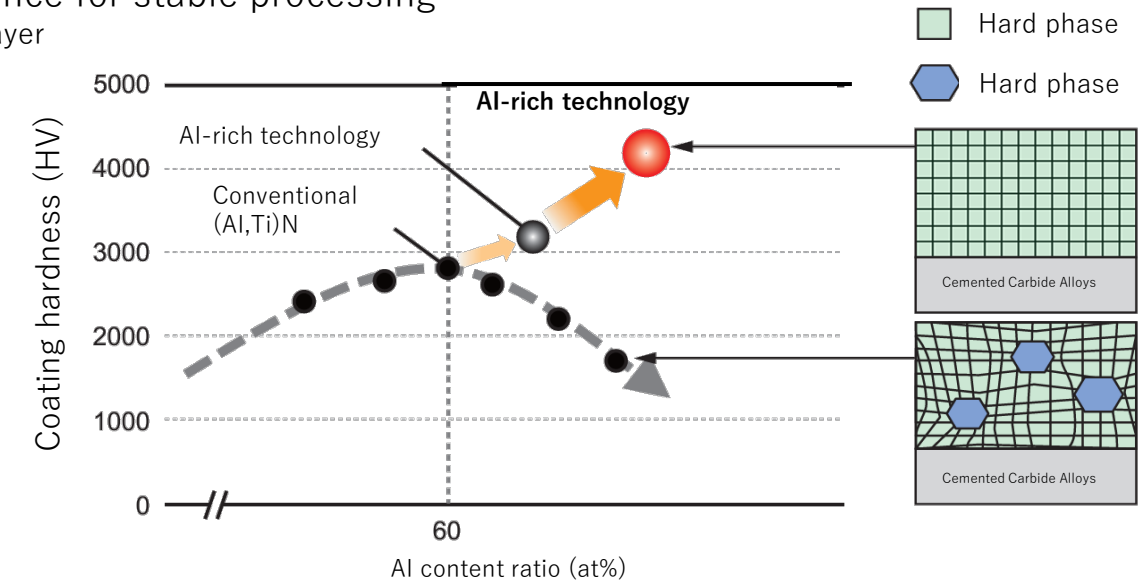
*イメージ図

Excellent weld adhesion resistance
Smoothed surface

Extremely high abrasion resistance
Newly developed Al-Rich coating

Excellent chipping resistance for stable processing
Newly developed intermediate layer

Chip resistance with extreme stability
Special cemented carbide base material



# Metalworking Solutions Business: Autonomous Business Development in Strategic Markets

- To increase overseas production capacity, we plan to invest ¥15.0 bn in Europe and the U.S. and ¥9.5 bn in Asia by FY2031, thereby strengthening development functions and expanding inventories of the bases to meet the needs of each region.
- In light of the large size of the European market and the expected growth in the aircraft market, eastern Europe, and other areas, the expansion of the Spain plant began this fiscal year.
- By shifting from exports from domestic plants in Japan to shipments from plants optimally located close to the place of consumption, we will optimize our supply chain and strengthen our BCP response.


| Products manufactured in the Spain Plant | Completion date | Planned manufacturing capacity improvement |
|---|---|---|
| Insert | by around 2028 | 5 to 10 times |
| Drill and End Mill | by around 2030 | more than 1.5 times |

# Renewable Energy Business Sites

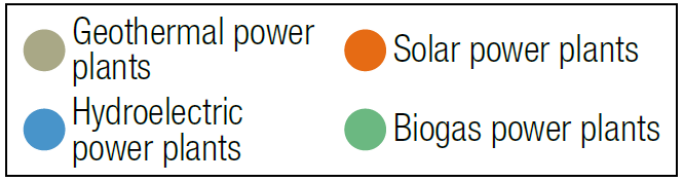
- To expand renewable energy business, we will promote the development of new geothermal power plants at a pace of one every three years
- Accelerate the entry of new wind power plants

