# T-2026

## Mid-Term Management plan

Rolling Plan

2024/02/13

TOKAI CARBON GROUP

# To our stakeholders

From 2015 to 2016, we drastically revised our governance structure and implemented structural reforms, including reducing our production capacity, optimizing our workforce and withdrawing from non-core businesses, while working diligently to shape the mindset of our employees. From 2017, we shifted our focus to growth strategies and carried out business expansion and business portfolio optimization through M&A totaling ¥180 billion.

Since 2020, we have faced various changes in the business environment, such as the COVID-19 pandemic, the Ukraine crisis and a resulting rise in energy costs, intensifying U.S.-China tensions, and the Israel-Gaza conflict. However, we were able to secure both a year-on-year increase in net sales and ROS margin of 11% for fiscal year 2023, with net sales of ¥363.9 billion and operating income of ¥38.7 billion.

This year looks like it will be harder than last year, as the business environment for the Graphite Electrodes business, which has been in a slump for the past few years, has further worsened recently, and our cost advantage in the Smelting and Lining business has been waning due to persistently high energy costs in Europe. We will make efforts from a medium- to long-term perspective, including improving the earning power of business segments that need to boost profitability and actively allocating resources to business segments that are expected to grow. In particular, we are firmly committed to carrying out structural reforms of the Graphite Electrodes business, which is under a harsh operating environment, by determining its direction within this year.

The size of our Group has expanded considerably, and our business portfolio has become more diverse since the last structural reforms that I worked on with unwavering determination immediately after taking office as the president. I have personally positioned this year as a “year of starting over” for future growth, and will, once again, implement drastic structural reforms.

Hajime Nagasaka, President & CEO

# Tokai Carbon Rolling Mid-Term Management Plan

To respond flexibly to changes in the management environment, we have adopted a rolling format to annually review the Mid-Term Management Plan for the coming three years.


*"T" of the "Mid-Term Plan T" series stands for "Tokai Carbon" and "Target."

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05 Business Strategy

Reference Material (Cost of Capital)

# 01

# Outline of T-2026

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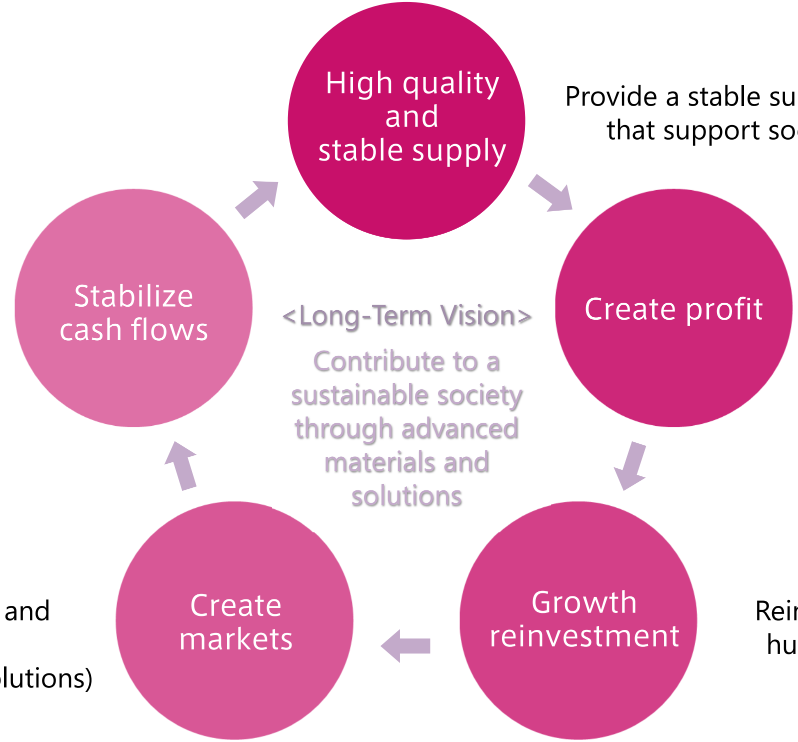
# Value creation targeted in T-2026

Carry out T-2026 with the aim of achieving the long-term vision for 2030 of “Contribute to a sustainable society through advanced materials and solutions.”




Provide a stable supply of key materials that support social infrastructure

Meet stakeholder expectations

→p.8

Reinvest in R&D, production facilities, human resources, environment, etc.

→p.18

Expand new businesses and business domains (advanced materials and solutions)

Optimize business portfolio

→p.21

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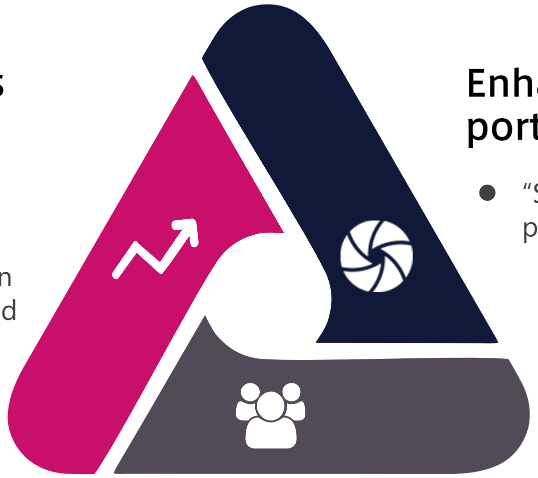
# T-2026 Basic Policies

The general framework remains unchanged from the previous plan (T-2025). Target themes have been revised in light of changes in the business environment.

## Strengthening the earnings power of core businesses

- Structural reforms of the Graphite Electrodes business
- Turning carbon black and fine carbon into higher value-added business and expanding production capacity



## Enhancing business portfolio management

- “Selection” and “concentration” based on growth potential and return on capital

## Pursuing sustainability management

- Pursuing carbon neutral as the entire Group
- Developing innovative technology that contributes to a recycling-oriented society
- Strengthening the group governance structure
- Improving employee engagement

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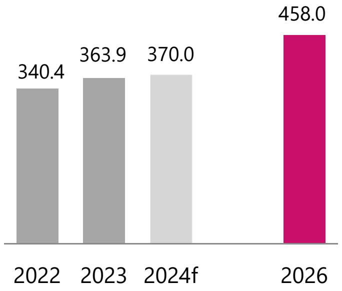
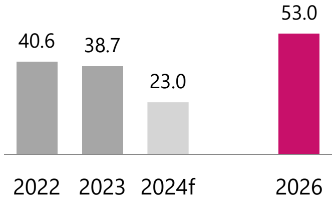
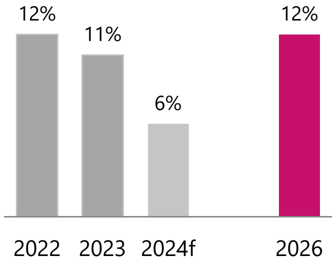
# T-2026 Numerical Targets

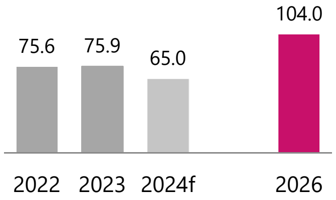
We aim to achieve FY2026 earnings targets by strengthening the earnings power of core businesses, enhancing business portfolio management, and pursuing sustainability management.

| Net Sales | Operating Income | ROS | EBITDA |
|---|---|---|---|
| ¥458.0 billion | ¥53.0 billion | 12 % | ¥104.0 billion (EBITDA margin: **23**%) |




* ROS: Return on Sales = Operating income as a percentage of total net sales (operating margin)
* EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization. Calculated by adding depreciation and goodwill amortization to operating income
* Exchange rate assumptions for T-2026: JPY135/USD, JPY148/EUR

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# Reference | Sales and Operating Income by segment

| | | | 2023 (Result) | 2024 (Forecast) | T-2026 |
|---|---|---|---|---|---|
| Net Sales (Billion yen) | Graphite Electrodes | | 60.2 | 47.0 | 73.0 |
| | Carbon Black | | 148.4 | 170.0 | 184.0 |
| | Fine Carbon | | 45.3 | 58.0 | 81.0 |
| | Smelting and Lining | | 82.8 | 67.0 | 83.0 |
| | Industrial Furnaces | | 15.6 | 17.0 | 25.0 |
| | Other Operations | Friction materials | 9.0 | 9.0 | 9.0 |
| | | Anode materials | 2.4 | 2.0 | 3.0 |
| | | Other | 0.1 | 0.0 | 0.0 |
| | | (Total other) | 11.5 | 11.0 | 12.0 |
| | Total | | 363.9 | 370.0 | 458.0 |
| Operating Income (Billion yen) | Graphite Electrodes | | 0.8 | (1.0) | 11.0 |
| | Carbon Black | | 21.3 | 16.0 | 15.0 |
| | Fine Carbon | | 10.6 | 11.0 | 19.0 |
| | Smelting and Lining | | 2.3 | (6.0) | 4.0 |
| | Industrial Furnaces | | 3.9 | 4.0 | 6.0 |
| | Other Operations | | 1.3 | 0.6 | 0.8 |
| | Inter-segment eliminations | | (1.4) | (1.6) | (2.8) |
| | Total | | 38.7 | 23.0 | 53.0 |

* Exchange rate assumptions for T-2026: JPY135/USD, JPY148/EUR

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# Reference | EBITDA by segment

| | | 2023 (Result) | 2024 (Forecast) | T-2026 |
|---|---|---|---|---|
| EBITDA (Billion yen) | Graphite Electrodes | 6.4 | 5.0 | 17.0 |
| | Carbon Black | 29.3 | 26.0 | 32.0 |
| | Fine Carbon | 17.7 | 21.0 | 30.0 |
| | Smelting and Lining | 17.4 | 9.0 | 19.0 |
| | Industrial Furnaces | 4.2 | 4.0 | 6.0 |
| | Other Operations | 1.8 | 1.0 | 1.3 |
| | Inter-segment eliminations | (0.9) | (1.0) | (1.3) |
| | Total | 75.9 | 65.0 | 104.0 |
| EBITDA Margin | Graphite Electrodes | 11% | 11% | 23% |
| | Carbon Black | 20% | 15% | 17% |
| | Fine Carbon | 39% | 36% | 37% |
| | Smelting and Lining | 21% | 13% | 23% |
| | Industrial Furnaces | 27% | 24% | 24% |
| | Other Operations | 15% | 9% | 11% |
| | Inter-segment eliminations | - | - | - |
| | Total | 21% | 18% | 23% |

