

T-2024

Rolling Mid-Term Management Plan
2022/02/09

Summary

Long-Term Vision

- Contribute to a sustainable society through advanced materials and solutions

Carbon Neutral

- Reduce Tokai Carbon Group's total CO₂ emissions by 25% before end of 2030 and achieve net-zero by 2050

T-2024 Basic Policies

- Returning core businesses to a path of growth
- Optimizing the business portfolio (selection & concentration)
- Strengthening the consolidated governance structure

Quantitative Targets

- Net sales: ¥356 billion Operating income: ¥57 billion ROS: 16% EBITDA: ¥91 billion

Position of the T-2024 Rolling Plan

We have adopted a rolling format to respond flexibly to changes in the management environment and will update the Mid-Term Management Plan annually.

	2020	2021	2022	2023	2024	2025
T-2022 Previous plan announcement →	Mid-Term Management Plan 2020-2022					
T-2023 Previous plan announcement →		Mid-Term Management Plan 2021-2023				
T-2024 Current plan announcement →			Mid-Term Management Plan 2022-2024			
Future plan announcement →				Mid-Term Management Plan 2023-2025		



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01

Long-Term Vision



Our vision for 2030

Contribute to
a sustainable society through
advanced materials and solutions

To achieve the vision

To create a sustainable society, we will expand the scope of value we provide without limiting our business domains to carbon-related fields.



Establishment of a Sustainability Committee

This committee will report directly to the Board of Directors. Amid increasing uncertainties in the business environment, it will discuss our challenges related to sustainability in general with a long-term perspective.

Development of a structure for pursuing carbon neutrality

The Carbon Neutral Project Team will be turned into a committee. It will formulate group-wide policies and strategies as the control tower for our carbon neutral initiatives by centrally managing the issues, visualizing the process of each act.

Management of business portfolio

To achieve sustained improvement of corporate value, we will build management processes for optimizing the business portfolio focusing on capital efficiency.

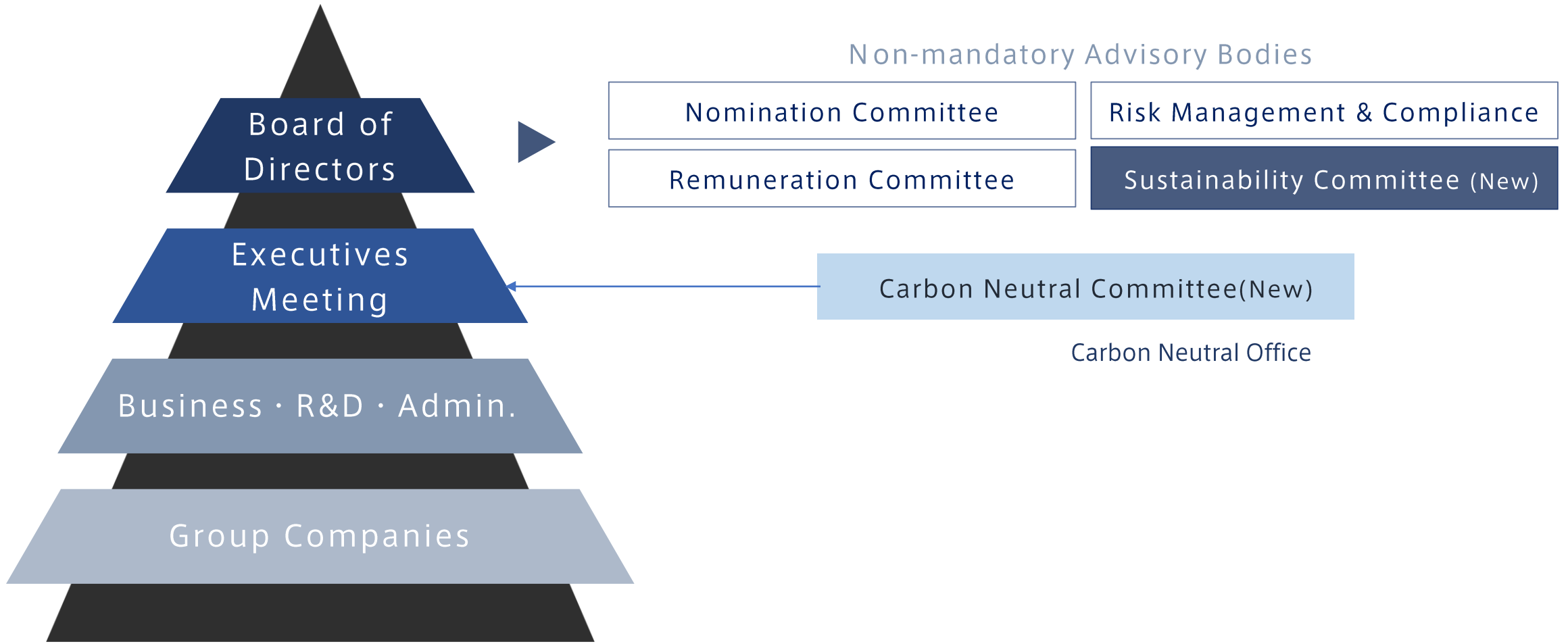
Technological innovation

Developing our next-generation and innovative products also through alliances with external companies.

M&A

We will boost further growth over the medium to long term by acquiring new technologies and new technological domains.

(Reference) Organizational chart on sustainability



Carbon neutral targets

We will reduce Tokai Carbon Group's total CO₂ emissions by 25% from 2018 levels by 2030. Furthermore, we will seek to achieve net-zero emissions by 2050 through introduction and practical application of new technologies.

- Scopes covered: Scope 1 and Scope 2 CO₂ emissions
- CO₂ emissions in 2018 (base year): 3 million tons
- We will consider Scope 3 targets based on how international debates develop going forward, including how our partner companies will disclose their emissions.