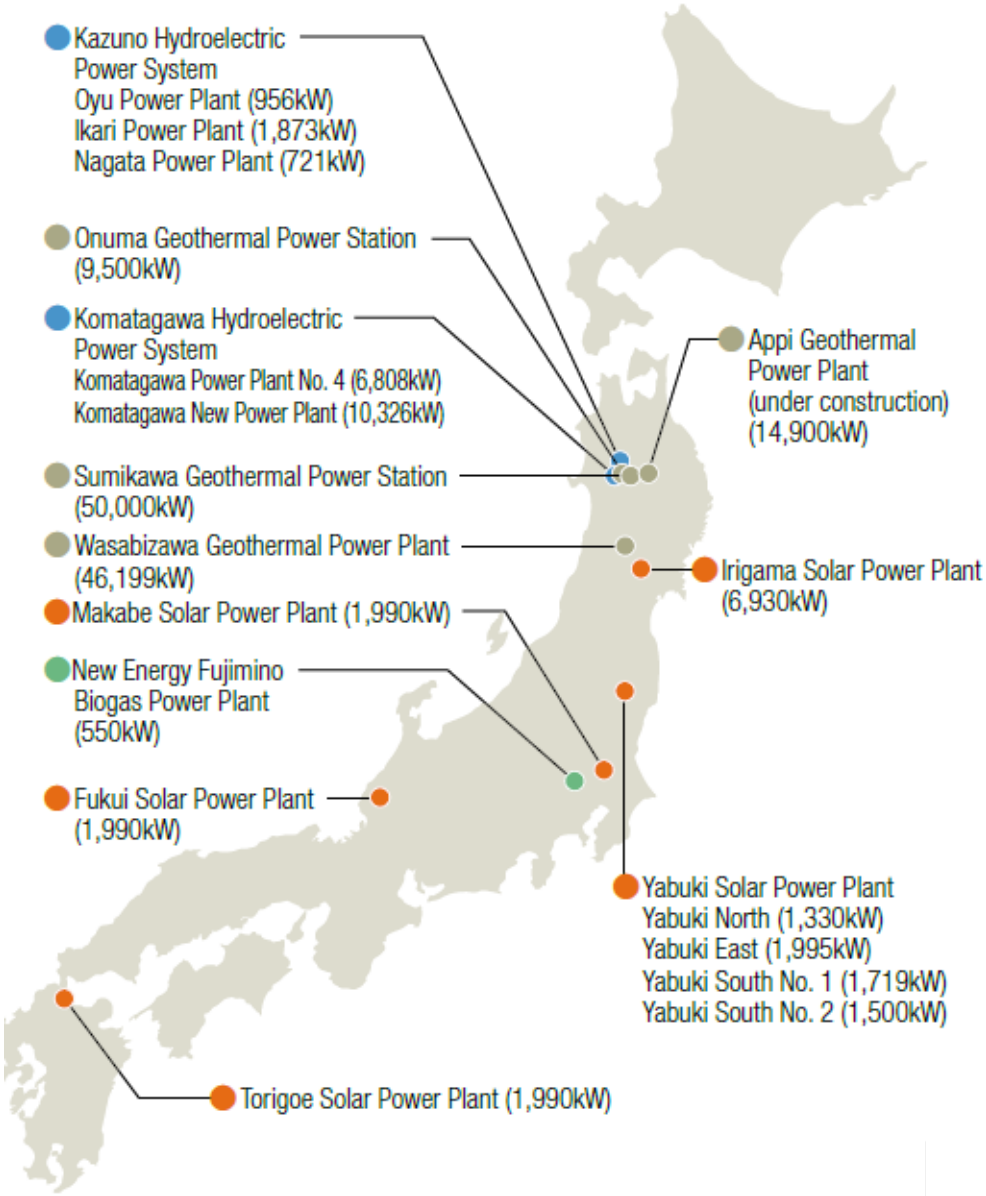
Total installed capacity

**~159MW**

**Geothermal power generation currently being considered**

- Esan area, Hokkaido Prefecture
- Komonomori area, Akita Prefecture
- Appi River upstream area, Iwate Prefecture
- Bandai area, Fukushima Prefecture
- Agatsuma / Adatara area, Fukushima Prefecture