* Exchange rate assumptions for T-2026: JPY135/USD, JPY148/EUR

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# Reference | Key performance indicators

| | 2023 (Result) | 2024 (Forecast) | T-2026 |
|---|---|---|---|
| Net sales (Billion yen) | 363.9 | 370.0 | 458.0 |
| Operating income (Billion yen) | 38.7 | 23.0 | 53.0 |
| EBITDA (Billion yen) | 75.9 | 65.0 | 104.0 |
| ROS (Operating income) | 11% | 6% | 12% |
| ROS (EBITDA) | 21% | 18% | 23% |
| ROE 1) | 9% | 5% | 10% |
| ROIC (adjusted) 2) | 12% | 7% | 12% |
| ROA 3) | 4% | 2% | 5% |
| WACC 4) | 5% | 5% | 5% |
| Net D/E ratio | 0.27 | 0.38 | 0.15 |
| Adjusted net D/E ratio 5) | 0.15 | 0.27 | 0.06 |
| Exchange rates | JPY141/USD<br>JPY152/EUR | JPY135/USD<br>JPY148/EUR | JPY135/USD<br>JPY148/EUR |

1) ROE: Return on Equity = Net income as a percentage of equity

2) ROIC: Return on Invested Capital = Operating income after taxes as a percentage of the sum of working capital and fixed assets
 * ROIC (adjusted): ROIC after adjustments taking into account goodwill and goodwill amortization

3) ROA: Return on Asset = Net income as a percentage of total assets

4) WACC: Weighted Average Cost of Capital

5) Adjusted net D/E: Debt/equity ratio used by the rating agencies that rate hybrid financing to confirm capital

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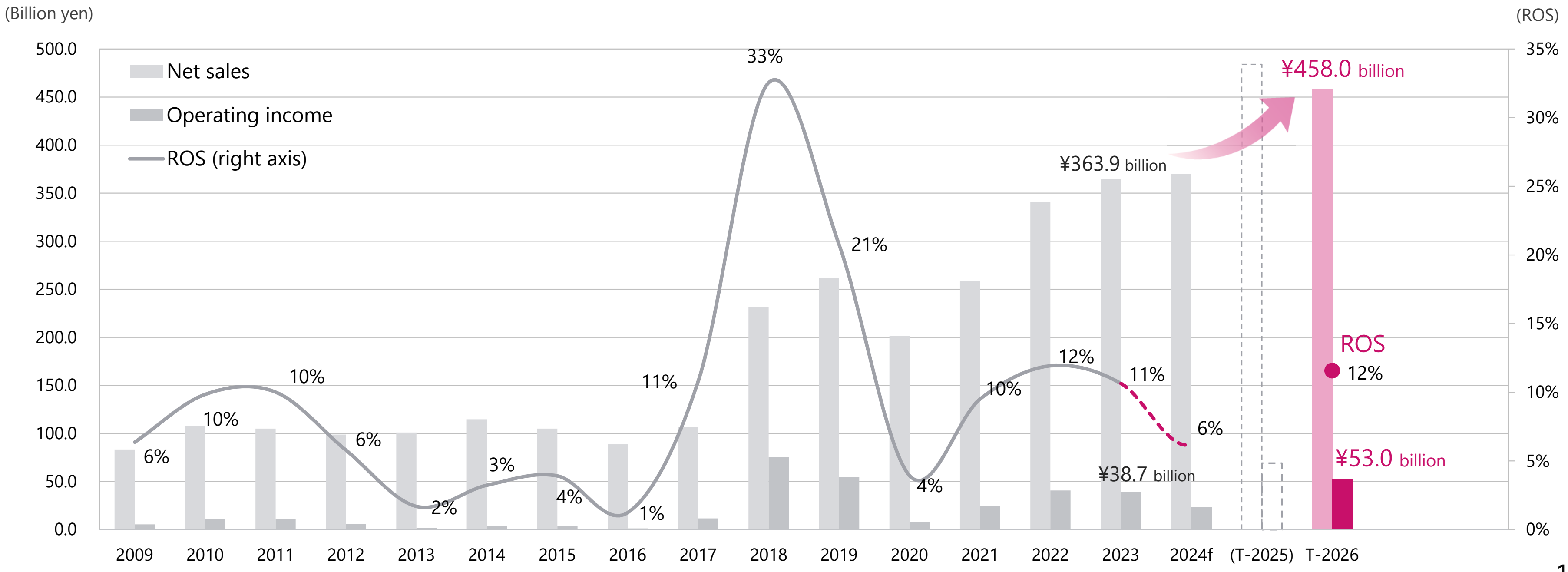
# Reference | Comparison to T-2025, the previous plan

Due to a slowdown in the growth of EAF for Graphite Electrodes and a downcycle for Smelting and Lining, both segments are expected to miss T-2025 targets. The other main businesses of Carbon Black, Fine Carbon and Industrial Furnaces are expected to grow in line with the initial plan. We set T-2026 targets for the Group as a whole at around 30% increase in net sales and around 40% increase in profit compared to 2023.



# 02

# View of Current Conditions

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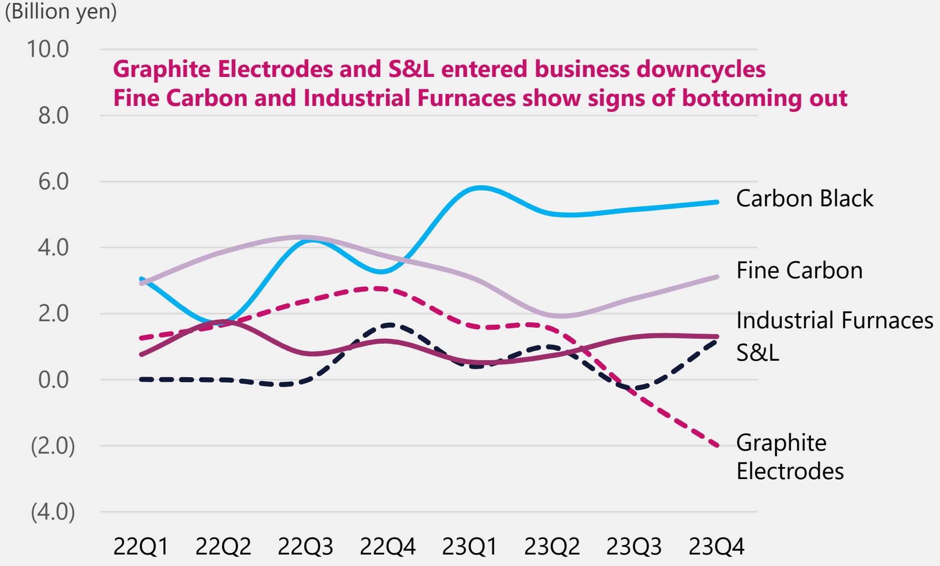
# FY2023 results

While the Carbon Black business remained strong, Graphite Electrodes, Fine Carbon and Smelting and Lining each faced a business downcycle, resulting in a 5% year-on-year decrease in operating income in FY2023.

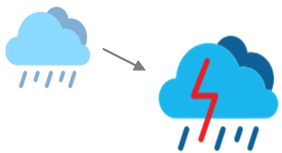
**Operating income (quarterly, by segment)**




- The downcycle of Graphite Electrodes continued. The volume of enquires decreased globally due to excessive inventory caused by slowing growth of EAF steel. Market conditions continued to decline, particularly in Europe.
- Carbon Black remained firm despite inventory cuts for replacement tires.
- Fine Carbon has been affected by the downcycle of memory semiconductors since Q4 of 2022. Earnings show signs of bottoming out, partially due to rapid growth in the SiC semiconductor market.
- For Industrial Furnaces, electronic components appear to have bottomed out, but recovery is gradual.

# Outlook for business environment

## Graphite Electrodes



### Recovery to take time

- Improvement will take time on the back of the worsening supply-demand balance and a rise of emerging players.
- A substantial rise in demand for electrodes, driven by the shift from blast furnaces to EAF, expected from 2026.

## Carbon Black

### Remain strong

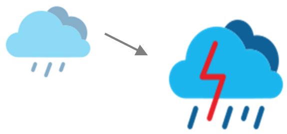
- Short-term earnings will be affected by inventory cutbacks related to demand for replacement tires in North American trucks and buses.
- Demand for new vehicles will recover.
- Annal growth for tire production to stay at 3% over the medium- to long-term.

## Fine Carbon

### Growth expected

- Memory semiconductors will start to recover from late 2024.
- Demand for the SiC semiconductor market is expected to grow at an accelerated pace.

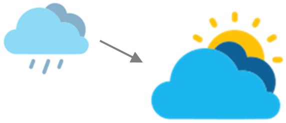
## Smelting and Lining



### Recovery to take time

- The competitive landscape will intensify in 2024 due to the downcycles for cathodes and carbon electrodes.
- Demand is expected to gradually recover from 2025 onward.

## Industrial Furnaces



### Gradual recovery

- The downcycle for MLCC has bottomed out. Demand will gradually recover going forward.
- Increased production of EREMA heating elements (completed at the end of 2024) is expected to contribute from 2025 onward on the back of growth for LiB market applications.

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# T-2026 priority measures

In response to the changes in the business environment described above, we will determine our focus markets through restructuring of the Graphite Electrodes business, and optimize the operation of heat treatment facilities.
In parallel, we will focus on investments in growing businesses and sustainability initiatives with the aim of increasing corporate value.

### Review of the electrode business production system

The industry faces structural issues with continued oversupply from China and India, while global EAF steel production stagnates.
We urgently need to review our production system, including evaluating options for how to utilize existing surplus capacity, while closely monitoring a future shift to EAF.

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### Aggressive investments in growing businesses

We will seize growth opportunities in face-to-face industries and expand markets for Fine Carbon and Industrial Furnaces by increasing production capacity, tapping into new markets, and building a global distribution network.