Achieve by 2030

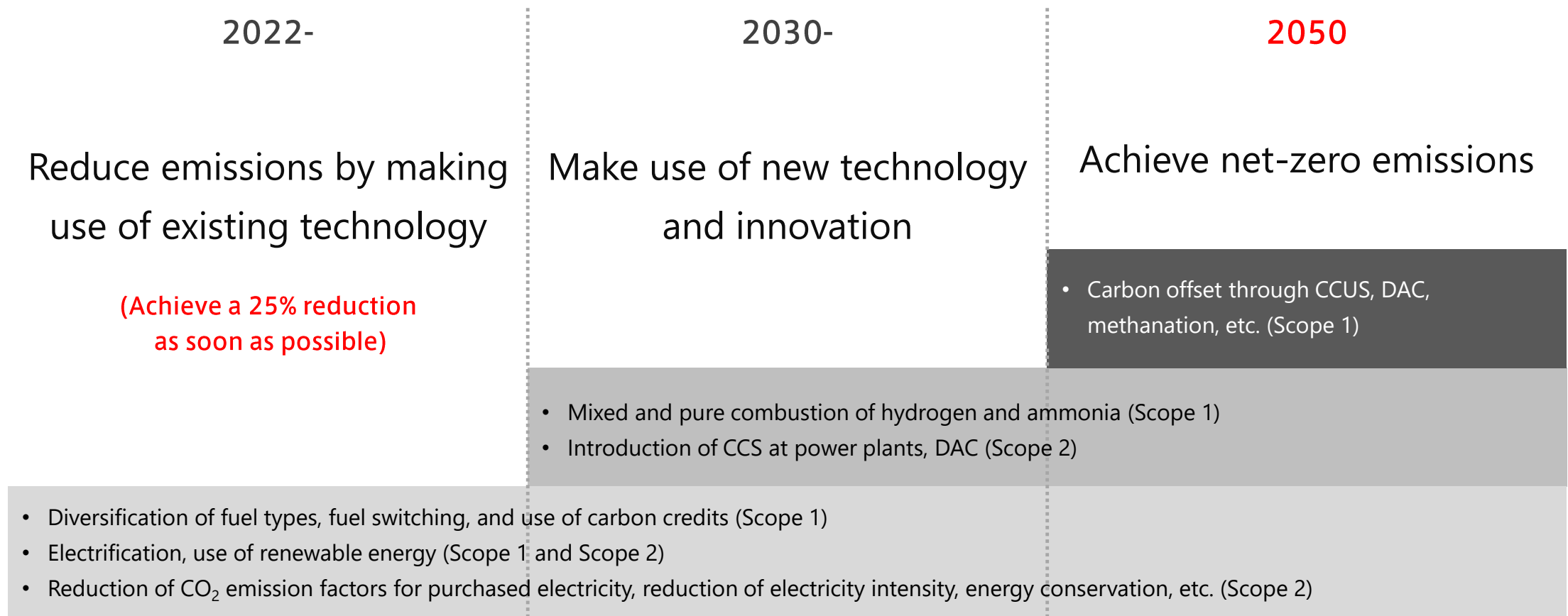
25% reduction

Achieve by 2050

Net-zero

Roadmap for going carbon neutral

The Carbon Neutral Committee headed by the President will take the lead in advancing concrete technological strategies across business divisions to enhance our competitiveness.



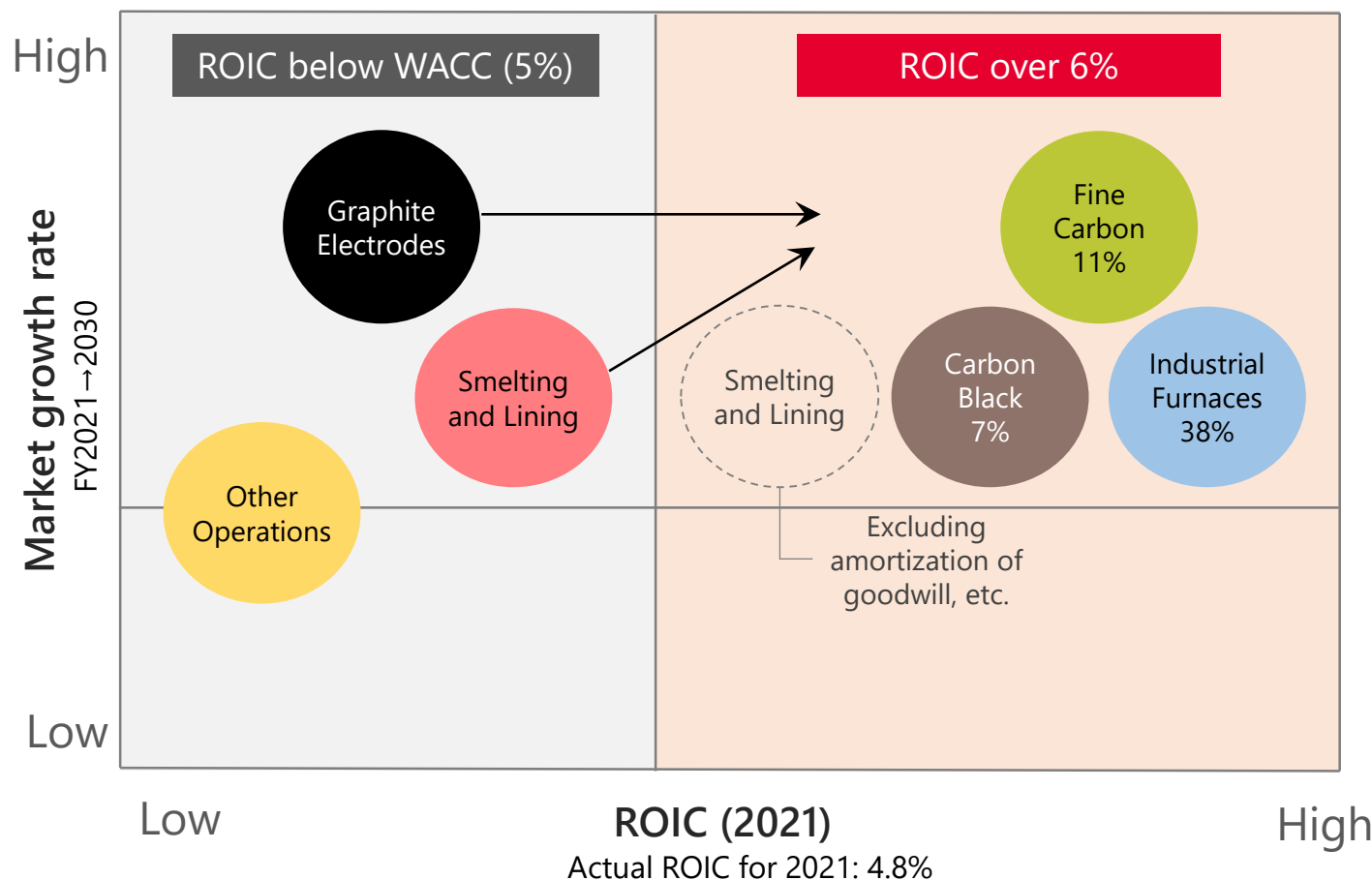
*CCS: Carbon dioxide Capture and Storage (Capturing and storing CO₂)

*DAC: Direct Air Capture (Technology for directly capturing and using CO₂ in the air)

*CCUS: Carbon dioxide Capture, Utilization and Storage (Technology to utilize CO₂ that has been isolated and stored)

Management of business portfolio

The Board of Directors will deliberate on the optimal allocation of management resources each year from perspectives including consistency with the vision, changes in the management environment, ROIC/WACC, synergies, and future prospects.



► **Raise ROIC from 4.8% to over 10%**

Medium-term perspective

- Increase ROIC from the Graphite Electrodes segment
- Improve profit after amortization of goodwill from Smelting and Lining
- Actively invest in high-growth and high-ROIC businesses

Long-term perspective (improving capital efficiency on an ongoing basis)

- Engage in the selection and concentration of businesses, products, product types, and locations
- Analyze future prospects of our technologies and markets
- Develop business in anticipation of carbon neutrality



**T-2024
Policies**

T-2024 Basic Policies

Following the previous plan (T-2023)

- 1) Return core businesses to a growth trajectory to stabilize the revenue base
- 2) Engage in a process of selection and concentration of businesses based on changes in the environment such as carbon neutrality and the pandemic
- 3) Strengthen the consolidated governance structure to respond to rapid progress in globalization

① Returning core businesses to a path of growth

- Improving and stabilizing the profitability of graphite electrodes and carbon black
- Reflecting equipment investment costs in sales prices



② Optimizing the business portfolio (Selection & Concentration)

