Business Strategy

Carbon Black

Operations

Carbon black is used in most black rubber products as a rubber reinforcing agent. Approximately 70% of the use is for tires. Adding carbon black to rubber reinforce its strength. Carbon black is an important raw material that accounts for nearly 30% of the weight of tires. Our four manufacturing bases in Japan, Thailand, America, and Canada support tire production throughout the world.

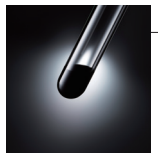
Product Breakdown (2023)

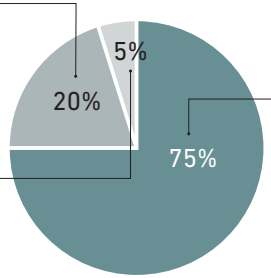
Industrial rubber products

Carbon black is also utilized in reinforcing materials, such as the rubber used in automotive engines.

Inkjet printers and other applications

We have also developed and commercialized carbon black for inkjet printers (Aqua Black)®.





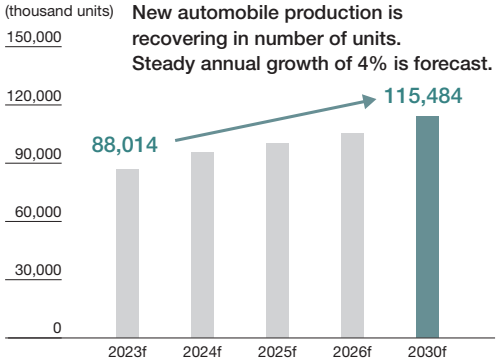
Tires

Carbon black mixed into rubber increases tire strength.

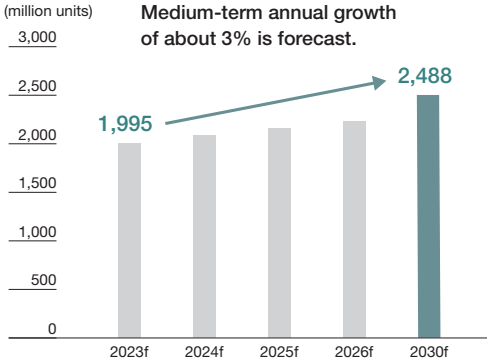
Market environment

Carbon black demand is mainly driven by the tire production since 70% of the aplication is for tire. Tire demand is categorized into tires for new vehicles and aftermarket (replacement) tires, and the combined growth is expected to around 3% per annum. Tire manufacturers are currently lowering the production of replacement tires due to concerns of an economic recession, but forecasts anticipate a return once the inventory adjustments are completed aligned with the growth of actual demand itself.

Automobile production



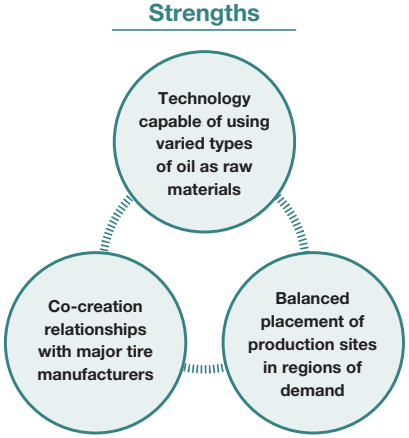
Tire production



Source: Notch Consulting, Inc. *f = forecast (outlook)

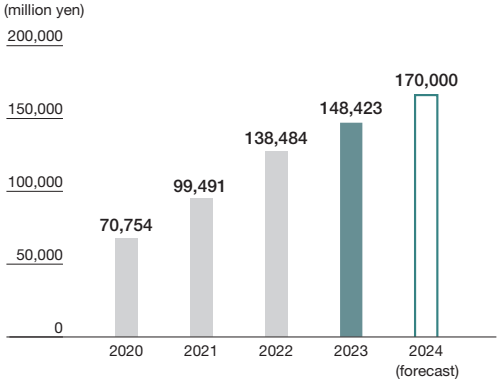
Our strengths

Pitch oil is a by-product from producing pitch coke for the raw materials of electrodes. Carbon black finds its origins in efforts to figure out ways to use pitch oil, which is the heaviest tar oil. Ever since Tokai Carbon successfully manufactured carbon black for the first time in Japan, we have mastered and amassed technologies to refine various types of oil into raw materials. Today, this is the foundation that gives us a competitive advantage. Our strength is a global expansion founded in trusting relationships with our customers. This has given us a network of production sites for local production and consumption in markets bringing together major tire manufacturers. Our unique precision control founded in the data and expertise that we have gained has captured the attention of the world.