×

### Various sustainability measures

We will conduct management that is conscious of the cost of capital through business portfolio management; promote carbon neutral; strengthen the risk management and governance structure; enhance human capital; utilize ICT; and follow TNFD recommendations.

03

# Corporate Strategy

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# Overview of corporate value improvement loop

Allocate operating cash flow (CF) to investments and dividends while maintaining financial soundness to improve corporate value. Our optimized business portfolio will bring higher capital efficiency that will support stabilizing and expanding CF generation through our business.

Enhanced dialogue with market participants

**Financing** →p.23

Financial and capital policy (Secure A rating) →p.23

Contributing to local communities (tangible and intangible)

**Operating CF generation**

[Growing] Fine Carbon and Industrial Furnaces
[Core] Carbon Black and S&L
[Improve] Graphite Electrodes

Investing to human capital

- Enhancement of employee engagement
- Securing elite talent for strategy execution
- Improvement of the work environment at manufacturing sites

**Operating CF**

**¥209 billion**

(3 year cumulative*)

**Corporate value improvement**

**KPI**

Adjusted ROIC: over 12%

WACC: below 5%

**Investments**

**¥146 billion**

(3 year cumulative*)

→p.22

**Business portfolio management**

| | |
|---|---|
| Growth investment | ¥41 billion |
| Environmental investment | ¥9 billion |
| Facility renewal and updates, regular maintenance | ¥96 billion |

Appropriate allocation of CF according to investment opportunities

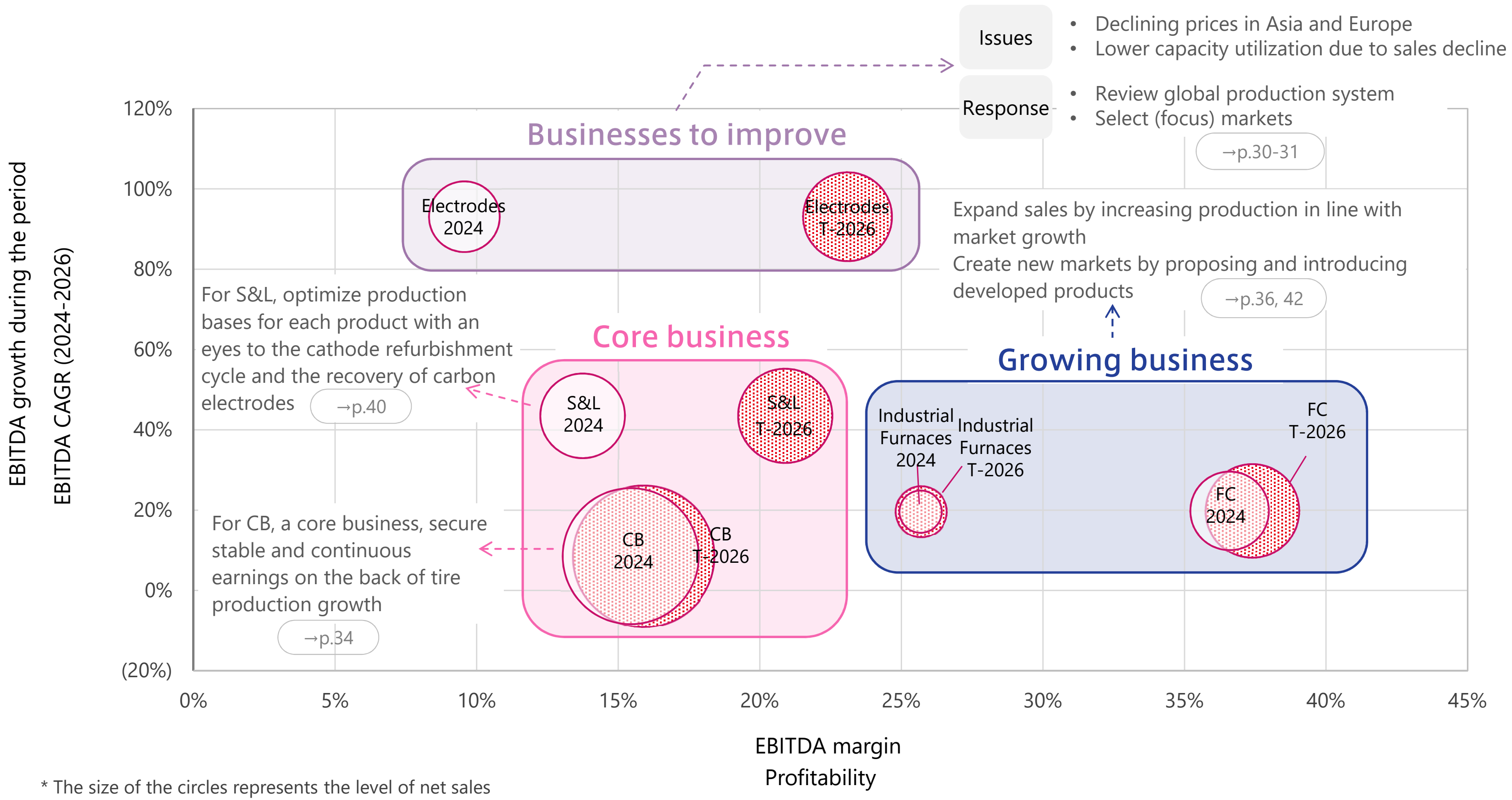
Dividends →p.24

Expanding Operating CF

* 3 year cumulative: Cumulative three-year period of T-2026 spanning 2024 to 2026

* Adjusted ROIC: ROIC with goodwill and goodwill amortization taken into account

# Maximize operating CF with strategies tailored to business issues

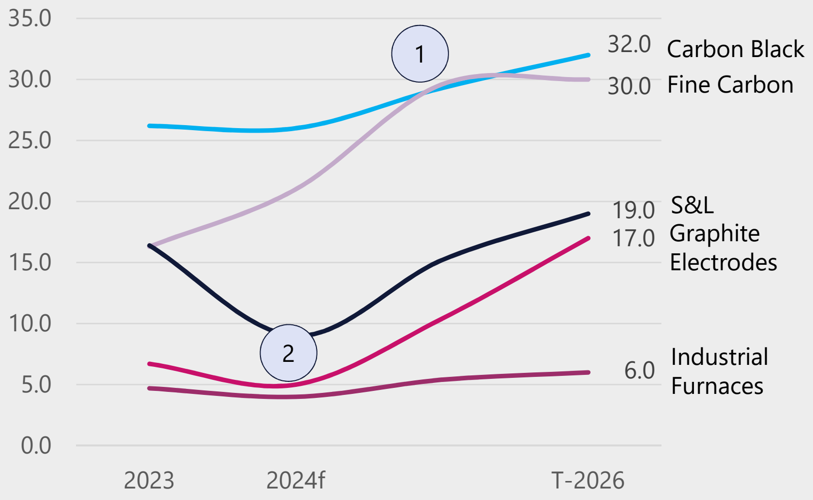



* The size of the circles represents the level of net sales

# EBITDA growth forecast by major business segment

The downcycles of Graphite Electrodes and Smelting and Lining will put a brake on company-wide EBITDA growth in 2024. We forecast EBITDA to grow 1.4 times during T-2026 as a result of stable growth of Carbon Black and growth strategies for Fine Carbon and Industrial Furnaces. (compared to 2023)

**EBITDA by main segments (Billion yen)**




### 1 Carbon Black and Fine Carbon will drive EBITDA

The Carbon Black business continues to perform strongly and generate stable cashflows. For Fine Carbon, we aim to achieve EBITDA on par with Carbon Black on the back of growth of the semiconductor market, benefits from increased production, and expansion of the distribution network.

### 2 The downcycles of Graphite Electrodes and Smelting and Lining will later reverse

For Graphite Electrodes, we will review production system through drastic structural reforms. For Smelting and Lining, cathodes and carbon electrodes will face a slow down by the business environment. The recovery of the industry will be expected in 2025 onward.

* EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization. Calculated by adding depreciation and goodwill amortization to operating income

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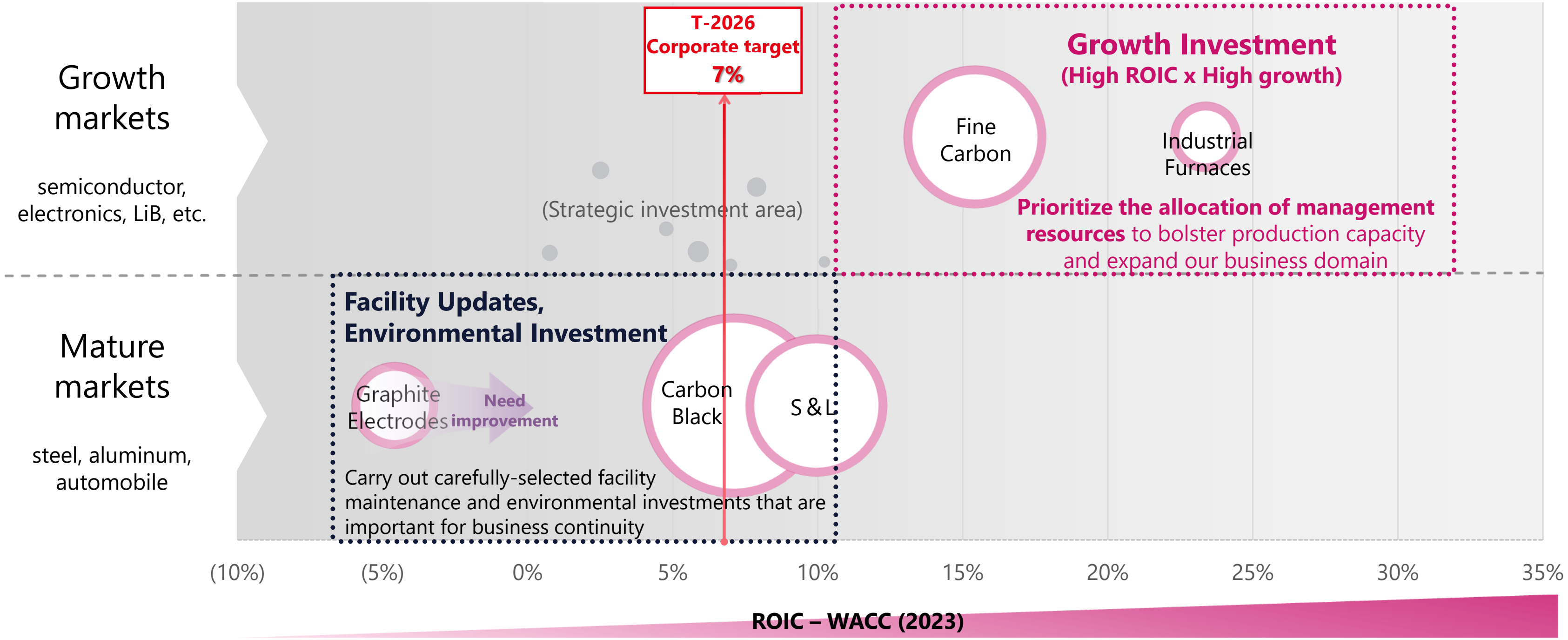
# Business portfolio management (capital allocation guidelines)

Aim to allocate management resources in a way that maximizes economic profit [(ROIC-WACC) x invested capital], calculated by multiplying excess profit by invested capital, while maintaining and improving business ROIC spreads, thereby enhancing corporate value




* The size of each circle represents the level of EBITDA(FY2023). WACC is managed by calculating risks for each business. ROIC uses adjusted ROIC that takes in account goodwill and goodwill amortization.