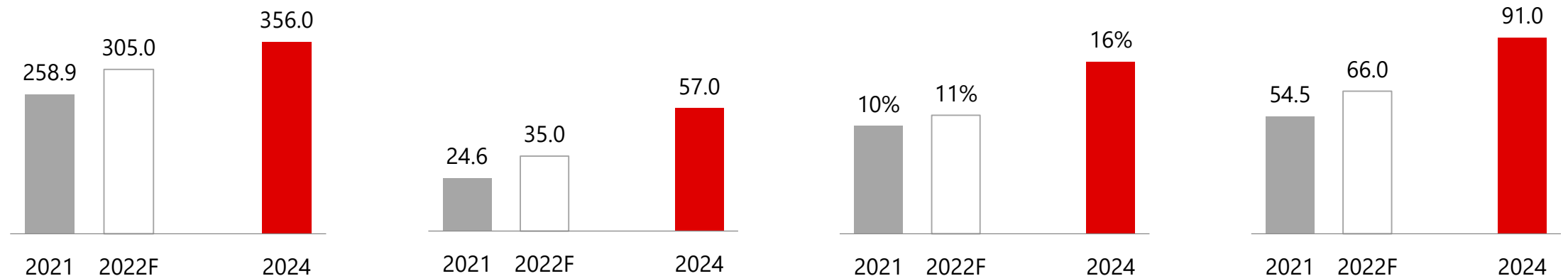
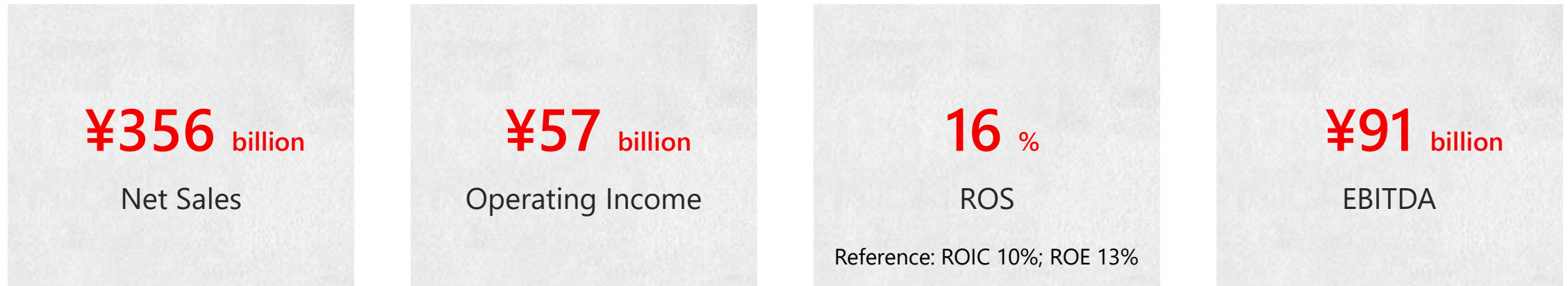
- Continually revising business composition and product composition
- Increasing production capacity for high value-added products
- Concentrating investment in promising businesses and product development

③ Strengthening the consolidated governance structure

- Pursuing carbon neutral as the entire group
- Responding to globalization of the head office organization
- Strengthening the governance structure of subsidiaries in Japan and overseas

T-2024 Quantitative targets

We aim to achieve targets by restoring profits from core businesses and continuing to invest in growth markets.

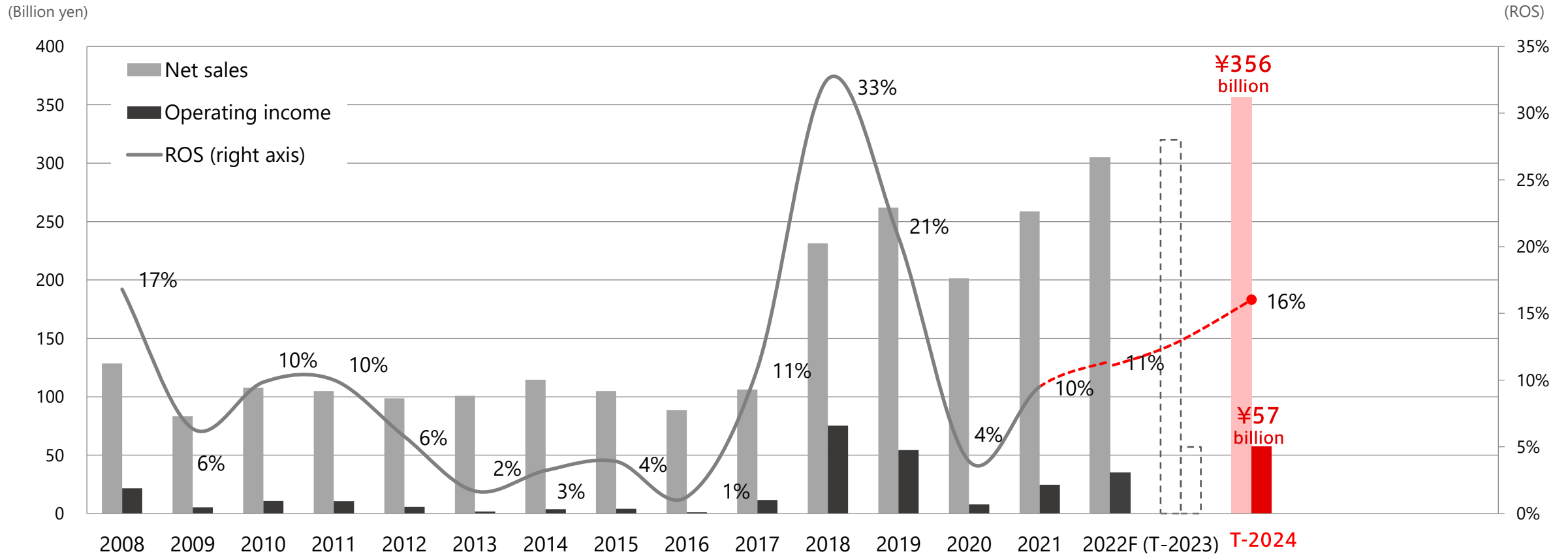


ROS: Return on Sales = Operating income as a percentage of total net sales (operating margin)

ROIC: Return on Invested Capital = Operating income after taxes as a percentage of the sum of working capital and fixed assets

(Reference) Comparison to T-2023, the previous plan


While operating performance suffered in 2020 from a substantial decline in demand caused by the COVID-19 pandemic, demand rebounded in 2021, mainly in our core businesses. We are seeking a return to a path of growth.



(Reference) Segment data

(Billion yen)	2021 (Results)	2022 (Forecast)	T-2024 (Reference)	
Net Sales	258.9	305.0	356.0	
Graphite Electrodes	40.6	65.0	87.0	
Carbon Black	99.5	114.0	123.0	
Fine Carbon	39.1	41.0	51.0	
Smelting and Lining	49.7	53.0	62.0	
Industrial Furnaces	18.0	20.0	21.0	
	Friction materials	8.9	9.0	9.0
Other	Anode materials	2.9	3.0	3.0
Operations	Other	0.1	0.0	0.0
	(Total other)	11.9	12.0	12.0
Operating Income / EBITDA	24.6 / 54.5	35.0 / 66.0	57.0 / 91.0	
Graphite Electrodes	(0.4) / 4.2	9.0 / 14.0	20.0 / 26.0	
Carbon Black	8.8 / 14.8	11.0 / 17.0	14.0 / 21.0	
Fine Carbon	9.6 / 15.2	10.0 / 16.0	13.0 / 19.0	
Smelting and Lining	1.9 / 14.1	0.0 / 13.0	5.0 / 18.0	
Industrial Furnaces	5.4 / 5.7	6.0 / 6.0	6.0 / 6.0	
Other Operations	0.8 / 1.3	1.0 / 1.0	1.0 / 2.0	
Inter-segment eliminations	(1.4) / (0.8)	(2.0) / (1.0)	(2.0) / (1.0)	