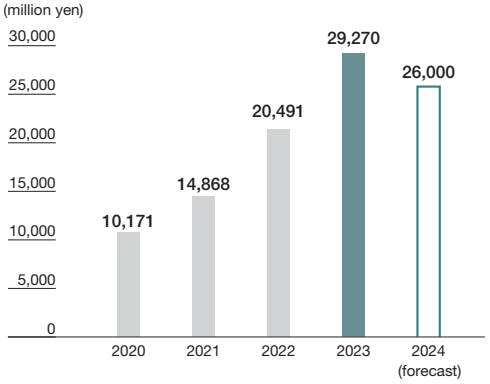


Earnings summary

Net sales



EBITDA



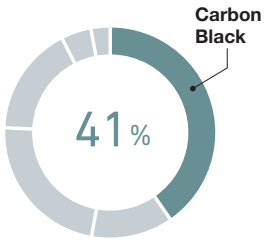
Medium-term Management Plan “T-2026”

Large price increases primarily in United States markets in 2023 have fostered growth in businesses that can secure profits. As forecasts estimate ongoing growth in the tire industry, the barrier to entry has been the large costs of supporting environmental equipment. We expect demand for carbon black tires will continue to grow. Until 2023, our operating rate was unstable due to the spread of COVID-19, the impact of cold waves at our U.S. bases, and production adjustments due to the introduction of large-scale equipment for environmental reasons. Our basic policy will be stable operations from 2024. Necessary maintenance investments will help us respond to the tremendous tire demand. In addition, from the perspective of sustainability, we are preparing our own land with room for expansion for our manufacturing base in Thailand, and we are planning to relocate and start operations at the end of 2025. We aim to reduce our environmental impact and improve productivity and quality as soon as possible.

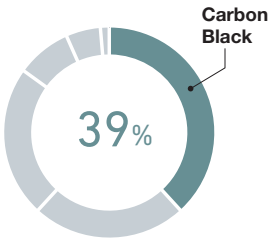
Our technological development will strive to develop highly functional carbon black to contribute from a material standpoint toward guaranteed tire quality, which gives the world-leading tire manufacturers who are our customers a competitive advantage in development. We will drive forward the development of products that anticipate the elements necessary for the tire performance of electric automobiles, which will grow in popularity. Internal and external cooperation efforts will research how to reuse spent tires and reduce CO_2, which will in turn help realize a recycling-oriented society.

Performance metrics

Net sales composition (2023)



EBITDA composition (2023)



	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

(billion yen)

Business risks and opportunities

RISK / Chance

- Global tire production annual growth rate of 3%
- Strengthening of concerns about tighter supplies of raw materials
- Expansion and acceleration of environmental initiatives

Medium-term Management Plan “T-2026”

- Facility renovation investment to ensure stable production and reliable supply
- Securing of required amounts of raw oil; passing on of cost increases to selling prices
- Technology development aimed at a recycling-oriented society

COLUMN

Adoption of Production Equipment to Lower Environmental Impacts

The global tire industry is expected to grow about 3% per annum, which will also steadily increase the demand for carbon black. The Tokai Carbon Group subsidiary Tokai Carbon CB. Ltd. (TCCB) is a carbon black manufacturing base located in America alongside the major tire manufacturers. While the demand is extremely high in America, it also has very strict environmental regulations. The number of production bases is limited as the industry shutters carbon black plants that have been unable to satisfy these environmental standards. In this business environment, TCCB actively invested in environmental equipment to completely renew its production facilities. This facility began operations in 2024. Our stable production system will satisfy the tremendous demand in America.

Points of Sustainability at Tokai Carbon CB Ltd. (TCCB)

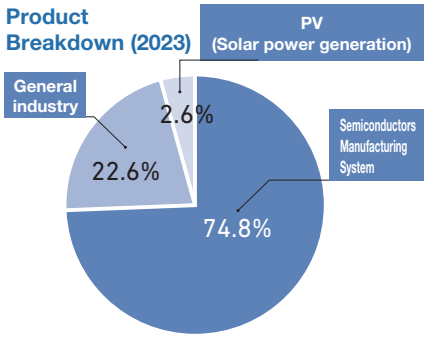
- point 1: Significantly reduced emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2) generated during the manufacturing process
- point 2: Introduced a system that generates electricity using waste heat produced in plant
- point 3: Improved production efficiency, safety and quality

Fine Carbon

Operations

Fine carbon is a material intended to respond to the intricate needs of semiconductor manufacturing and other such fields which is illustrated by materials like the special carbon materials evolved from the pursuit of an ideal raw material blend or super high-purity silicon carbide (SiC). Although opportunities to see these materials first hand are rare because each is used in manufacturing processes for various products, the comforts of our modern lifestyle from smartphones to satellites would not be possible without fine carbon. Fine carbon has a broad range of applications. The most common application for our products is in the semiconductor market, which makes up over 70% of our total sales. These products are essential to various processes throughout the value chain, such as semiconductor single crystal silicon ingot pullers or semiconductor manufacturing equipment.

Product Breakdown (2023)



Face-to-face markets

- Memory logic semiconductors
- Power semiconductors
- PV (photovoltaic generation)
- General industry

Our strengths

Only a few manufacturers worldwide are able to produce high-quality special carbon products. Our technological capabilities are at the top of the industry. This technological prowess is the foundation of our strength and has earned us more than half of the market share in solid SiC. The carbon black material first mass produced at a plant in Japan provides the ideal specifications for customer applications in Japan and the rest of the world. Our manufacturing and sales network covers the demand in each region worldwide and responds to customer needs through a diverse product lineup. Our process to co-create and develop necessary new things with our customers has expanded our business regions while building trusting relationships. This level of passion and technological expertise has a synergistic effect that gives us a competitive advantage.

Strengths

Market environment

Forecasts anticipates the size of the market to shrink compared to 2023 in light of the fall in demand for computers and smartphones. The growth trajectory is expected to recover after 2024 and grow into a $1 trillion market by 2030.