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# Major planned investments

(Unit: 3-year cumulative for 2024-2026, Billion yen)

| | Investment | Target business | Estimate | Main areas |
|---|---|---|---|---|
| Growth investment | ¥41.0 billion | Fine Carbon | 30.0 | Increase production capacity of graphite materials, respond to the needs of the power semiconductor market, etc. |
| | | Carbon Black | 4.0 | Promote carbon neutrality |
| | | Industrial Furnaces | 2.0 | Increase production capacity |
| | | Other Operations | 5.0 | Shift to automation, develop products, etc. |
| Environmental investment | ¥9.0 billion | Carbon Black | 4.0 | Address environmental issues mainly at North American plants |
| | | Smelting & Lining | 2.0 | Exhaust gas treatment systems, etc. |
| | | Carbon neutrality, etc. | 3.0 | |
| Facility renewal and updates<br>Regular maintenance | ¥96.0 billion | Graphite Electrodes | 15.0 | Regular updates, facility renewal etc. |
| | | Carbon Black | 49.0 | Regular updates, relocation of the Thai plant, etc. |
| | | Fine Carbon | 11.0 | General repairs |
| | | Smelting & Lining | 8.0 | General repairs |
| | | Other Operations | 13.0 | General repairs, DX, operational efficiency improvement, etc. |
| Total | ¥146.0 billion | | | |

* The above planned investments represent our medium-term strategies and may differ substantially, depending on various future factors. The Company is not obligated to update this information.

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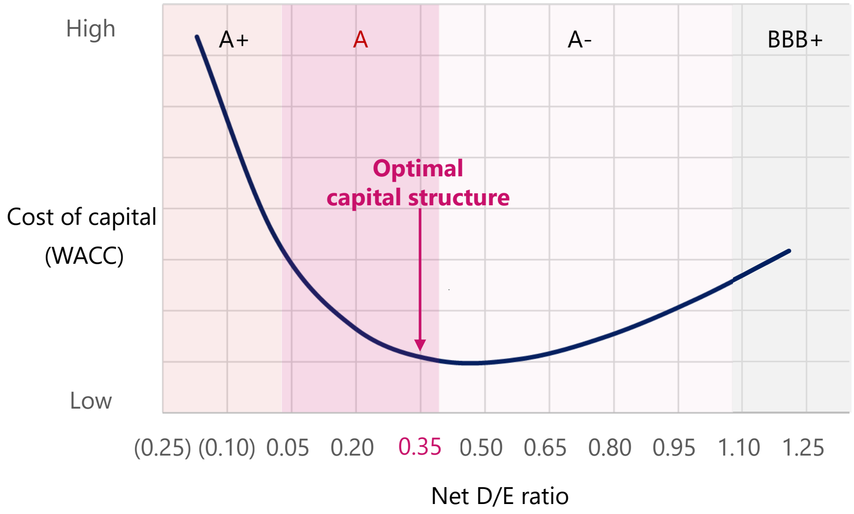
# Financial and capital policy (optimal capital structure)

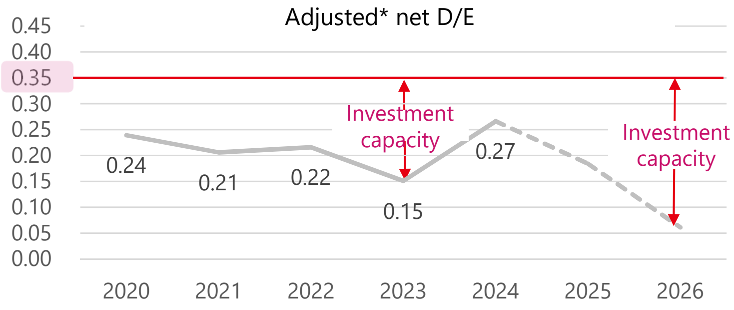
Net D/E ratio of around 0.35x is used as a target metric for the optimal capital structure ensuring a credit rating of A or above, which indicates sufficient financial soundness to support business growth. We aim to expand business earnings by allocating capital according to our hurdle rates within the investment capacity based on the optimal capital structure.

### Balancing financial soundness (A credit rating) with minimizing WACC




### Target metrics for financial soundness and capital efficiency

| | |
|---|---|
| Net D/E ratio | Approx. 0.35x |
| Net interest bearing debt/EBITDA | 1.0x level |
| WACC | Below 5% |




* Adjusted net debt/equity is the debt/equity ratio used by the rating agencies that rate hybrid financing to confirm capital.

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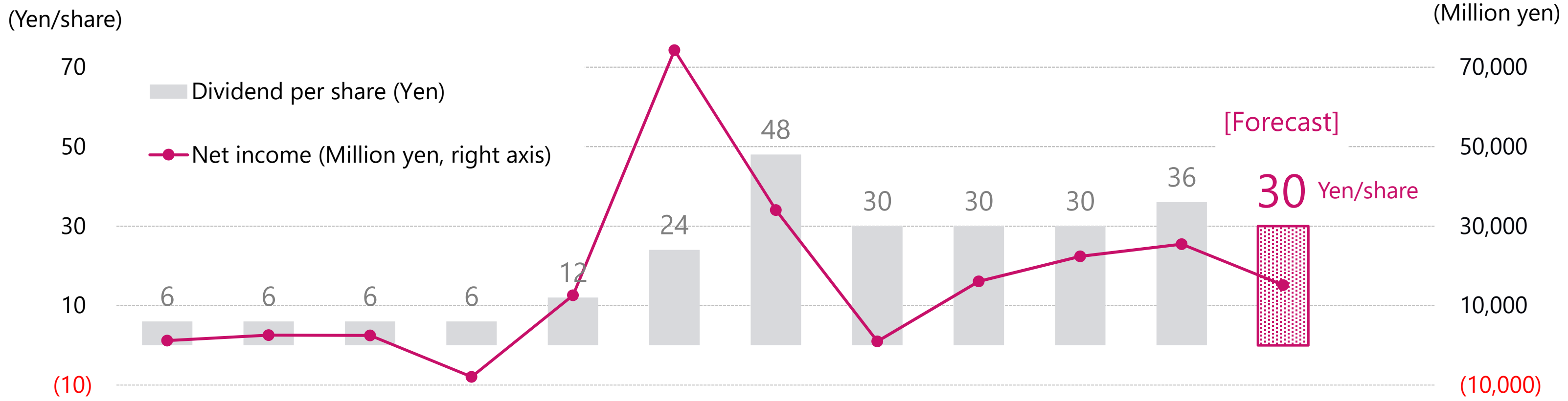
# Shareholder return

Stable and consistent dividends with a target dividend payout ratio of 30% along with higher shareholder value through business growth

Dividends per share and Net income




| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024f |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total dividends (Million yen) | 1,280 | 1,280 | 1,280 | 1,280 | 2,556 | 5,114 | 10,230 | 6,395 | 6,395 | 6,395 | 7,674 | 6,395 |
| Payout ratio | 106% | 50% | 52% | - | 21% | 7% | 32% | 627% | 40% | 28% | 30% | 43% |

* f=forecast

# 04 Sustainability Management

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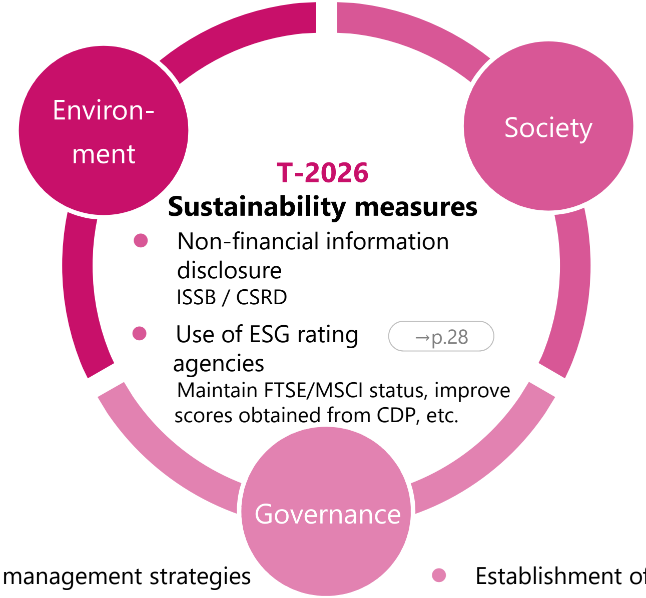
# Sustainability Management

We will implement various sustainability measures, including the promotion of carbon neutrality, to realize our long-term vision for 2030, with the Sustainability Committee and the Carbon Neutral committee spearheading these efforts.