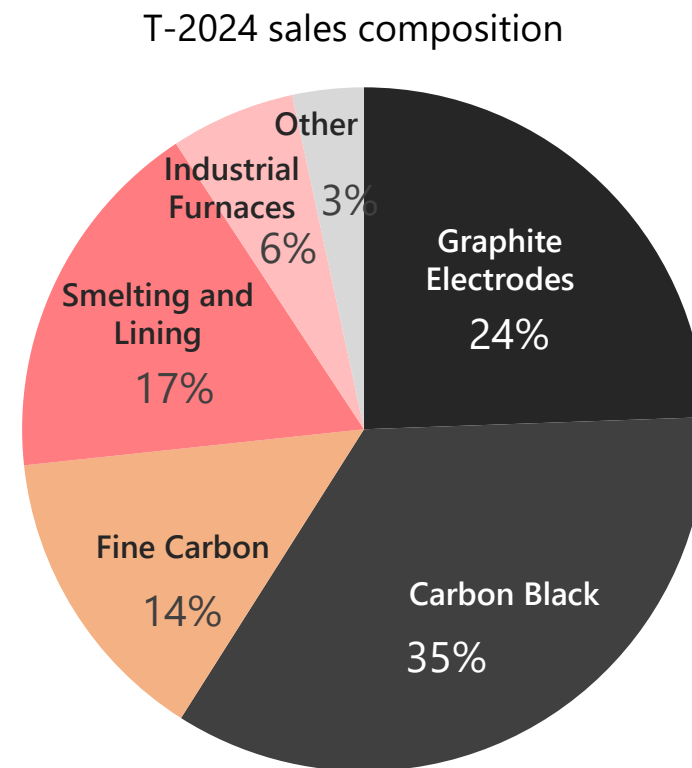
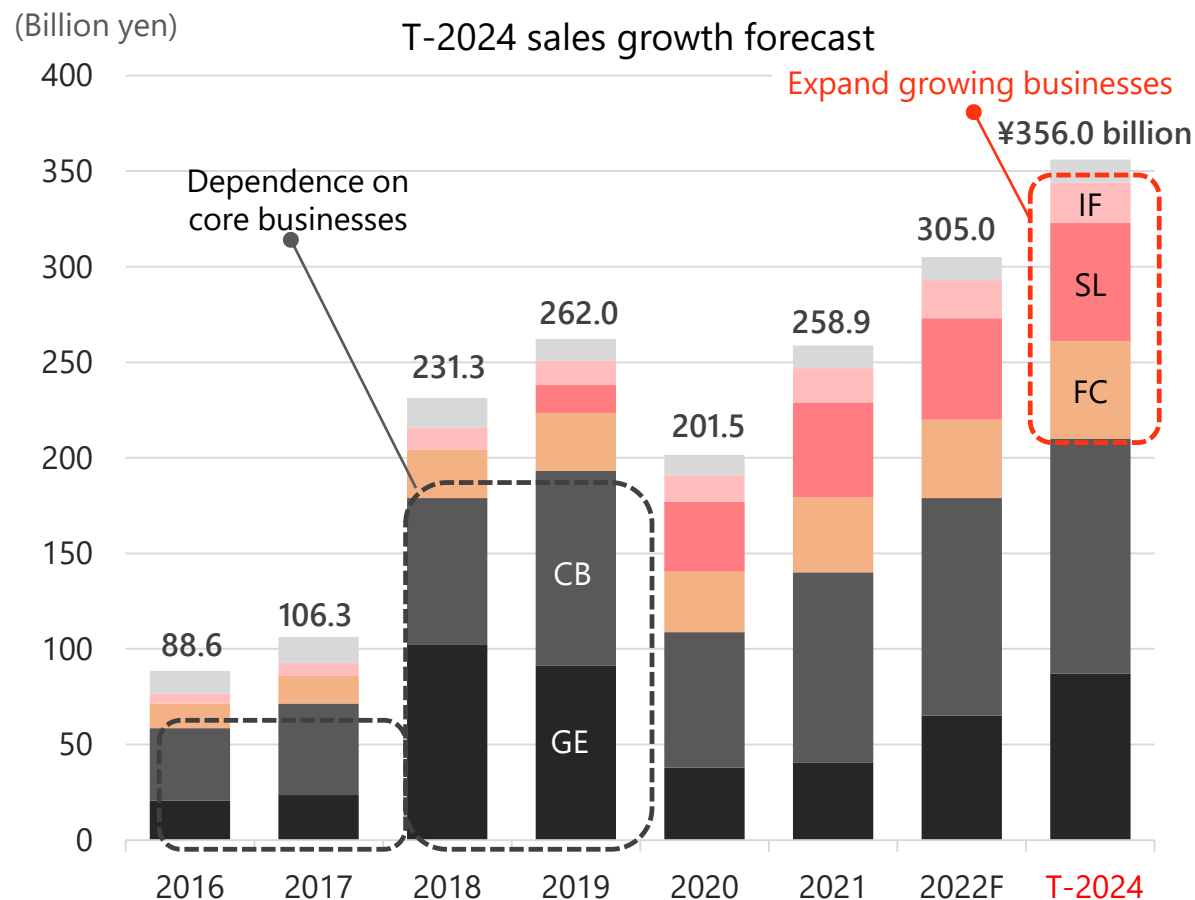
*Exchange rate assumptions for T-2024: JPY110/USD, JPY130/EUR



**T-2024
by Segment**

Composition of sales by business segment and outlook

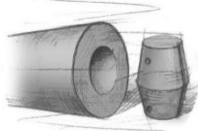

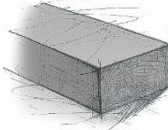

We are breaking free from dependence on core businesses through growth investments and M&A over the last several years. Under T-2024, we will seek to further expand the scale of our business by returning the core businesses to a path of growth and expanding growing businesses, while maintaining a sound business portfolio.



Balanced portfolio that does not depend on a specific business segment

Outlook for the business environment (2022→2024)

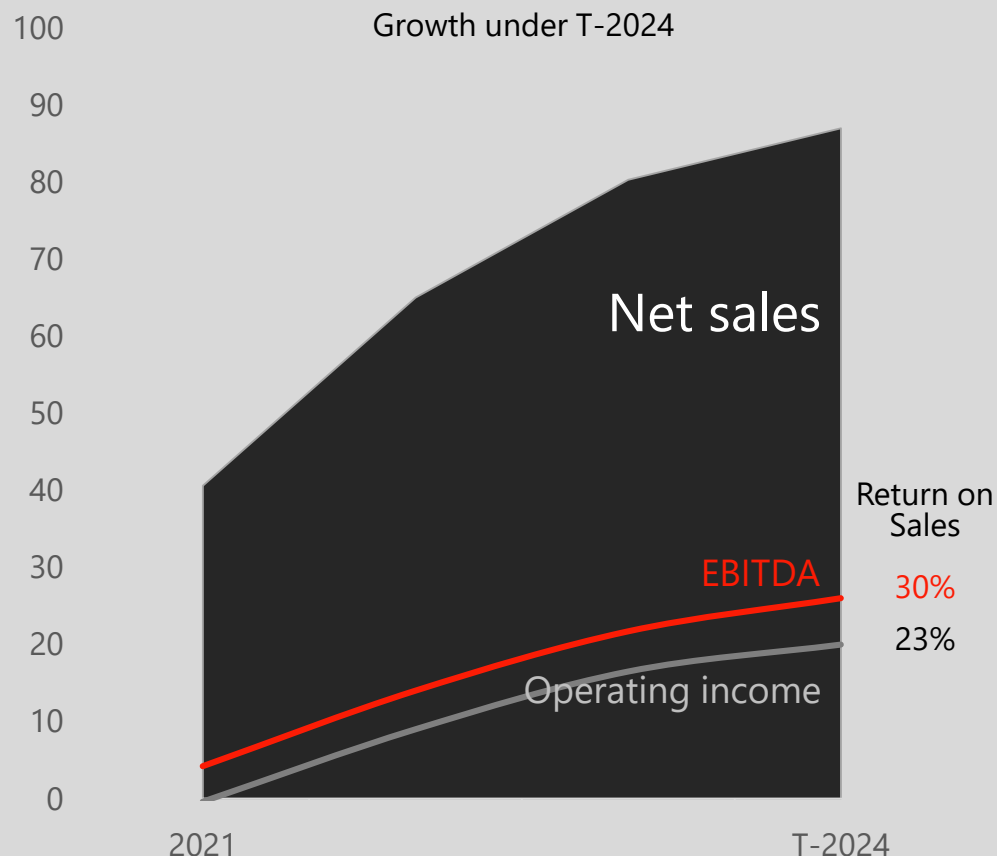
Overall demand is showing signs of growth in the steel, automotive, semiconductor, and aluminum industries, which are end-user industries of Tokai Carbon.