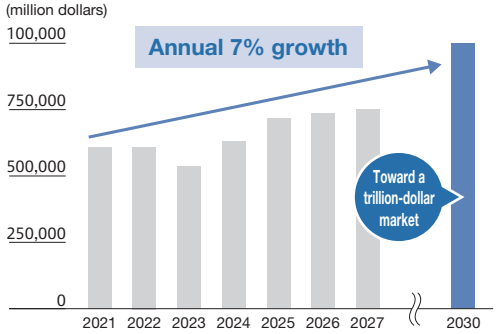
The outlook also anticipates an increase in the demand for power semiconductors for renewable energy, electric vehicles, and appliances. SiC semiconductors in particular will see a rise in inverter applications for electric automobiles. We expect the market to roughly double by 2025 and about quintuple by 2030. (VS 2022)

Average growth rate up to 2030 (estimate by Tokai Carbon)

Si semiconductors	CAGR	4%	
SiC semiconductors	CAGR	21%	

* CAGR is an acronym for compound annual growth rate (2022-2030).

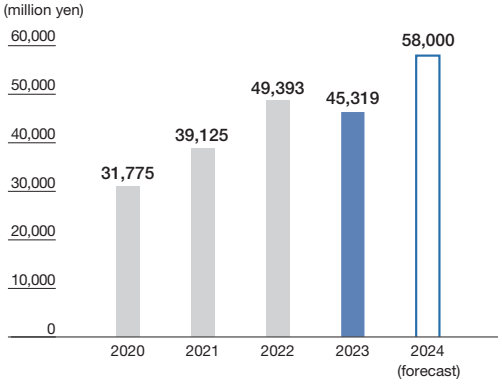
Growth outlook for semiconductor market



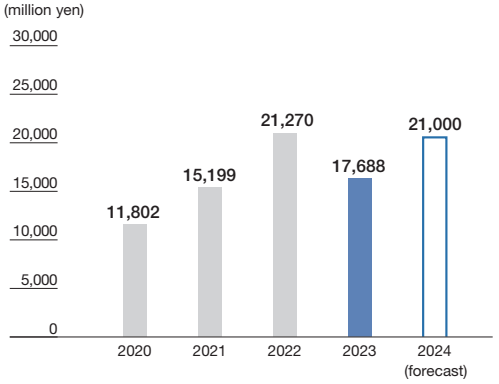
The semiconductor market should continue to grow in every field from AI/data technologies, communications, and automobiles to industrial electronics and appliances.

Earnings summary

Net sales



EBITDA

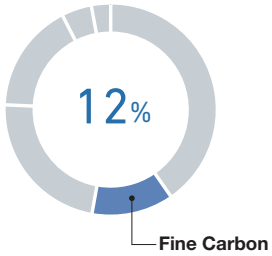


Medium-term Management Plan “T-2026”

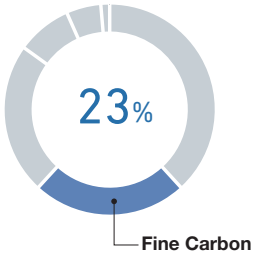
We have the top market share in solid SiC and have acquired an overwhelming share of focus rings used for etching systems in upstream semiconductor manufacturing processes as the pioneer who successfully commercialized the first in the world. Focus rings positioned around the semiconductor wafers inside etching systems concentrate the plasma on the wafer to protect equipment from the plasma. State-of-the-art equipment consisting of circuits etched deep with 3D-NAND or other stacked architecture that have numerous layers often use solid SiC focus rings, which are largely responsible for the success of our fine carbon business. The T-2026 highlights the SiC power semiconductor market as one expected to see significant growth. We will generate sustainable growth and optimize our product portfolio by distributing the dependency on solid SiC focus rings. We will carry out a total of 30 billion yen in strategic and growth investments during the T-2026 plan to secure the technological capabilities necessary to grow the semiconductor market. In addition to reinforcing its technological base in isotropic graphite materials, Tokai Carbon will put in place a global supply and sales system for the high-purity and solid SiC products expected to evolve. In the final year of the T-2026, our targets aim to double sales and increase the EBITDA to about 1.8 times by 2026 (VS 2023 results).

Performance metrics

Net sales composition (2023)



EBITDA composition (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

(billion yen)

Business risks and opportunities

RISK / Chance

- Inventory adjustment in memory semiconductor market
- Rapid expansion of the SiC semiconductor market (20% annual growth)
- Outlook for growth of the semiconductor market in the medium to long term

Medium-term Management Plan “T-2026”

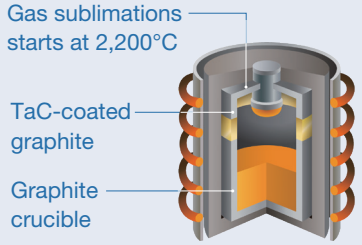
- Reduction in dependence on solid SiC Focus Rings for memory
- Increased production capacity for graphite materials
- Investment in increased production of products for SiC semiconductor manufacturing equipment
- Strengthening of global manufacturing and sales network

COLUMN

Contributing to the Advancement of Power Semiconductors through Super High-purity Fine Carbon Materials

Power semiconductors are necessary to power conversion and benefit everything from electric vehicles and appliances to power transmission systems and trains. A technological revolution is also happening in this market. This is especially true with the broader adoption of SiC semiconductors as next generation components necessary to reduce not only weight and size but also the time required for charging demanded of EV batteries. Manufacturing systems for SiC semiconductors need high-quality materials that can withstand even higher temperature regions than standard semiconductor production processes. We have developed and are providing tantalum carbide (TaC) coated products offering superior heat resistance. Only a few manufacturers in the world can supply these types of high-quality materials that contribute to technologies and solutions.