# Appi Geothermal Power Plant

- **The construction work was completed within the budget. The commercial operation started from March 1, 2024, one month ahead of the plan.**
- **The operation is going smoothly at the planned output capacity (14,900 KW).**
- **In the fiscal year ending March 2025, we expect operating profit of ¥ +2.1 billion and profit attributable to owners of parent of ¥ +1.3 billion.**


Appi Geothermal Power Plant (photographed on March 27, 2024)

Overview of Appi Geothermal Power Plant

| | |
|---|---|
| Name | Appi Geothermal Power Plant |
| Location | Hachimantai National Forest, Hachimantai-city, Iwate |
| Type of motive force | Steam power (geothermal) |
| Output capacity | 14,900kW |
| Construction started | August 2019 |
| Power generation system | Single flash system |

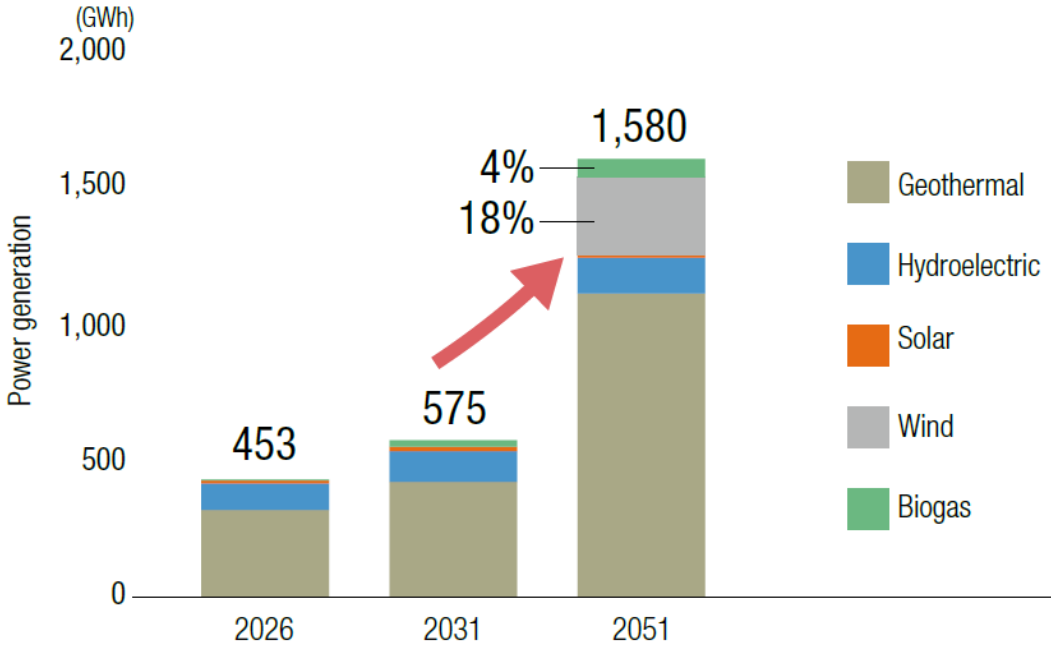
| | |
|---|---|
| Operator | Appi Geothermal Energy Corporation |
| Establishment | October 2015 |
| Share capital | ¥100 million |
| Investment ratio | Mitsubishi Materials Corporation 51%<br>Mitsubishi Gas Chemical Company, Inc. 34%<br>Electric Power Development Co., Ltd. 15% |