Area	Recognition of the Environment	Related Tokai Carbon Businesses
Steel	<ul style="list-style-type: none"> • Electric arc furnace (EAF) steel, which helps to reduce CO₂ emissions, is on the rise • EAF steel production average annual growth forecast at 5% 	 <p>Graphite Electrodes</p>
Tire	<ul style="list-style-type: none"> • Gradual recovery from 2022 onward • Average annual growth estimated at 3-5% 	 <p>Carbon Black</p>
Semiconductor	<ul style="list-style-type: none"> • Vigorous capital investments • Average annual growth forecast at 5-7% 	 <p>Fine Carbon</p>
Aluminum	<ul style="list-style-type: none"> • LME aluminum prices remain high • Average annual growth forecast at 3-4% 	 <p>Smelting and Lining</p>

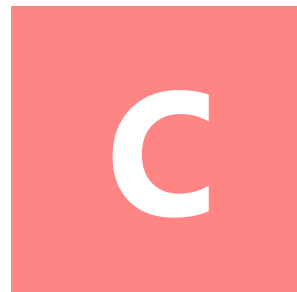
Sources: GDP growth rate estimated by Tokai Carbon, based on WSA, Notch, MarkLines, WSTS, Gartner, CRU, and other sources.

Graphite Electrodes

(Billion yen)



As the industry shifts to EAF steel production, demand for graphite electrodes will increase. We will sustain a stable supply by maintaining our sales policy premised on securing an appropriate level of profits, with a focus on high value-added products. We will enhance competitiveness by improving productivity and shortening the lead time, aiming an EBITDA margin of 30%.



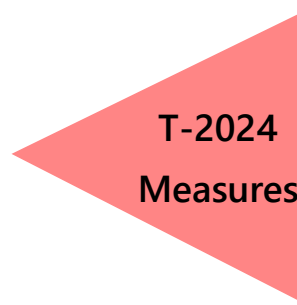
Chance

- Rapid increase in the ratio of EAF steel worldwide
- Increase in demand for ultra-large diameter (supersized) graphite electrodes



Risks

- Pressure from lower-priced competitors
- More lenient EAF operating conditions due to a slowdown of global EAF steel production
- Increase in costs due in part to clean energy procurement

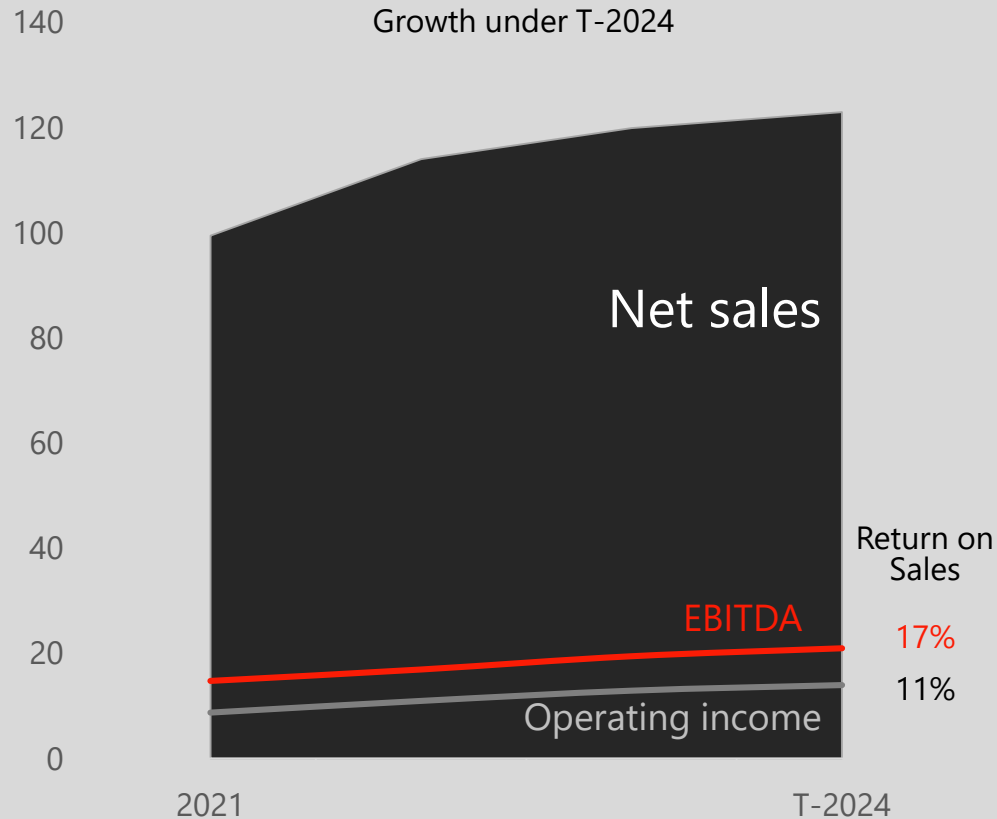


Restore sales prices and improve added-value of products

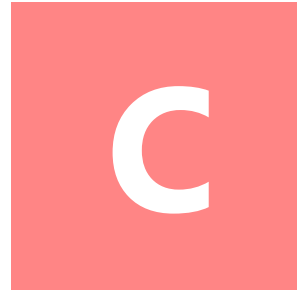
- Improve profitability by optimizing sales prices
- Increase production capacity of supersized electrodes with high added-value
- Reflect increases in raw materials costs to sales prices in a timely manner
- Lower ROIC through productivity improvements and lead time reductions

Carbon Black

(Billion yen)



Automotive and tire production is expected to maintain annual growth of roughly 4%. Global demand forecast for carbon black ranges from 13 million tons (2019) to 16 million tons (2024). We will set sales prices reflecting the increases in costs of raw materials and investments in environmental facilities.