**Long-term vision:** Contribute to a sustainable society through advanced materials and solutions

- Promotion of carbon neutrality
  →p.27
- Biodiversity
  Follow TNFD recommendations
- Water consumption
  Reduce on a consolidated basis
- Waste
  Reduce on a consolidated basis
- Exploring businesses in non-carbon fields
  Start initiatives through co-creation




**T-2026**
**Sustainability measures**

- Non-financial information disclosure
  ISSB / CSRD
- Use of ESG rating agencies →p.28
  Maintain FTSE/MSCI status, improve scores obtained from CDP, etc.

- Respect for human rights
  Implement human rights due diligence at domestic and overseas subsidiaries
- Human resources development
  Implement measures based on our human resources development policy and internal environment improvement policy
- Improvement of employee engagement
  Implement measures to achieve target scores
- Supply chain management
  Conduct procurement aligned with CSR principles

- Linking sustainability to management strategies
  Link officer remuneration to sustainability performance (started in 2023)
- Establishment of global compliance structure
  Start taking action

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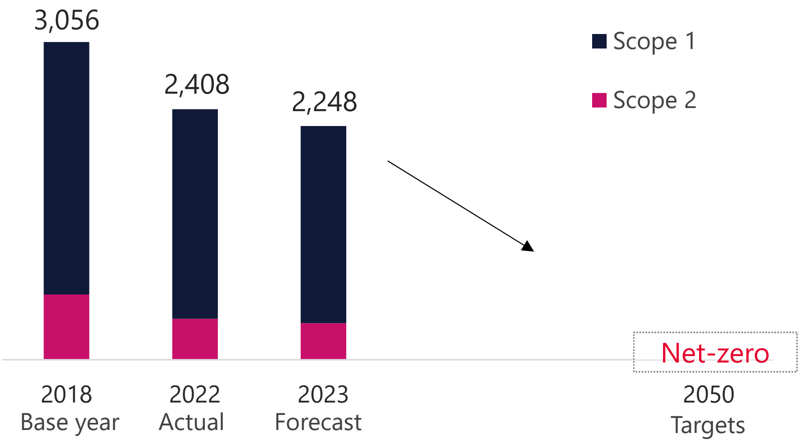
# Progress towards achieving carbon neutral goals

In January 2022, we established the CN (Carbon Neutral) committee chaired by the president and the CN office. The CN committee functions as the command post for the group's CN initiatives and its subcommittees pursue innovative technologies for CN on a cross divisional basis.

## Tokai Carbon Group's $CO_2$ emissions (thousand tons)




* Scope 1: Direct $CO_2$ emissions from corporate activities at Tokai Carbon (fuel combustion and industrial processes)

* Scope 2: Indirect $CO_2$ emissions associated with use of externally delivered electricity, heat and steam

## Current initiatives

- Energy savings and use of renewable energy
- Conversion to fuels with lower environmental impact
- Expansion of recycled products and reuse of used tires
- $CO_2$ emissions data for Scope 1 and 2 assured by the third party. Also scheduled to obtain third party assurance for Scope 3 emissions
- Collaborations and projects with customers, business partners, industry associations, etc. for the development and implementation of CN in Scope 1 and 3

* Scope 3: Indirect $CO_2$ emissions other than Scope 1 and 2 (emissions from other companies' corporate activities)

# Tokai Carbon's ESG rating by external agencies

We launched full-fledged sustainability initiatives in 2019. Organizational bodies such as the Sustainability Promotion Committee and the Carbon Neutral committee have been set up under the Board of Directors. We continue to receive high ESG ratings from external agencies.

**Selected as a FTSE* constituent**

Index selection criteria is a score of 3.3 or above

**Tokai Carbon's FTSE score is 4.2 (as of December 2023)**

FTSE4Good

FTSE Blossom Japan

FTSE Blossom Japan Sector Relative Index

FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company)confirms that Tokai Carbon has been independently assessed according to the FTSE4Good andFTSE Blossom Japan Index criteria, and has satisfied the requirements to become a constituentof the FTSE4Good Index Series and FTSE Blossom Japan Index. Created by the global indexprovider FTSE Russell, the FTSE4Good Index Series and FTSE Blossom Japan Index are designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE4Good indices and FTSE Blossom Japan Index areused by a wide variety of market participants to create and assess responsible investment funds and other products

FTSE4Good Index Series: https://www.ftserussell.com/products/indices/FTSE4Good

FTSE Blossom Japan Index: https://www.ftserussell.com/products/indices/blossom-japan

* FTSE: A stock index developed by FTSE Russell, a subsidiary of the London Stock Exchange, which selects companies that have made outstanding efforts in ESG (environment, society, and governance).

**Selected as a MSCI* constituent**

\# of constituents: 239
(as of December 2023)

**Selected as a MSCI constituent for the first time (December 2023)**

**2023** CONSTITUENT MSCI JAPAN
ESG SELECT LEADERS INDEX

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# 05 Business Strategy

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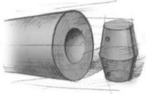
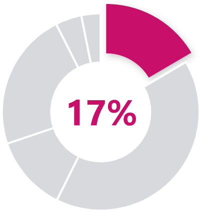
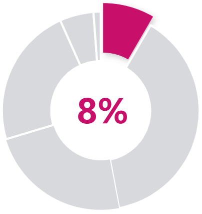


# Graphite Electrodes

We will conduct business structure reforms in response to the rapidly changing business environment as a step toward achieving significant future growth




Net sales share (2023)




EBITDA share (2023)

| (Billion yen) | 2023 | 2024f | T-2026 |
|---|---|---|---|
| Net sales | 60.2 | 47.0 | 73.0 |
| Operating profit | 0.8 | (1.0) | 11.0 |
| ROS | 1% | - | 15% |
| ROIC (adjusted) | 2% | - | 11% |
| EBITDA | 6.4 | 5.0 | 17.0 |
| CAPEX | 5.1 | 7.0 | 5.0 |

## Business environment

### Global prices remain weak

- The supply-demand balance of electrodes has collapsed as the expansion of electrode production in China, which has been carried out to address the issue of low-grade steel, became excessive, triggering a decline in prices in the Asian market.
- EAF steel production has declined in Europe. Competitors' manufacturing bases are concentrated in the same region, leading to a prolonged slump in electrode prices.
- An increase in demand for electrodes due to a shift to EAF may fully materialize around 2026.

## T-2026 initiatives

### Business structure reform

- Focus on 3 markets of North America, Asia and Europe
- Secure presence in the high-quality electrodes and Super-Size markets

Review of production system → Focus on 3 core markets → Focus on high-quality electrodes and Super-Size

* f=forecast

* ROIC (adjusted): ROIC adjusted after taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure

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# Growth through improved competitiveness

It is expected that 200,000 tons of additional demand for electrodes will be created by 2030, even excluding China. However, the industry is currently facing slow demand and excess capacity. We aim to bolster our competitive advantage through drastic structural reforms and maximize ROIC when the market is in a growth phase.

| | 2024 | 2025 | T-2026 |
|---|---|---|---|
| Business environment | Decline in global prices due to recent slowdown in demand and excess capacity | Crude steel and EAF steel return to growth trajectory | Share of global EAF steel expands<br>Demand for electrodes increases by approximately 100,000 tons<br>(compared to 2023; excluding China) |
| Structural reforms | ● Optimize electrode production capacity (reduce costs by improving capacity utilization)<br>● Reduce inventory by shortening the CCC (shorten process times)<br>● Secure market presence | | ● Establish a mass production system for Super-Size (lift weighting of electrode production capacity to over 50%)<br>● Demonstrate competitive advantage by securing high-quality needle coke<br>● Improve ROIC drivers |
| ROIC (Adjusted) | 2% | | 11% |

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# Reference | View of business environment

- Global EAF steel production remains almost flat, mainly due to a decline in the European market
- Excess Chinese electrodes caused by persistently low capacity utilization of EAF in China have flowed into Asia at low prices. Indian companies also followed suit, resulting in a sharp drop in prices.
- Demand for high-quality electrodes has waned in Europe, Asia and the Middle East. Prices continue to decline as a result of price competition, particularly in Europe.

## Slowdown in growth of EAF steel

EAF steel production has declined due to the spread of COVID-19 in 2020 and the subsequent Ukraine crisis in 2022, and excess electrode inventory has not been reduced.

## Excess electrode production in China

China's shift to EAF has not progressed as expected, resulting in an oversupply of cheap Chinese electrodes in the domestic market to flow into the Asian market, thus causing a slump in prices.

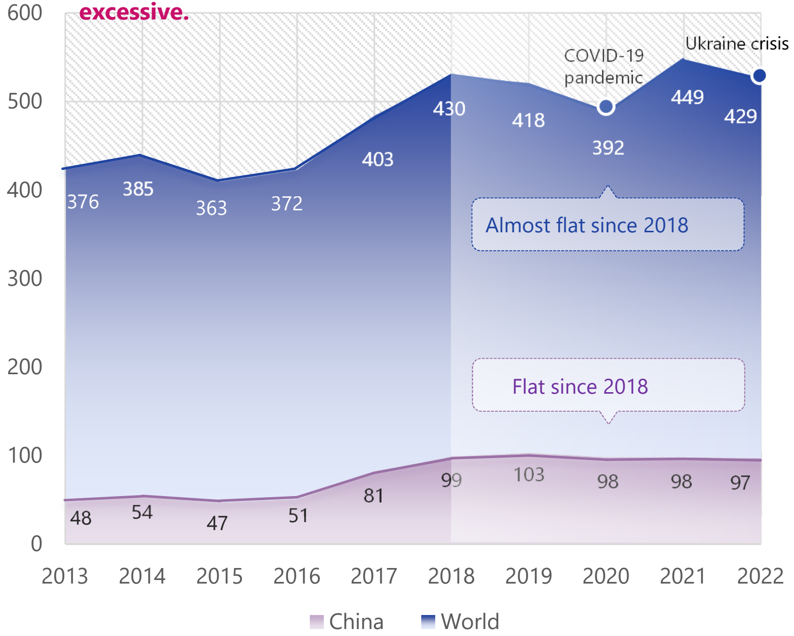
## Expanding presence of new players

While demand in the European high-quality electrode market has weakened, the Middle Eastern and Indian markets focusing on low-priced products have grown. Furthermore, surplus high-grade needle coke has been supplied to China and India, boosting the quality of Chinese and Indian electrodes.