SiC single crystal manufacturing system (sublimation)



The system injects high-purity powdered SiC into the bottom of the graphite crucible, heats and sublimates it at a high temperature to grow SiC single crystals under the seed crystals at the top of the crucible.

Smelting & Lining

Operations

The Smelting and Lining business consists of three main products. Cathode blocks are used as negative electrodes (cathodes) in the aluminum electrolysis cells to produce aluminum from alumina. Furnace lining plays an important role as a refractory material in the lining of the blast furnaces that melt iron ore to produce pig iron. Carbon Electrodes are used as electrical current conductors in submerged arc furnaces (SAFs) for production of silicon metals, ferroalloys, phosphorus, lead, nickel, copper and recycling applications. We supply these three products throughout the world according to demand from four production sites based in Europe.

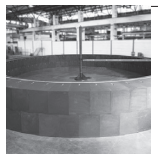
Product Breakdown (2023)

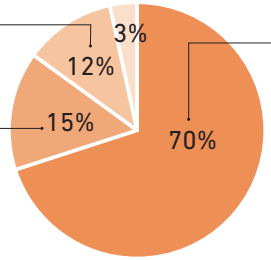
Carbon Electrodes

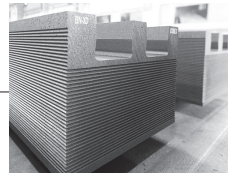
Carbon Electrodes are used as electrical current conductors in submerged arc furnaces (SAFs) for production of silicon metals, ferroalloys, phosphorus, lead, nickel, copper and recycling applications.

Furnace Lining

Blast furnaces use these blocks as a refractory material in the lining. It is used in places that have a high temperature load inside the blast furnace. Tokai Carbon holds the top share in the industry.







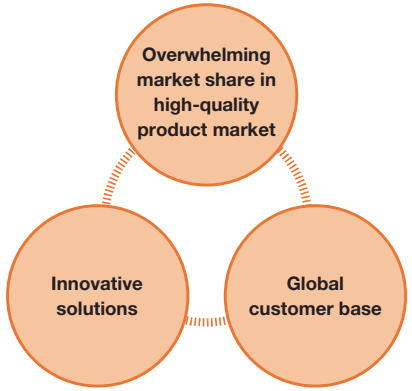
Aluminum electrolysis cathodes

The cathodes are laid in the bottom of electrolysis cells for primary aluminum production, of which Tokai Carbon is a leading supplier.

Our strengths

Our strengths are represented by our "overwhelming market presence and intelligence (information gathering capability)" that we have built over our long history. We have the world's top share of the cathodes and furnace lining markets, and carbon electrode now holds the top market share, surpassing a Russian company, and are leaders for innovative solutions and technologies. In particular, the performance and reliability of our aluminum electrolysis cathodes and furnace linings are key, as they are used continuously for many years as important components of furnaces. Another competitive advantages is our established organizational culture, allowing us to immediately apply front-line sales information to our production and sales strategies, making it difficult for others competitor to imitate.

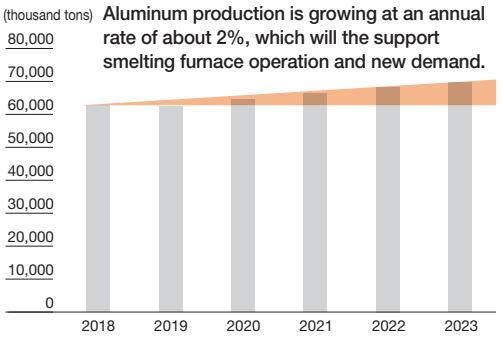
Strengths



Market environment

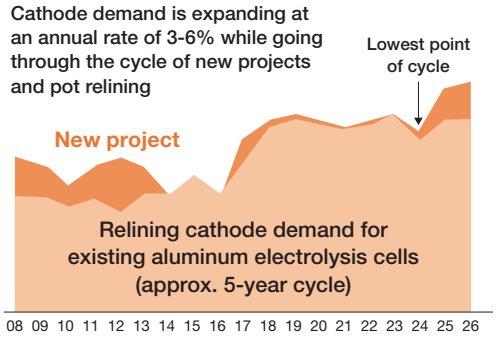
Aluminum production, which influences the demand for cathodes, is forecasted to grow 2-3% per annum, supporting the cathode demand. However, since the relining cycle of cathodes in electrolysis cells are about five to six years, short-term demand for cathodes are influenced by new investment projects of the aluminum smelters and its relining schedule. Year 2024 will be in the down cycle of this relining, thus we are expecting a decrease of cathodes demand. Demand of furnace lining depends on relining cycle of blast furnace averaging around 15-25 years, and in 2024, firm demand for furnace linings is expected. As for the carbon electrodes, the demand is expected to gradually improve from the second half of 2024 due to the expectation of recovery in the silicon metal production.