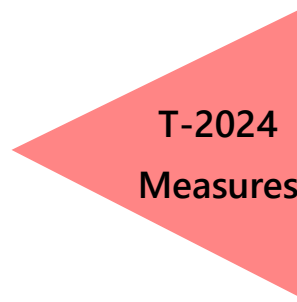
Chance

- Higher demand for tires
- Growth of new markets such as uses for electric vehicles and battery materials
- Technological innovation to enable carbon neutrality



Risks

- Harsh competition
- Rapid increases in costs of crude oil and natural gas
- Higher expenses for environmental measures

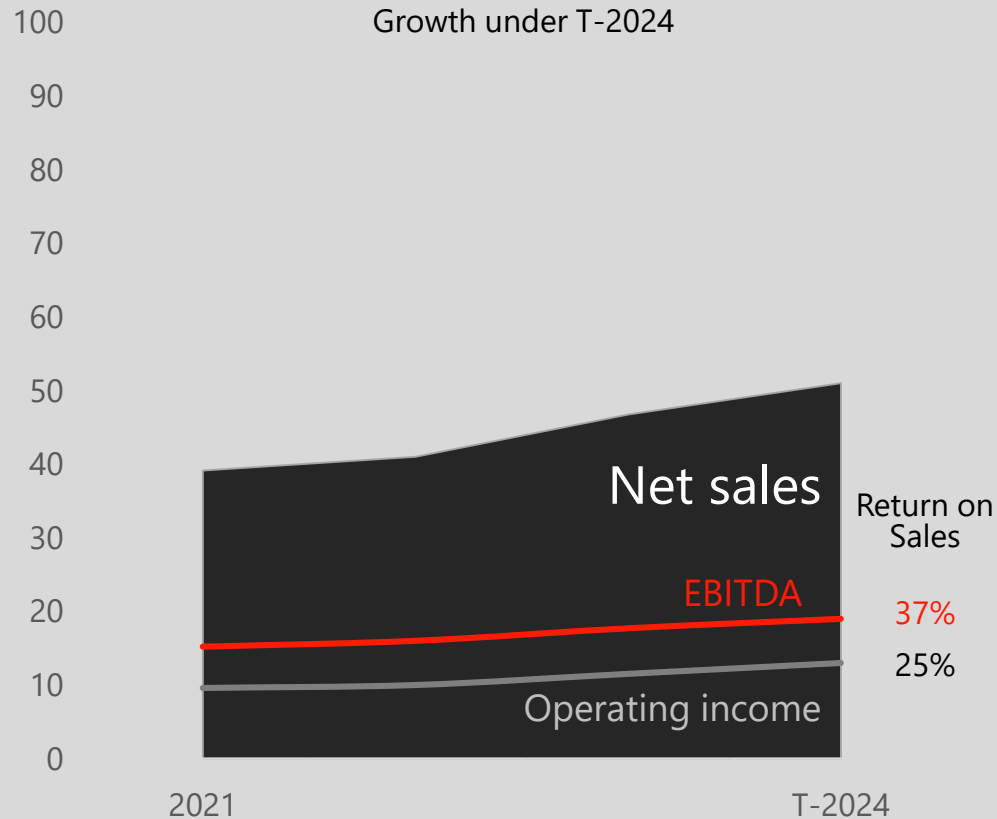


Capturing increasing demand, while prioritizing margin and environmental efforts

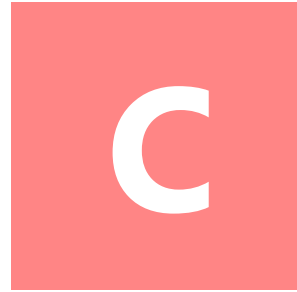
- Capturing the increasing demand and growing new markets
- Reflect increased costs, such as environment-related capital investments, raw materials, and energy, in sales prices
- Seek to conserve the environment and improve productivity by investing in eco-friendly facilities and upgrades to outdated facilities
- Advance sustainability measures such as recycling scrapped tires and manufacturing with carbon neutral raw materials and fuels

Fine Carbon

(Billion yen)



Global demand for special graphite materials will grow at an annual rate of roughly 5%. We will gradually increase our production capacity to expand scale. We will seek to optimize the business by creating synergies within the Group and increasing the ratio of high value-added products, as the next three years will be stepping stones for maintaining high margins.



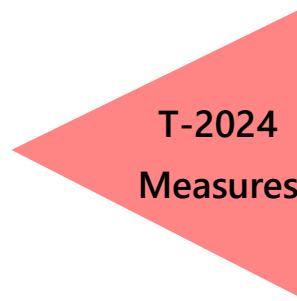
Chance

- Further growth of the semiconductor market from increased technology-related demand such as EVs
- Growth of high value-added products (CVD, glassy carbon products)



Risks

- Downturn in the silicon cycle (excess capacity and inventory in the supply chain)
- Tight supply of raw materials and increase in energy costs

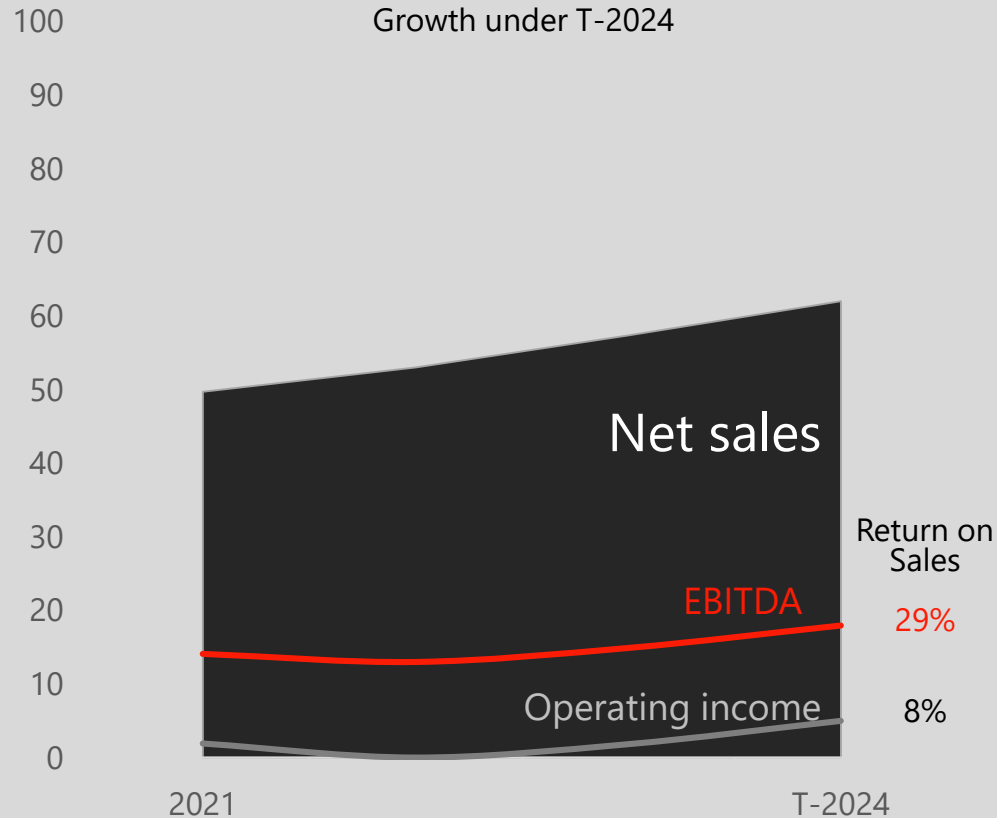


Increase production capacity of graphite materials and expand high value-added products

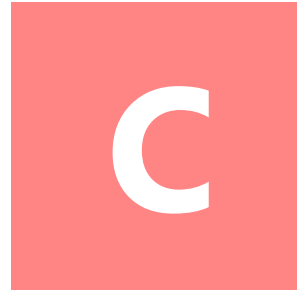
- Gradually increase production capacity (by 15%) in line with market growth and normalize prices
- Focus on high value-added products including CVD products, glassy carbon products, and high-quality graphite products
- Improve productivity and reduce CCC such as by shortening the lead time in manufacturing

Smelting and Lining

(Billion yen)



Firm demand is expected mainly for graphitized cathodes (high-quality products), backed by strong demand for aluminum. We will improve our spread by increasing productivity while passing on the cost increases in raw materials and energy to sales prices. We will propose eco-friendly RuC® products to reduce the environmental load of users.