# Reference | Trends in EAF steel production

## Global and Chinese EAF steel production (Million tons)

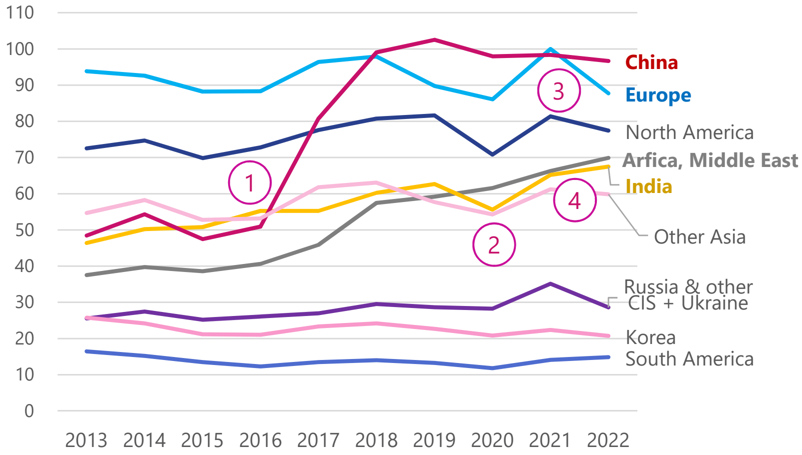
**Global EAF steel production has fallen due to the COVID-19 pandemic and the Ukraine crisis**
**Capacity utilization of EAF steel has not increased in China, causing electrode production capacity to remain excessive.**




Source: WSA

## EAF steel production by region (Million tons)

1. The use of low-grade steel was abolished in China in 2017, resulting in a sharp rise in EAF steel production. However, growth has not been seen since 2018, and the capacity utilization of EAF steel has not increased, causing excess production capacity for electrodes.
2. EAF operations stalled in various countries due to the 2020 COVID-19 pandemic.
3. Operations subsequently picked up, but the impact of the Ukraine crisis caused a significant drop in EAF steel production, especially in Europe.
4. On the other hand, EAF steel production continues to grow in India and the Middle East.




Source: WSA

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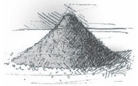
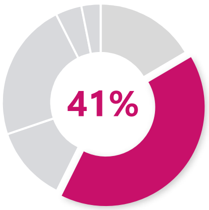
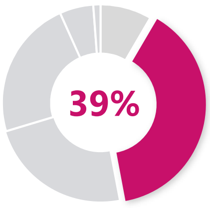


# Carbon Black

## Global tire production forecast to grow at an annual rate of about 3%, demand for carbon black to firmly expand




Net sales weighting (2023)




EBITDA weighting (2023)

| (Billion yen) | 2023 | 2024f | T-2026 |
|---|---|---|---|
| Net sales | 148.4 | 170.0 | 184.0 |
| Operating profit | 21.3 | 16.0 | 15.0 |
| ROS | 14% | 9% | 8% |
| ROIC (adjusted) | 12% | 7% | 6% |
| EBITDA | 29.3 | 26.0 | 32.0 |
| CAPEX | 27.2 | 29.0 | 11.0 |

### Business environment

**To steadily expand at an annual rate of 3%**

- Demand for new vehicles has recovered. Replacement tires for trucks and buses are going through inventory cutbacks.
- There are signs of inventory cutbacks for replacement tires ending. Demand for carbon black  expected to start matching actual demand in the future.
- Meanwhile, the supply of raw material oil is falling, making it more urgent to secure necessary volumes. This, along with logistics costs, will work to push up costs going forward

### T-2026 initiatives

**Generate stable profit**

- The introduction of environmental facilities at our U.S. plants was completed in 2023. We will strive to meet strong demand through stable operations.
- Operation of new plant in Thailand is expected from the end of 2025. We seek to establish a sustainable supply system by reducing environmental impact and improving productivity and quality.
- Our focus is on developing high-performance carbon black.

* f=forecast

* ROIC (adjusted): ROIC adjusted taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure

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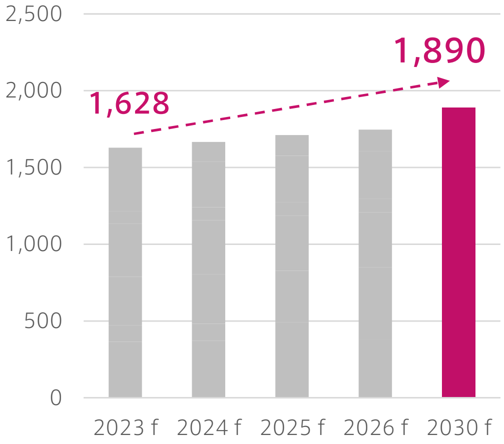
# Reference | Business environment for carbon black

Demand for replacement products is currently stagnant due to concerns over an economic recession. Tire manufacturers are temporarily curbing production to adjust their inventories.
However, the market is expected to maintain growth at an annual rate of about 3% in the medium-term and return to growth matching actual demand once inventory cutbacks end.

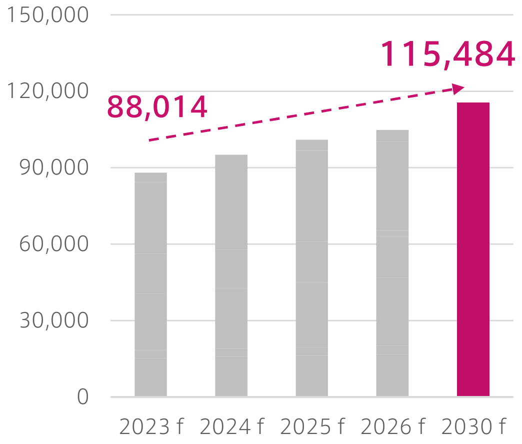
**The global number of vehicles owned will continue to increase 2% per year**

**Number of vehicles owned (Million vehicles)**



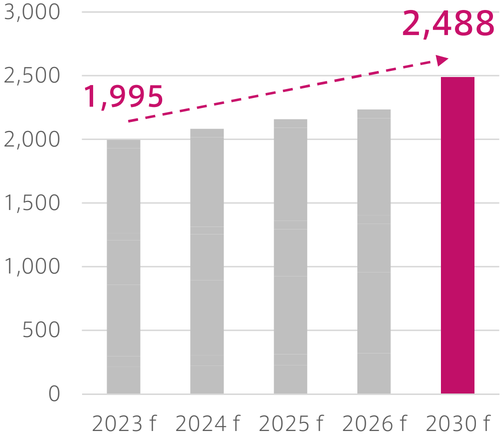

**The number of new vehicles sold has recovered It is expected to steadily grow 4% per year going forward**

**Number of vehicles produced (Thousand vehicles)**




**Tire production is projected to grow about 3% per year over the medium-term**

**Tire production (Million tires)**




Source: Notch Consulting, Inc.

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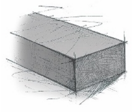
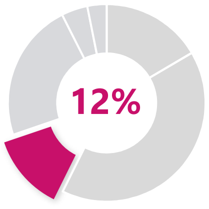
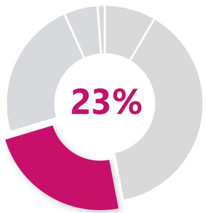


# Fine Carbon

We aim to capture increasing demand in the SiC semiconductor market. We will reduce dependence on solid SiC focus rings by expanding our distribution network and rolling out developed products.




Net sales weighting (2023)




EBITDA weighting (2023)

| | 2023 | 2024f | T-2026 |
|---|---|---|---|
| Net sales | 45.3 | 58.0 | 81.0 |
| Operating profit | 10.6 | 11.0 | 19.0 |
| ROS | 23% | 19% | 23% |
| ROIC (adjusted) | 21% | 19% | 26% |
| EBITDA | 17.7 | 21.0 | 30.0 |
| CAPEX | 10.6 | 30.0 | 7.0 |

## Business environment

### Strong demand for SiC semiconductors. Memory semiconductors to recover from 2nd half 2024

- The market of SiC semiconductors for power semiconductor applications is growing at 20-30% per year on the back of EV growth, among others. Demand for processed graphite products, SiC coated products and solid SiC products is strong.
- The memory semiconductor market should start to recover from the second half of 2024.

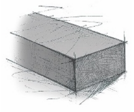
## T-2026 initiatives

### Expand sales for the SiC semiconductor market

- We will increase our capacity to manufacture products for SiC semiconductor manufacturing equipment ahead of schedule. We will make timely capital investments while monitoring the recovery of memory semiconductors and progress in the increase of demand for SiC semiconductor use going forward.
- Also, we will reduce dependence on solid SiC focus rings by expanding into derivative markets.

* f=forecast

* ROIC (adjusted): ROIC adjusted after taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure



# Major growth investments

A total of ¥30.0 billion will be spent on strategic and growth investments during T-2026 to secure production capacity and a distribution network to respond to expansion of the semiconductor industry market. In addition to increasing our production capacity for isotropic graphite materials, which will form the base of the investment plan, we will build a global supply structure for high-purity products and SiC products that are expected to grow.

## Growth investment plan

| Country | Investment overview | Related products | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|
| Japan | Boost capacity for isotropic graphite | ISO | Annual production of 8,000 tons → 9,400 tons | | 11,000 tons | Contribution to earnings (in stages) | |
| Japan | Boost capacity of CVD furnaces | solid SiC / SiC coated | Increase production capacity by 30% | | | Contribution to earnings | |
| South Korea | Boost capacity of CVD furnaces [existing plants] | solid SiC / TaC coated | Increase production capacity by 40% | | Contribution to earnings | | |
| South Korea | New plant construction | SiC related | | | Acquire land | Plant construction, CVD furnace investment | |
| China | New plant construction [relocation for expansion] | High-purity products / SiC related | Increase production capacity by 40% | | | | |
| U.S. | Expanding distribution network | Processed products / high-purity products | | | Expand the customer base | | |

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# Market expansion through enhancement of global manufacturing and distribution network

We will appropriately expand plant capacity in line with the rise in global demand, with an oversight function placed at the head office in Japan.
Each location aims to acquire new business through co-creation with customers, with the development base in Japan providing technical support for these efforts.