Primary aluminum production volume



Source: International Aluminium Institute and estimate made by Tokai Carbon

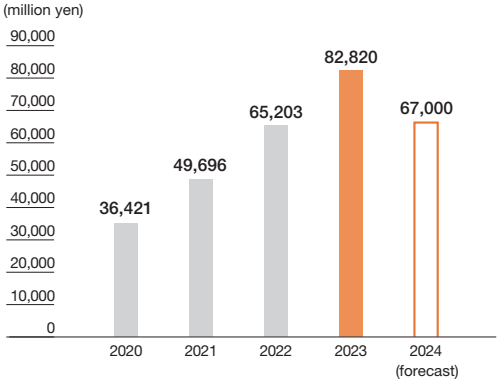
Graphitized cathode demand cycle (excluding China)



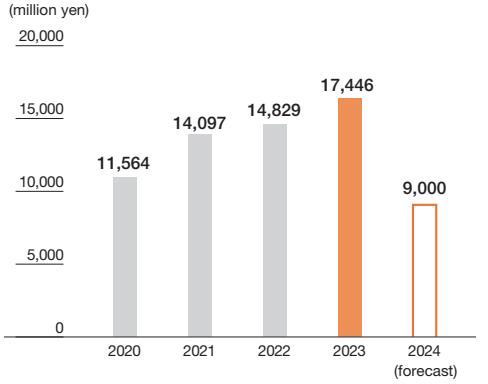
Source: estimates based on Tokai Carbon customer data

Earnings summary

Net sales



EBITDA

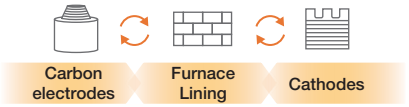


Medium-term Management Plan “T-2026”

Year 2024, which is the first year of the T-2026 plan, began in a very harsh business environment. There are two manufacturing sites each in Poland and France, which had a competitive advantage in terms of energy and labor costs. However, the situation has changed dramatically after the conflict between Ukraine and Russia began, increasing energy costs in Europe. In addition to energy price remaining high and profits deteriorating, pot relining cycle also hit the bottom in 2024, therefore sales volume and price adjustments are anticipated. While the outlook expects profits in terms of EBITDA, we foresee a deficit in 2024 in terms of the operating profit due to heavy goodwill amortization and other depreciation. Tokai Carbon will optimize manufacture products to reduce production costs during this time to encourage growth in 2025 when the demand for cathode recovers. What is expected as mid-term outlook is to fully develop RuC® as a next-generation cathode that reduces the environmental impact. We will build a mass production system over the three-years of the mid-term plan and further solidify our presence in the market to enhance our sustainability of our business.

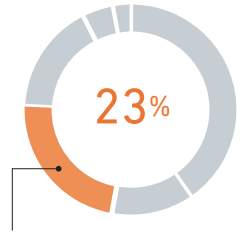
Usage of swing capacity

Swing capacity optimizes production according to demand by diverting and adjusting production capacity to other products.

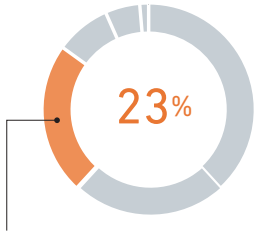


Performance metrics

Net sales composition (2023)



EBITDA composition (2023)



	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

(billion yen)

Business risks and opportunities

RISK / Chance

- Bottom of the cathode relining cycle for cathodes
- Adjustment in customer inventories of carbon electrodes due to weak demand-supply balance
- Energy costs remaining high at European sites
- Firm demand for furnace lining

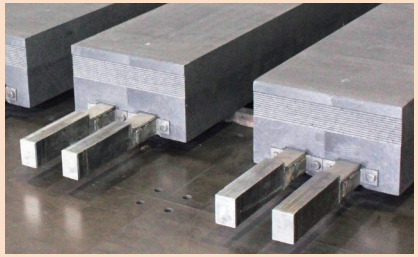
Medium-term Management Plan “T-2026”

- Maintenance and enhancement of market presence
- Optimization of manufactured products through swing capacity
- Proliferation of next-generation cathodes that mitigate environmental impact

COLUMN

Strategic product for aluminum electrolysis cathode RuC®

We developed RuC® as a next-generation ready-to-use cathode product. Ready-to-use means that the product is delivered with collector bar already mounted to the cathode so that customers no longer need to cast collector bars on their own. A ready-to-use product mitigates the risks associated with dangerous casting work and reduces the costs as well. RuC® uses copper collector bar which improves the conductivity and reduces power consumption about 3% compared to conventional products. This next-generation product will significantly reduce the environmental impact by lowering the energy consumption of electrolytic cells.



* RuC® is abbreviation for 'Ready-to-use Cathode', which is a patented product that reduces the environmental impact.

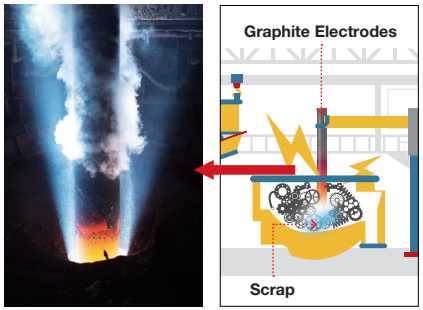
Graphite Electrodes

Operations

Graphite electrodes are used as conductors for electric arc furnaces (EAF) that recycle steel frames and other metal materials by melting iron scrap. The material “graphite” is used as a material due to its high electric conductivity and superior heat resistance. It is used in the furnaces at around 1,600°C and the temperature at the tip of electrode will reach above 3,000°C. Graphite electrodes are consumed from the tip and get shorter during use with 1.7kg of vaporization per ton of steel production. We are supplying high-quality graphite that has lower consumption rate to the EAF around the world for more than 100 years.