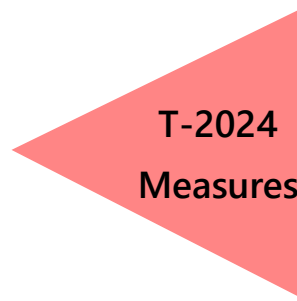
Chance

- Increased demand for solution-type product RuC®
- Strong growth of graphitized cathode market due to the shift to highly efficient smelters, led by CO₂ emission reductions mainly in developing countries



Risks

- Sharp increase in primary aluminum production costs, reduced motivation to increase production
- Decrease in demand for furnace linings due to furnaces being discontinued or suspended
- Decrease in demand for carbon electrodes due to demand for silicon metal taking a breather

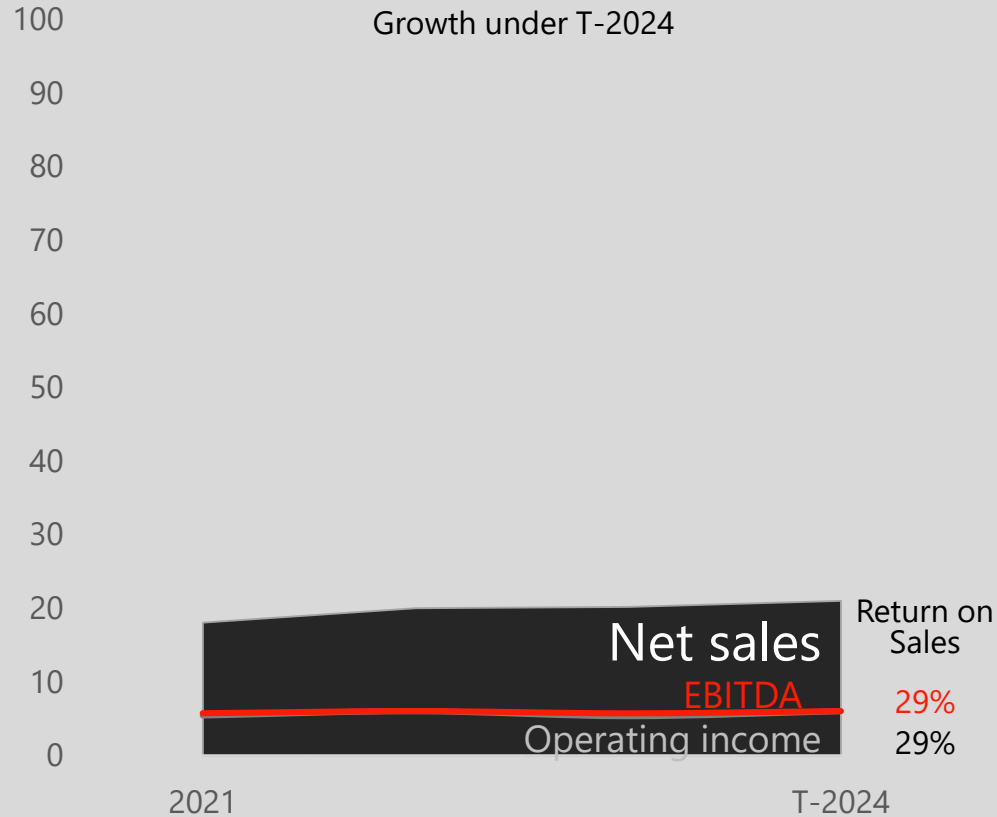


Improve spread with price-focused strategies and productivity improvements

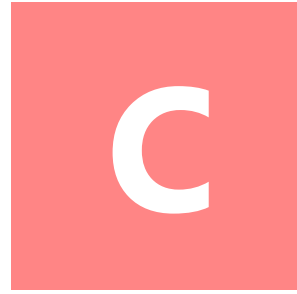
- Expand margin spread by both sales price and productivity improvement
- Improve yield, quality, health and safety with the Six Sigma program
- Expand anode materials business in Europe with our French locations, and focus on moving the production of extruded graphite materials to France

Industrial Furnaces

(Billion yen)



MLCC market will maintain an annual growth of roughly 10% thanks to 5G, electric vehicles, self-driving cars, and IoT. LiB market is also expected to grow over the medium to long term. We will plan for further increase in production capacity and prepare to capture new markets.



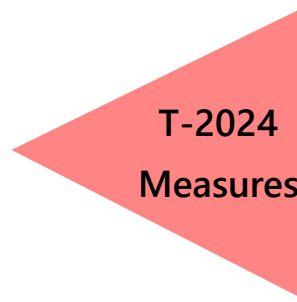
Chance

- Growth of end-user industries from 5G, IoT, and the shift to electric vehicles
- Expansion of next-generation furnaces currently in the proposal stage



Risks

- Slowdown of customer markets (MLCC, LiB)
- Sharp increase in raw materials prices



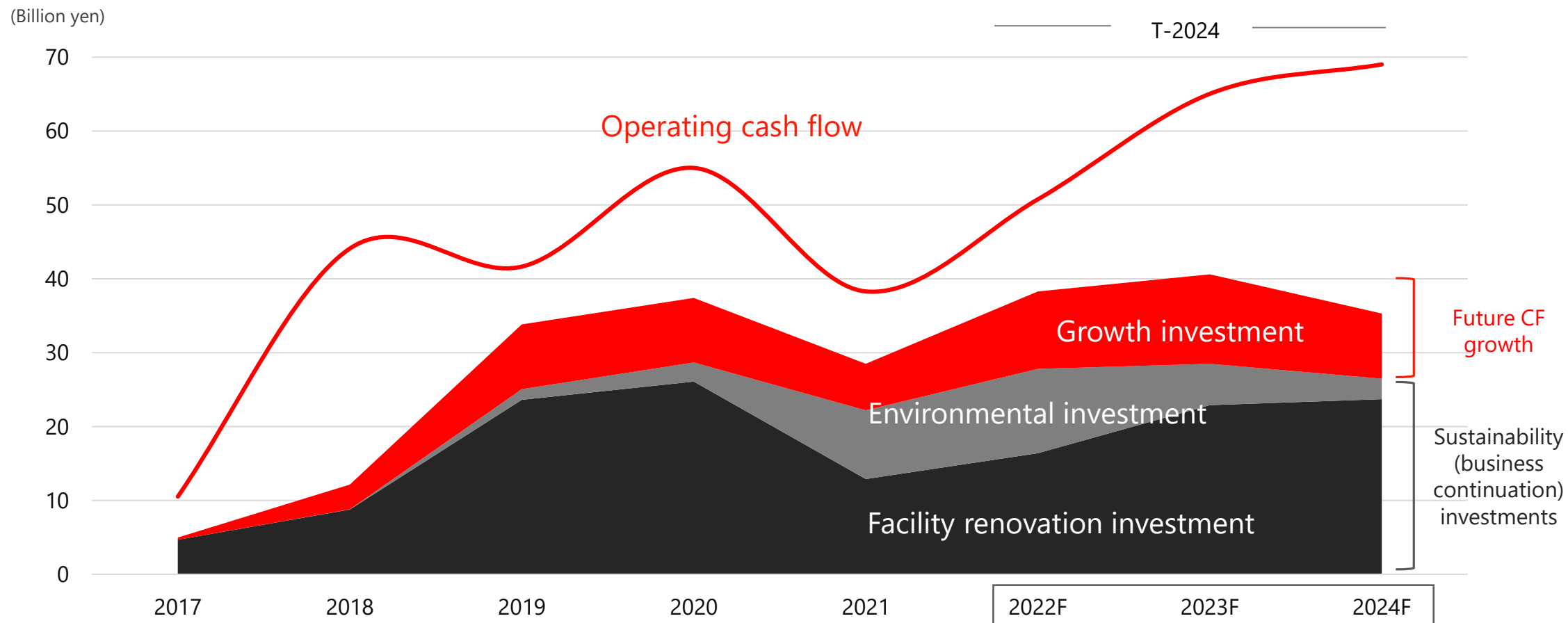
Strengthening business platform to achieve the long-term vision

- Capture new markets by increasing production capacity and developing new technology
- Develop business with an awareness of customers' environmental efforts (developing recycling technology and others)
- Respond to the increase in raw materials costs by reflecting it in sales prices and improving productivity

04 Capital Allocation

Outlook of capital expenditures and operating cash flow

We will spend roughly ¥114 billion in investments for growth and business continuation over the three years of T-2024 Mid-Term Management Plan. In addition to investing in facility renewals with a medium- to long-term perspective, we are planning to invest roughly ¥32 billion in growth investments mainly for high-ROIC businesses, as well as roughly ¥20 billion in environmental investments for the North American Carbon Black business and Smelting and Lining business.