# Toward being 100% self-sufficient on renewable energy

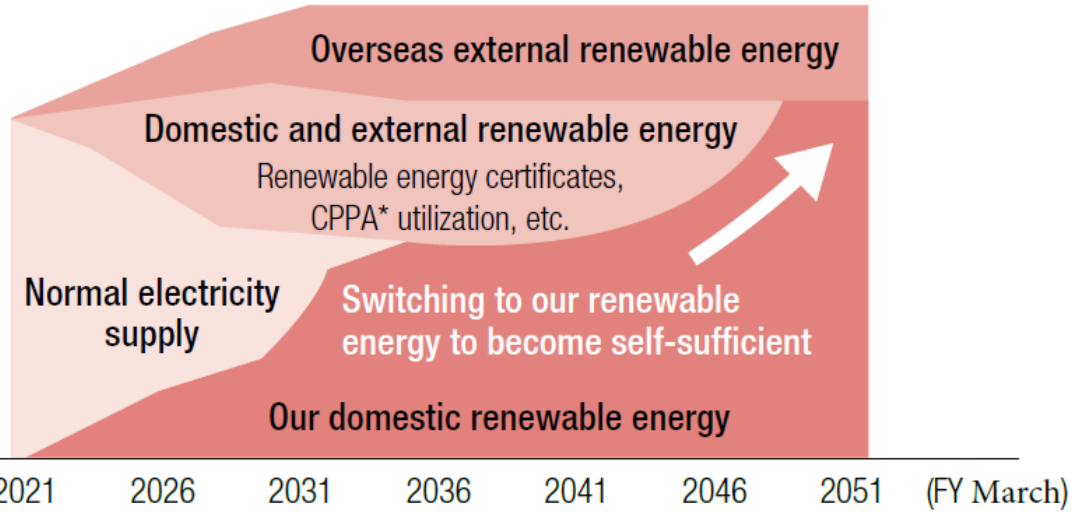
・With the aim of achieving power generation equivalent to our electricity consumption by FYE March 2051, we are expanding our geothermal power generation business and developing new renewable energy power generation, mainly wind power

・We plan to achieve 100% of electricity from renewable energy sources by FYE March 2036 and 100% self-sufficient on renewable energy by FYE March 2051

## Expansion of renewable energy power generation




## Roadmap toward being 100% self-sufficient on renewable energy



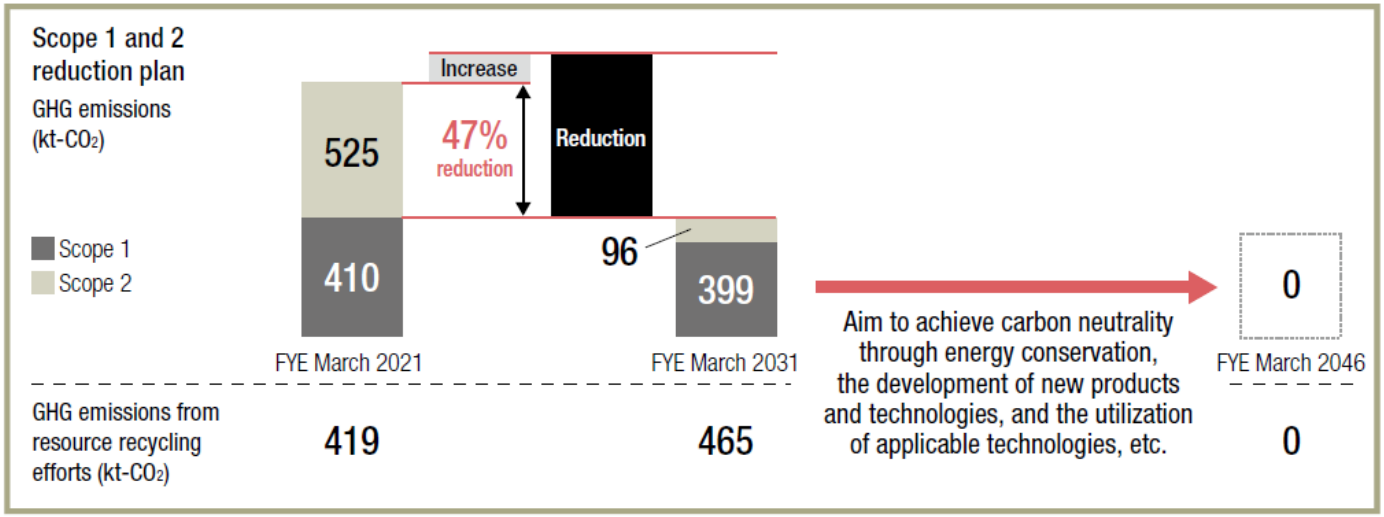

* CPPA (Corporate Power Purchase Agreement)