Graphite electrodes melt scarp in EAF by arc discharge

Need to consume 1.7kg of electrode to produce one ton of steel

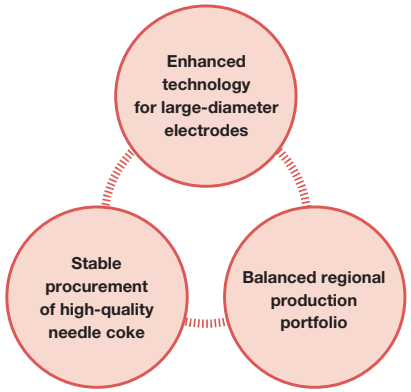


Electrode manufacturing process and usage (movie):
https://www.tokaicarbon.co.jp/en/products/graphite/

Our strengths

As the pioneer of graphite electrodes, Tokai Carbon leveraged its technological prowess to establish the first technology in Japan to produce 24-inch electrodes and the world’s largest 32-inch diameter electrodes afterwards. These initiatives were backed by our long-term co-creation acitivity with raw material suppliers and customers to create a reliable high quality graphite electrode with less trouble and consumption. In 2005, we included our German base and in 2017, our U.S. base in the group. We have been sharing the technical expertise that each has developed over its long history, and still today our technological capabilities and quality are kept on being refined. The well-balanced worldwide production location covering the three major markets of Asia, Europe, and North America, allow us to build trust between customers in the light of stable business foundation and diversification of regional risks.

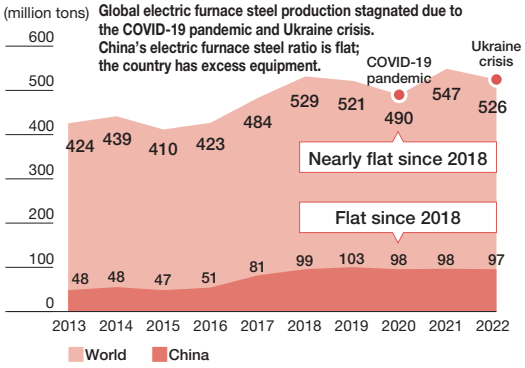
Strengths



Market environment

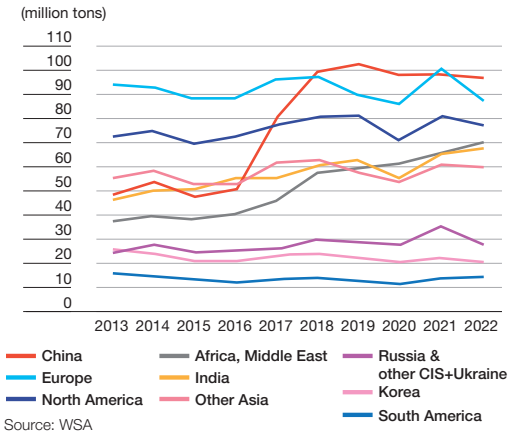
The demand for electrodes slowed down with the global stagnation of EAF steel production due to the COVID-19 pandemic in 2020 and the Ukrainian crisis in 2022. Use of the surplus electrode inventory and the shift of production from blast to electric arc furnaces in China did not realized. Without an increased utilizaton of EAFs in China, the expanded capacity of graphite electrode induced the influx of cheap Chinese graphite electrodes to the Asian market. This triggered the downturn of global graphite electrode market. The shift from blast to electric arc furnaces will expand the graphite demand in a long run although, the business environment will remain challenging in the short term.

Electric furnace steel production, global and China



Source: WSA

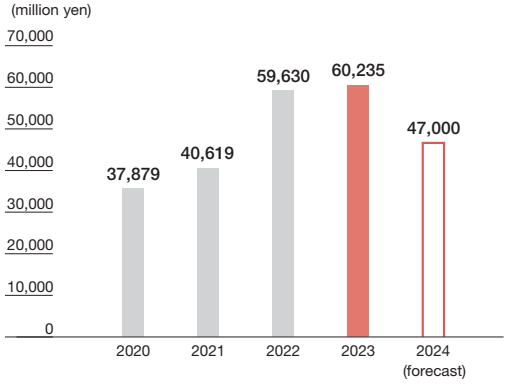
Electric furnace steel production by region



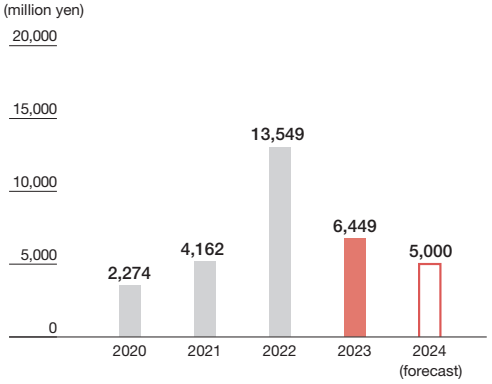
Source: WSA

Earnings summary

Net sales



EBITDA

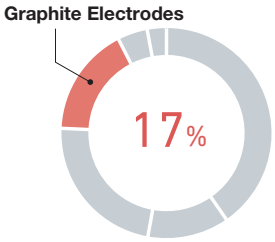


Medium-term Management Plan “T-2026”