(Reference) List of major planned investments

	Investment 3-year cumulative total	Main target business	Rough estimate (Billion yen)	Description of key investments
Growth investment	¥32 billion	Fine Carbon	16	Increase production capacity of graphite materials, increase capacity at TCK, etc.
		Smelting and Lining	6	Expand anode materials in Europe (also use subsidies from EU authorities)
		Industrial Furnaces	4	Increase production capacity
		Other Operations	6	Optimize overall operations, resolve bottlenecks, develop products, etc.
Environmental investment	¥20 billion	Carbon Black	12	Address environmental issues mainly at North American plants
		Smelting and Lining	3	Exhaust gas treatment systems, etc.
		Carbon Neutrality, etc.	5	
Facility renovation Regular maintenance	¥59 billion	Graphite Electrodes	13	Renew facilities, shift to high value-added products
		Carbon Black	35	Regular updates, large replacement projects, etc.
		Fine Carbon	3	General repairs
		Smelting and Lining	6	General repairs
		Other Operations	2	General repairs
Others	¥3 billion	Information Systems, etc.	3	Streamlining with digital transformation
Total	¥114 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.

Finance management policy

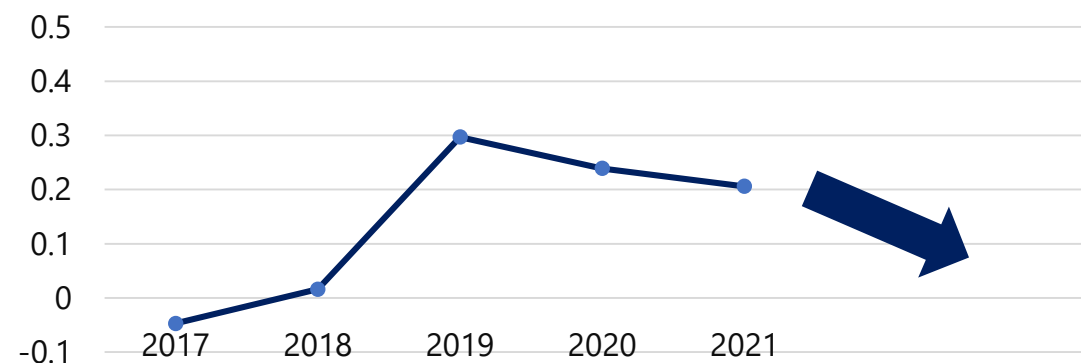
We work to reduce debt to secure a sound liquidity pursuing net cash basis ahead of the redemption and repayment of hybrid financing. Our policy is to increase our ability to invest by generating cash flow through sustainable profit growth, improving capital efficiency, and strengthening financial governance.

Cash flow management

We are to improve our corporate value over the medium to long term by increasing our ability to generate cash flow and enhancing capital efficiency. As for the enhancement of capital efficiency, we aim for an ROIC of over 10% through an increase in EBITDA and further transformation of our cost structure. We simultaneously work on balance sheet management such as by ensuring appropriate inventory management with a cash conversion cycle (CCC) of 100 days or less.

(Fiscal year)	2019	2020	2021	T-2024
EBITDA (Billion yen)	77.1	35.2	54.5	91.0
CCC (Days)	171	207	158	147
ROIC (%)	13.4	1.6	4.8	10.0

Lower adjusted net D/E ratio to 0.0 times soon



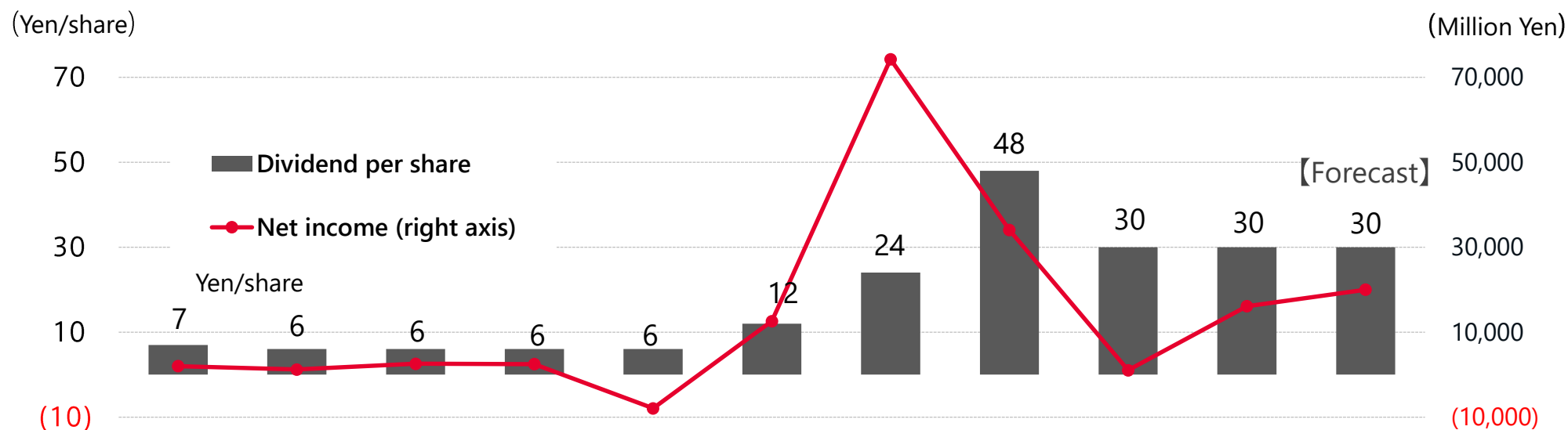
(Fiscal year)	2017	2018	2019	2020	2021
Adjusted net interest bearing debt (Billion Yen)	(6.0)	2.9	70.3	56.5	54.4
Adjusted equity (Billion Yen)	126.4	187.1	236.8	236.3	264.2
Adjusted net D/E (times)	(0.047)	0.016	0.297	0.239	0.206

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

Shareholder return

Tokai Carbon will focus on declaring stable, consistent dividends while setting the target dividend payout ratio of 30%. We will also consider using surplus cash flow to buy back the company's shares as dictated by collective consideration of the business environment, financial status, investment in growth, and the level of the stock price.

Dividends per share and Net income



(Fiscal Year)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022f
Total dividends (Million Yen)	1,708	1,280	1,280	1,280	1,280	2,556	5,114	10,230	6,395	6,395	6,395
Payout ratio	75%	106%	50%	52%	-	21%	7%	32%	627%	40%	32%

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.



T-2024



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