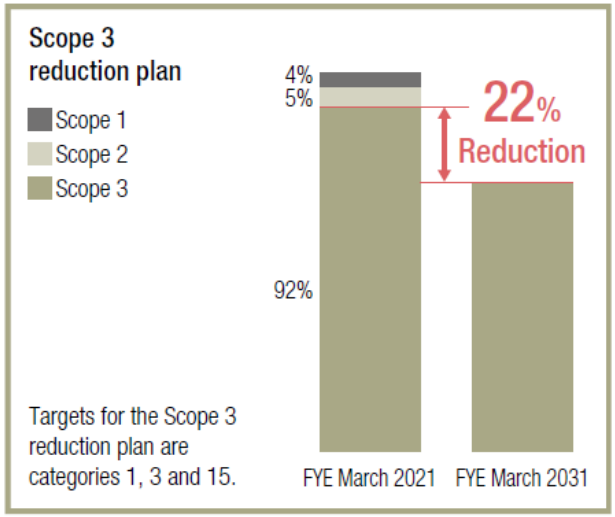
# GHG Reduction Targets toward Carbon Neutrality

- We set the fiscal year ending March 2046 as our target year for carbon neutrality (5 years ahead of the Japanese government's target year of the fiscal year ending March 2051)
- We will achieve 100% self-sufficiency in renewable energy electricity by the fiscal year ending March 2051 (amount of renewable energy generated equivalent to our own electricity consumption).

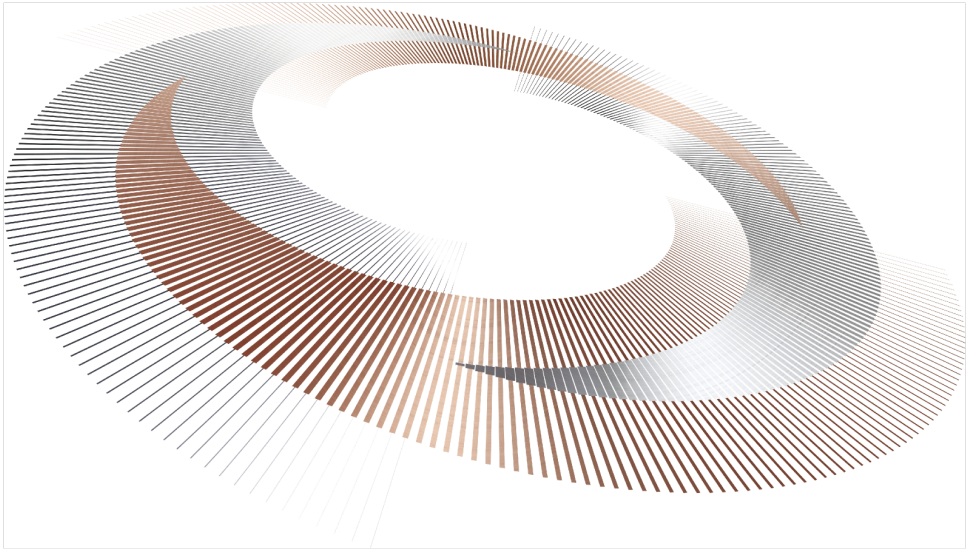
**Scope 1: Direct emissions of greenhouse gases by companies themselves (Fuel combustion, industrial processes)**
**Scope 2: Indirect emissions from the use of electricity, heat and steam supplied by other companies**
**Scope 3: Indirect emissions other than scope 1 and scope 2 (Emissions from other companies related to business activities)**

| | FYE March 2021 | 2026 | 2031 | 2036 | 2041 | 2046 | 2051 |
|---|---|---|---|---|---|---|---|
| GHG reduction target | | | Compared to FYE March 2021<br>Scope 1 + 2: 47% reduction<br>Scope 3: 22% reduction | | | Achieve carbon neutrality | |
| Renewable energy for electricity utilization rate | | 30% | 80% | 100% | | | |
| Renewable energy for electricity self-sufficiency rate | | 33% | 37% | 67% | | | 100% |




*GHG emissions for Scope 1 and 2 are based on the calculation of adjusted emissions under the Act on Promotion of Global Warming Countermeasures (excluding GHG emissions from resource recycling efforts).
*GHG emissions exclude businesses and subsidiaries that have been or will be removed from the scope of consolidation due to business portfolio adjustment by the fiscal year ended March 2024.



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

MITSUBISHI MATERIALS

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