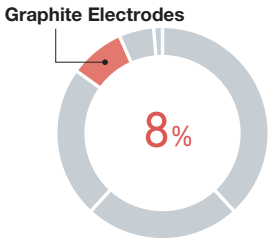
In T-2026, we will restructure our electrode business and embark on a fundamental review of our production system. The current business environment is structurally challenged by the continuing graphite electrode oversupply from China and India amid the global stagnation of EAF steel production. We have determined that we will not be able to respond in time to the situation by taking the conventional extension measures. In particular, the market has plummeted due to the continued low level of EAF operations in China, with excess Chinese electrodes flowing into Asia at low prices, and Indian companies following up on this trend. Although demand for electrodes is expected to increase in the future as production shifts from blast furnaces to EAF, it is not expected to be in full swing until 2026 or later, so we aim to increase our competitive advantage by then to maximize ROIC. The concrete action plan will be disclosed once it is ready, but the concept will be to revitalize the business by reducing costs through a review of the production system and focusing on markets where we can add value. In particular, to capture the gradually increasing demand for large-diameter (super-size) electrodes for the coming large EAF, we will establish a super-size mass production system and increase the sales ratio of super-size electrodes to more than 50% of our total sales volume since the super-size electrodes are one of the markets where we can demonstrate our competitive advantage in quality. By ensuring cost competitiveness for the future, we aim to achieve net sales of 73 billion yen, operating income of 11 billion yen, and adjusted ROIC of 11% in 2026, the final year of T-2026.

Performance metrics

Net sales composition (2023)



EBITDA composition (2023)



	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

(billion yen)

Business risks and opportunities

RISK / Chance

- Global market downturn due to current stagnant demand and excess capacity
- Higher energy costs at European sites
- Expansion of global electric furnace steel ratio (2026 and later)

Medium-term Management Plan “T-2026”

- Structural reform of businesses
- Focus on high-quality, super-size electrodes
- Exercise of competitive advantage by securing high-quality needle coke

COLUMN

Graphite electrodes supporting the EAF steel production to reduce CO_2 emissions

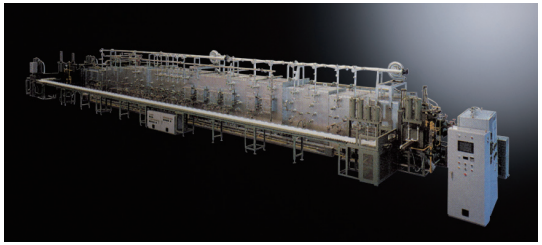
There are two methods of steel production: The blast furnace method and the EAF method. In the blast furnace method, pig iron is produced through a process of reducing iron ore, while in the EAF method steel scrap is melted in an electric arc furnace and recycled as steel products. The EAF method cut the CO_2 emissions to one-fourth of the blast furnace method. From the perspective of carbon neutrality, there is a global shift from blast furnaces to EAF. That said, steel production using the EAF method is said to increase from the current 500 million tons to 700 million tons by 2030. Graphite electrodes supports this trend as an indispensable item for EAF operation.

Industrial Furnaces and Related Products

Operations

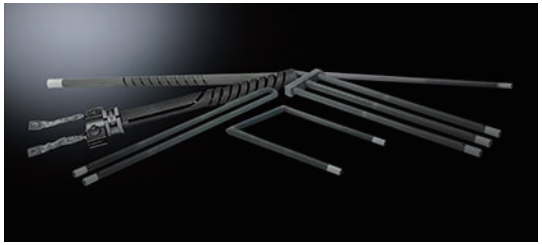
Tokai Kohnetsu designs and supplies full custom-made industrial furnaces for heat treatment of ceramics, glass, metals, powders, rechargeable battery materials, electronic components, and other materials. Tokai Kohnetsu Kogyo, a member of the Tokai Carbon Group, is responsible for the sales, production and R&D of the industrial furnaces and heating elements. The company's product lineup, which includes the world's top-level Elema heating elements and a variety of other high-quality products in a wide range of shapes, has become indispensable in cutting-edge fields in various industries worldwide. The main markets for our products are the processing furnace of multilayer ceramic capacitors (MLCC) as well as raw material for lithium-ion batteries, and heaters for manufacturing sheet glass.

Industrial Furnaces



Industrial furnaces process ceramics, electronic components, secondary battery materials, glass, and powders at a predetermined temperature.

EREMA heating elements

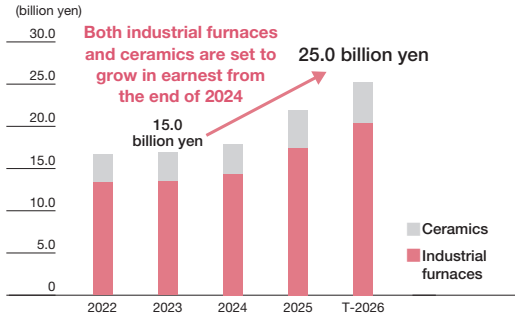


This energy-saving, clean, high-temperature, quality ceramic heater is used for sintering, melting, and heat treatments.