**Japan**

CVD

Head office

Oversight function
(Optimization of global management resources)

Tanoura Plant

Manufacturing of CIP materials, etc.

Chigasaki Laboratory

Group technology center

**North America** (Tokai Carbon USA)

CVD

**North America (MWI)**

Expand purification and machining capacity

Affiliated company accounted for by the equity-method

**Europe (U.K., Germany, France)**

(Extruded materials)

**China**

CVD

**South Korea**

CVD

Enhancement of CVD and processing capacity

Korean plant with the industry's largest class and most advanced CVD facility capacity

| | |
|---|---|
| Production capacity | 9.4 thousand tons/year (CIP materials) |
| Sales | Global sales for semiconductor, solar cell and genera industry |
| Employees | 970 (including contract workers) |

As of December 31, 2023

Materials | Processing | Purification furnace | CVD CVD

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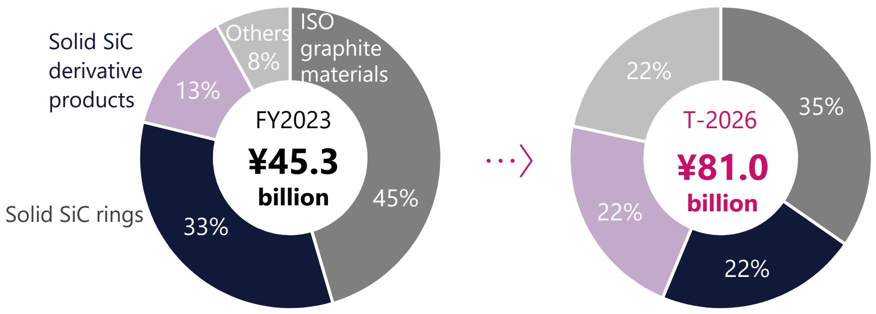
# Reference | Growth outlook

We will eliminate our heavy dependence on solid SiC focus rings ("solid SiC rings") handled by Tokai Carbon Korea (TCK), by expanding businesses for SiC semiconductors and optimizing our product portfolio.

## Breakdown of net sales by product

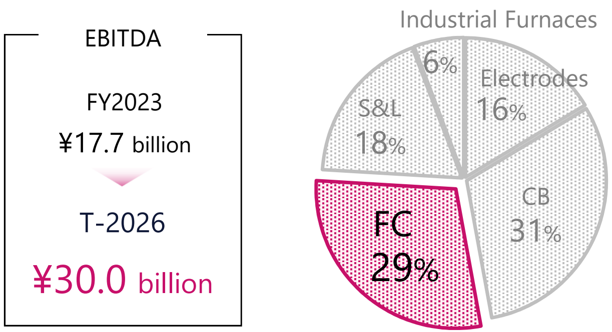
**Reduce dependence on solid SiC rings with the expansion of solid SiC derivative products**




Solid SiC rings accounted for the majority of net sales before the slump of the memory semiconductor market, but this weighting dropped to 33% in fiscal year 2023 due to the sales decline for memory applications. By expanding products for SiC semiconductors, we will maintain a healthy product portfolio even in 2026 after the semiconductor market recovers.

## Breakdown of EBITDA by segment (T-2026 vision)

**Driving the Group's EBITDA as a growth business**




We will bolster global production capacity and enhance our distribution network on the back of high growth of the SiC semiconductor market. In T-2026, the Fine Carbon business will drive group earnings, making an EBITDA contribution similar to that of the Carbon Black business.

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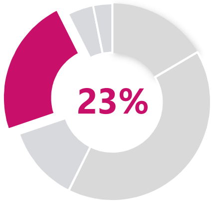
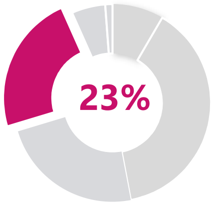
# Smelting and Lining

2024 will be a challenging year due to an overlap of downcycles for cathodes and carbon electrodes and persistently high energy costs in Europe.
Both cathodes and carbon electrodes should enter an uptrend from 2025.




Net sales weighting (2023)




EBITDA weighting (2023)

| (Billion yen) | 2023 | 2024f | T-2026 |
|---|---|---|---|
| Net sales | 82.8 | 67.0 | 83.0 |
| Operating profit | 2.3 | (6.0) | 4.0 |
| ROS | 3% | - | 5% |
| ROIC (adjusted) | 14% | 6% | 14% |
| EBITDA | 17.4 | 9.0 | 19.0 |
| CAPEX | 8.3 | 5.0 | 3.0 |

## Business environment

**The cathode replacement cycle is reaching a bottom despite the ongoing growth of aluminum**

- 2024 should mark the bottom of the cathode replacement cycle for aluminum smelting furnaces.
- Carbon electrodes for silicon metal smelting remain weak due to a decline in memory semiconductors. A recovery is expected from the second half of 2024.
- Persistently high energy costs at our European plants are also a negative factor.
- Furnace lining blocks remain firm.

## T-2026 initiatives

**Utilize swing capacity and roll out RuC**

- Optimization of products produced at each plant based on marketing data
- Achieve mass production of RuC® (cathodes with reduced environmental impact)

Carbon electrodes ↔ Furnace lining blocks ↔ Cathodes

Utilizing swing capacity means optimizing production according to product demand by repurposing production facilities to manufacture other products.

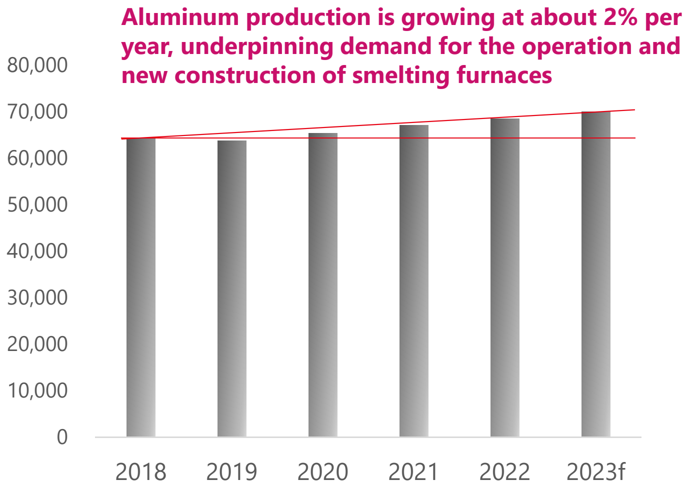
* f=forecast * RuC ® stands for “Ready to use Cathode” and refers to a patented cathode product that reduces environmental impact.

* ROIC (adjusted): ROIC adjusted after taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure

# View of demand picture for aluminum and cathodes

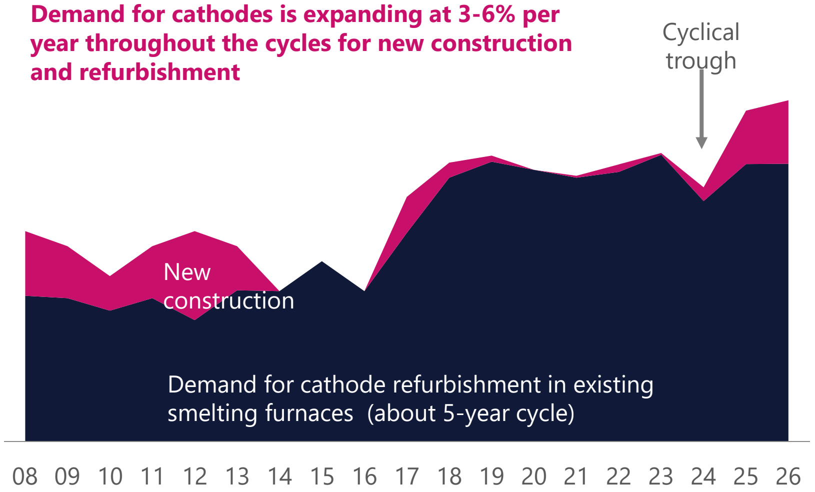
Cathodes are currently going through a refurbishment downcycle, but demand for the new construction and refurbishment of smelting furnaces will drive growth over the medium- to long-term.
Since the start of 2024, carbon electrodes have been experiencing inventory cutbacks, and are not expected to recover until the second half of the year and beyond. Furnace lining blocks remain strong.

**Production volume of primary aluminum (Thousand tons)**




Source: International Aluminium Institute and Tokai Carbon’s estimate

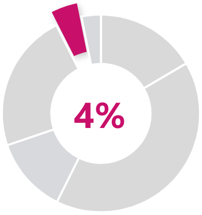
**Demand cycle for graphitized cathodes (excluding China)**



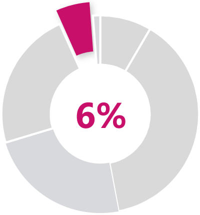

Source: Tokai Carbon’s estimate based on client information

# Industrial Furnaces and Related Products

Gradual recovery expected going forward following the end to inventory cutbacks of MLCC (Multi Layer Ceramic Capacitors) .




Net sales weighting (2023)




EBITDA weighting (2023)

| (Billion yen) | 2023 | 2024f | T-2026 |
|---|---|---|---|
| Net sales | 15.6 | 17.0 | 25.0 |
| Operating profit | 3.9 | 4.0 | 6.0 |
| ROS | 25% | 24% | 24% |
| ROIC (adjusted) | 28% | 24% | 28% |
| EBITDA | 4.2 | 4.0 | 6.0 |
| CAPEX | 0.7 | 2.0 | 0.0 |

## Business environment

**Gradual recovery following bottoming-out of MLCC downcycle**

- Inventory cutbacks have run their course in the electronic component (MLCC) market recently, but orders are slow to recover
- Products for electronic components are expected to grow 5-10% per year until 2026, backed by the spread of 5G, EV, and automated driving. Products for battery materials such as LiB are projected to grow 20-30% per year by 2026 due to the accelerated shift to EVs.