Market environment

The electronic parts industry (MLCC, etc.) is a market that is expected to grow at an annual rate of 5-10%, as the number of MLCC installed in a single vehicle is rapidly increasing due to the shift to electric vehicles. In second half of 2022, there was inventory adjustments for PC and smartphone production, which has had a negative impact on our orders. Bottoming out was already seen in 2023, although the speed of recovery is slow. Full-fledged recovery will be expected from 2025. The market for lithium-ion battery (LiB) industry is expected to expand at an annual rate of 10-20% based on the expansion of the electric vehicle market.

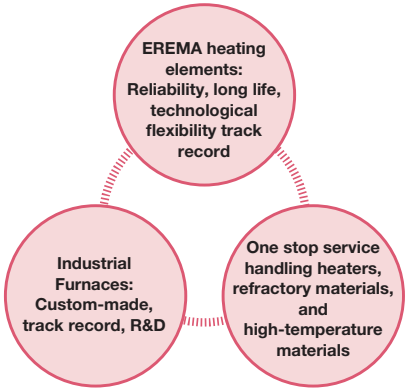
Sales growth forecast



Our strengths

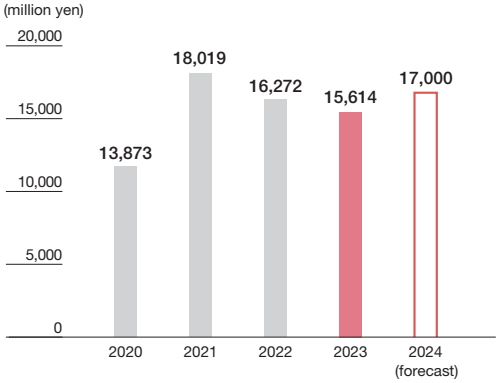
Industrial furnaces are custom-made to suit each customer's needs. They literally evolve as various functions are added on for the next order. We have been trained through a corporate culture to thoroughly respond to customers' customization requests, and have accumulated technical capabilities and achievements that are recognized among the industry's top manufacturer. Another major strength is the overwhelming quality superiority of Elema heating elements (silicon carbide heating elements). These strengths are also creating synergies that enhance new design capabilities for industrial furnaces.

Strengths

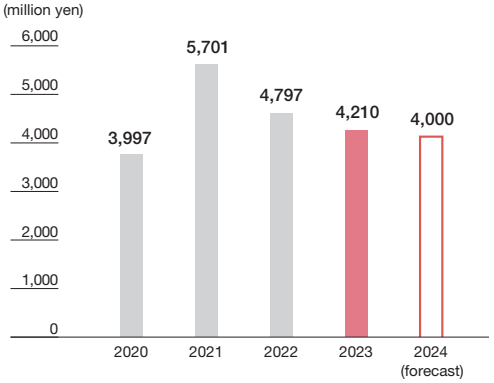


Earnings summary

Net sales



EBITDA

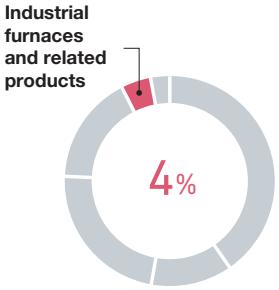


Medium-term Management Plan “T-2026”

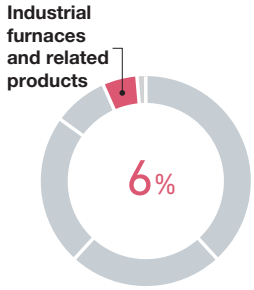
This business segment has continued to grow about 10% annually. However, slowdown in computer and smartphone demand and LiB market growth has required a temporary adjustment in 2023. In 2014, LiB market remains soft although the MLCC down cycle hits the bottom and expected to recover gradually. More specifically, we foresee an annual growth rate between 5% to 10% driven by 5G for electronic components, shift to more electric components in automobiles and enhanced function of autonomous driving. Markets for LiB and other battery materials should also sustain a certain level of growth with about a 10% per annum up to 2026. During the three years period of T-2026, we plan to increase our production capacity to keep up with the market expansion. We will also seek rolling out to the North American growing LiB market. For sustainable growth of the industrial furnace business, it is essential to continue to develop and propose furnaces with a view to the next generation. The development of order-made furnaces that reduce environmental impacts and respond to the production needs of customers will build up our trust to become their one and only partner. In this way, we can strengthen our position in the existing markets in one hand and actively taking on the challenge of expanding business domains in the other hand to solidfy our market position as a leader.

Performance metrics

Net sales composition (2023)



EBITDA composition (2023)



	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

(billion yen)

Business risks and opportunities

RISK / Chance

- **Bottoming out the MLCC downcycle**
- **Expected increase in MLCC demand due to electrification of automobiles**
- **Growth in products for battery materials (10-20% p.a.)**

Medium-term Management Plan “T-2026”

- **Expansion of production capacity in line with the market growth**
- **Rolling out to the growing North American LiB market**
- **Development of next-generation furnaces**

COLUMN

Recycling of Cold Ends for EREMA Heating Elements

As for EREMA heating elements, we have developed and introduced environmentally-friendly products and launched an initiative to collect and recycle used products from 2023. Tokai Carbon aims to collect spent EREMA heating elements and recycle cold ends as products in addition to recycling heating elements as high-purity SiC. Product recycling overall does not only benefit customers as industrial waste processing but also drastically reduces the environmental impacts.

Started recycling the cold ends of used EREMA heating elements