## T-2026 initiatives

**Expand production volume Establish new products and technology**

- Enhance facilities in response to the expansion of the face-to-face market that is growing 10-30% per year
- Build a base for entering the growing North American LiB market
- Launch new types of heating furnaces and establish a mass production system for EREMA heating elements as a stepping stone for sustainable growth with an eye toward 2030

* f=forecast

* ROIC (adjusted): ROIC adjusted after taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure

# Reference Material

Measures to achieve management that is conscious of cost of capital and stock price

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# Analysis of current conditions

## View of current conditions

### Market valuation

- The stock price has been hovering around ¥1,100- ¥1,300 since 2018, and is currently stagnant
- PBR has been below 1x since 2022

### Profits and return on invested capital

- Increases in net sales and operating income in 2021-2022
- An increase in net sales but a decrease in operating income in 2023
- ROE and ROIC are correlated with financial results
- ROIC exceeds the cost of capital (WACC)
- We have identified the cost of capital from multiple perspectives

## Assessment

- The Graphite Electrodes business, which was previously driving the entire Group's net sales and operating income in 2018-2019, turned down due to deteriorating prices starting in 2020 and posted operating loss for two consecutive fiscal years. The business subsequently turned a profit but could not deliver results exceeding market expectations.
- Meanwhile, as we took steps to optimize our business portfolio, businesses including Carbon Black, Fine Carbon, Smelting and Lining, and Industrial Furnaces grew. As a result, the Group as a whole recorded higher net sales and operating income in fiscal years 2021-2022 and steadily secured ROIC higher than the cost of capital (WACC) until 2023, transforming into a structure that allows the Company as a whole to continue growing.
- However, PBR has been below 1x since 2022, and the stock price has stagnated at around ¥1,000-¥1,100.
- As the Graphite Electrodes business left a strong impression due to its boom in 2018-2019, we could not shake off our image as an "electrode company" even after optimizing our business portfolio. Too much focus was placed on the slump of the Graphite Electrode business, and the enterprise value might have been discounted as a result.
- Furthermore, it is hard to say that the growth stories of Carbon Black, Fine Carbon, and Industrial Furnaces have been sufficiently valued by the market.
- As the downcycles of Graphite Electrodes, Fine Carbon, Smelting and Lining, and Industrial Furnaces overlapped, the revenue expansion of Carbon Black was not sufficient, resulting in a year-on-year increase in net sales but a decrease in operating income for the Group as a whole in 2023. However, we secured ROS of 11% and adjusted ROIC-WACC of 7%.

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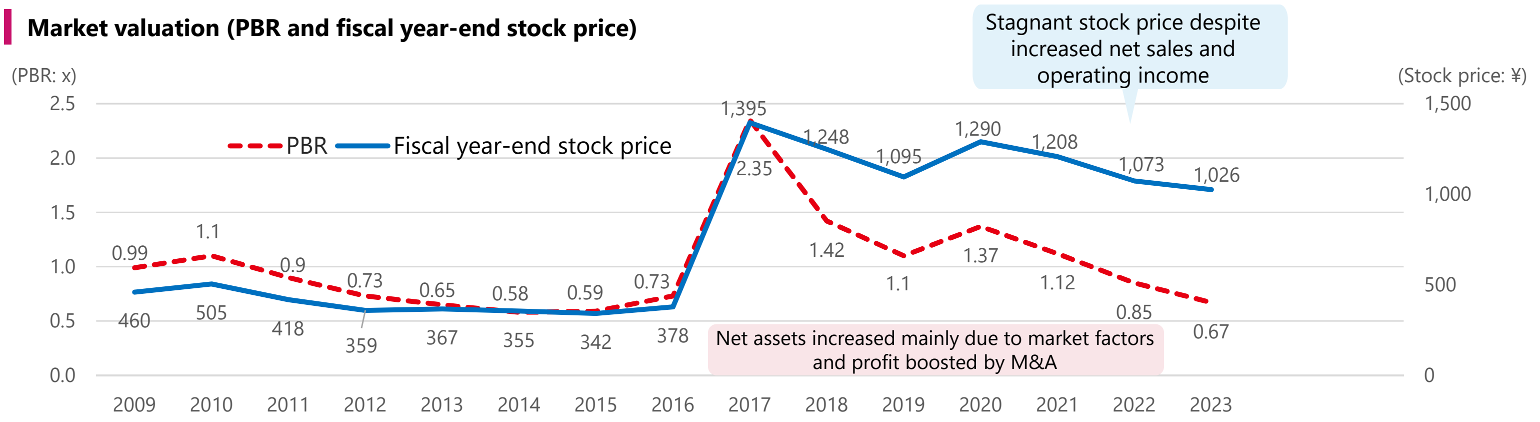
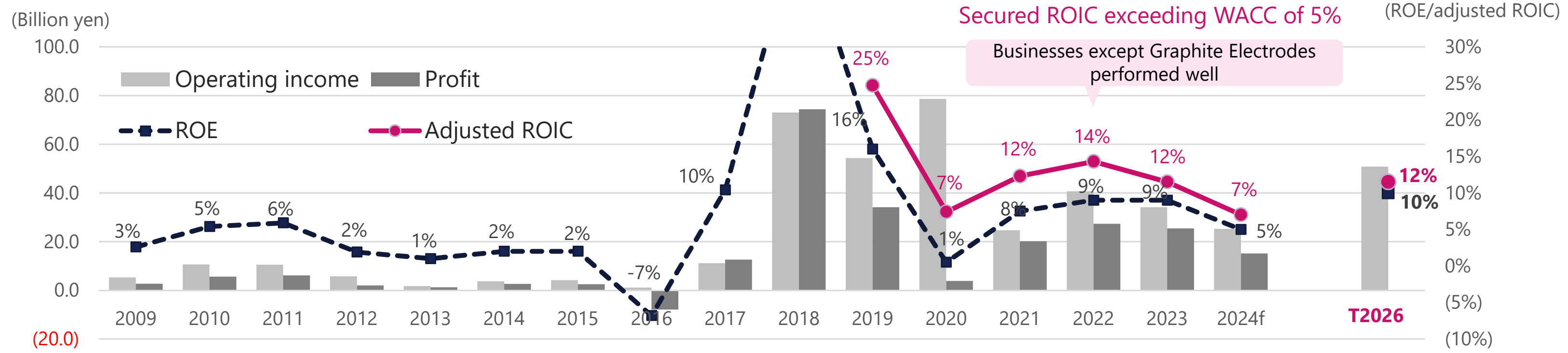
# Reference | Analysis of current conditions

## Market valuation (PBR and fiscal year-end stock price)




## Profits and return on invested capital (operation income/profit, ROE/adjusted ROIC)




* Adjusted ROIC: ROIC adjusted after taking into account goodwill and goodwill amortization. * CAPEX: Capital Expenditure

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# Measures

Appropriately allocate management resources and strive for a return greater than invested capital to improve ROE.
Reduce financial and business risks and facilitate dialogue with the market about medium- to long-term growth plans to lower the cost of capital

**PBR** $\frac{\text{Market cap}}{\text{Net assets}}$ = **ROE** $\frac{\text{Profit}}{\text{Net assets}}$ X **PER** $\frac{\text{Market cap}}{\text{Profit}}$

$$= \frac{1}{\text{Cost of equity} - \text{Anticipated growth rate}}$$

**Value creation story** →p.6

**T-2026 targets**

| | |
|---|---|
| EBITDA growth rate: | 13% (annualized rate) |
| EBITDA margin: | 23% |
| ROIC*-WACC | 7% |

- Growth scenario →p.19, 20
- Use of funds →p.21, 22
- Business strategy →p.29-42

**Reduce cost of capital and raise anticipated growth rate**

- Consideration of optimal capital structure →p.23
  - Reduction of financial risks (credit rating of A or above)
  - Reduction of business risks
- IR: Timely and reliable information disclosure and dialogue →p.47
- Stable and continuous dividends →p.24
- Sustainable growth strategies
- ESG initiatives →p.28
- Investment in non-financial capital
(R&D, intellectual property, human resources, ICT)

＊ROIC uses adjusted ROIC that takes in account goodwill and goodwill amortization.

TOKAI CARBON

# Reduce the cost of equity by enhancing dialogue with the stock market

We engage in IR activities under the 2 priority themes of 1) Reduce information asymmetry with timely and appropriate information disclosure in mind, and 2) Facilitate dialogue with shareholders and investors and reflect their feedback in management.

## Achievements for fiscal year 2023

| Event | Achievement | Description |
|---|---|---|
| Financial results briefing for institutional investors and securities analysts | Quarterly | Held briefings led by the president and the officer responsible for the accounting & finance department to explain financial results and future outlooks. These briefings followed by a Q&A session, were streamed live and recording posted. |
| Small-group meetings hosted by securities analysts | 4 times | Attended by the president. Had dialogue with institutional investors about our management policy, business strategy, business environment, etc. |
| Individual dialogue with institutional investors and securities analysts | 193 times | President: 21 times (including overseas roadshows and attendance at conferences)<br>IR officer: 172 times (all IR meeting minutes were shared in a timely manner with all members of the management team) |
| Briefing for securities analysts hosted by the Company | Annually | The president, the officer responsible for the accounting & finance department, and general managers of all business divisions gathered together for an exchange meeting with several securities analysts |
| Small-group meeting hosted by the Company | 1 time | Attended by the president and general managers of business divisions. We held a "Fine Carbon Small-group Meeting" in fiscal year 2023 and published the video (recording) and materials on the Company website |
| Participation in fairs for retails investors | 1 time | Hosted a booth at the Nikkei IR Retail Investor Fair. Participated with general affairs divisions (IR/ESG) taking on a central role |

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# Disclaimer regarding forward looking statements

- Forward-looking statements in this document are based on information obtainable at the time this document was published and assumptions as of the date of publication concerning elements of uncertainty that could affect future earnings.

- Actual results may differ substantially, depending on various future factors. Factors that affect business performance include, but are not limited to, economic conditions, trends in product demand and market prices, and fluctuation in exchange rates.

- The quantitative goals, reference values, investment amounts, and other numerical goals in this document only express the medium-term strategy and vision of the company; they are not performance forecasts. The company is not obligated to update such information.

- Please see the disclosures in the Consolidated Financial Results for the official earnings forecast, based on the rules of Tokyo Stock Exchange, Inc.

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