

Kobelco Group Growth Strategy

In the Kobelco Group Medium-Term Management Plan (Fiscal 2021–2023) announced in May 2021, we have identified two priority issues with the aim of continuing to be a corporate group indispensable to stakeholders through providing solutions to the needs of society by leveraging the Group's collective strengths that integrate our diverse businesses, technologies, and human resources. We will continue to work together as a group to tackle these priority issues while responding to the rapid changes in the business environment.

2021

2024

KOBELCO Group Medium-Term Management Plan (Fiscal 2021–2023)

Next Medium-Term Management Plan

1 Establishing a Stable Earnings Base

—To Be Fully Achieved during the Current Medium-Term Management Plan

- 1 Strengthening the earnings base of the steel business
- 2 Smooth startup and stable operation of new electric power projects
- 3 Strategic investment in the materials businesses leading to earnings contribution
- 4 Restructuring unprofitable businesses
- 5 Stabilizing earnings in the machinery businesses and responding to growing markets

2023 Target
ROIC of
5%
or higher

Stably achieve
an ROIC of **8%**
or higher
and pursue
sustainable
growth

2 Taking on the Challenge of Realizing Carbon Neutrality

—To Be Strategically Carried Out with a Long-Term Perspective

- 1 Roadmap to carbon neutrality in the Ironmaking Process
- 2 CO₂ reduction roadmap through the MIDREX® Process
- 3 Initiatives to achieve carbon neutrality in the electric power business
- 4 Initiatives to contribute to reduction of CO₂ emissions

2030 Target

Reduction of CO₂ emissions
in production processes
30–40%
(compared to fiscal 2013)

Contribution to Reduction of CO₂
Emissions through Technologies,
Products, and Services
61 million tons
(including 45 million tons or more
through MIDREX® Process)

2050 Target

Reduction of CO₂ emissions
in production processes
**Taking on the challenge
of realizing carbon
neutrality**

Contribution to reduction of CO₂
emissions through technologies,
products, and services
**100 million
tons or more**

Providing solutions
to society and
creating economic
value through
business activities

Kobelco Group's Materiality (Medium- to Long-Term Key Issues)



Main goals of the SDGs that we contribute to through our corporate business activities

Recognition of the Current Business Environment

- Transition to carbon neutrality and social transformation
- Sustainability movement
- Digital transformation
- Structural problems of the steel industry
- Changes in industrial structure triggered by COVID-19
- Higher procurement costs and supply chain risks

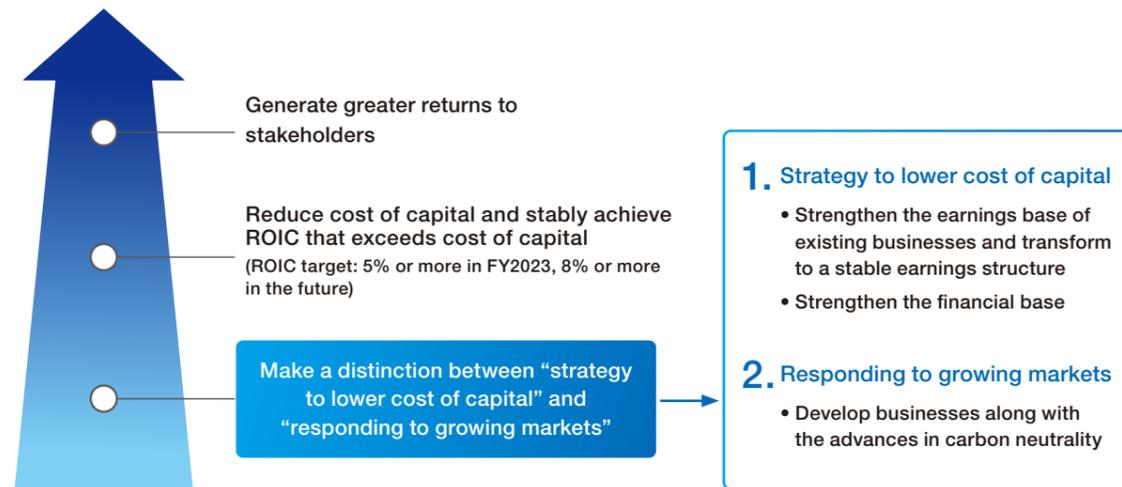
Kobelco Group Medium-Term Management Plan (Fiscal 2021–2023)

In order for companies to pursue sustainable growth and enhance corporate value over the medium to long term in a rapidly changing business environment, we recognize that it is more important than ever before to make a clear distinction between “strategy to lower cost of capital while controlling volatility (aimed at strengthening the earnings base of existing businesses and shifting to a stable earnings structure, and strengthening our financial base)”

and “responding to growing markets (aimed at developing business along with the advances in carbon neutrality).”

Our Group is committed to generating greater returns to our stakeholders including shareholders, investors, and members of the Group, by reducing cost of capital and stably achieving return on invested capital (ROIC) that exceeds cost of capital.

Enhancing corporate value



Key Issues of the Kobelco Group Medium-Term Management Plan

Establishing a stable earnings base

- Strengthening the earnings base in the steel business
- Smooth startup and stable operation of new electric power projects
- Strategic investment in the materials businesses leading to earnings contribution
- Restructuring unprofitable businesses
- Stabilizing earnings in the machinery businesses and responding to growing markets

Taking on the challenge of realizing carbon neutrality

- Reduction of CO₂ emissions in production processes
- Contribution to reduction of CO₂ emissions through technologies, products, and services

Five Key Measures	Details
(1) Strengthening the earnings base in the steel business	In the face of an expected long-term decline in demand in Japan, we will build a structure that can secure stable earnings at 6.3 million tons of crude steel production, where even 6.0 million tons of production will still be profitable.
(2) Smooth startup and stable operation of new electric power projects	We will secure earnings of about 40 billion yen per year from fiscal 2023 with the start of commercial operations of the Kobe Power Plant No. 3 and No. 4 units along with the stable operation of the Kobe Power Plant No. 1 and No. 2 units and the Moka Power Plant No. 1 and No. 2 units.
(3) Strategic investment in the materials businesses leading to earnings contribution	We will realize early earnings contribution from strategic investments for automotive weight reduction as the need for lighter weight automobiles continues to be high despite delays in demand expansion and the remaining issues in manufacturing capabilities.
(4) Restructuring unprofitable businesses	Amid changes in the demand environment and industrial structures, we aim to achieve profitability from fiscal 2021 to 2022 in the steel casting and forging business and the titanium business, both of which incurred impairments of non-current assets in fiscal 2019, as well as in the crane business, which continues to be in the red, by streamlining these businesses.
(5) Stabilizing earnings in the machinery businesses and responding to growing markets	<ul style="list-style-type: none"> In the machinery businesses, we will expand our environmental product lineup, including those that contribute to CO₂ reductions, and aggressively address growing markets. In the construction machinery business, we will break away from our dependence on the Chinese market, generate profits in our solutions businesses that help transform work styles in the construction industry, and commercialize peripheral businesses such as providing on-site installation know-how.

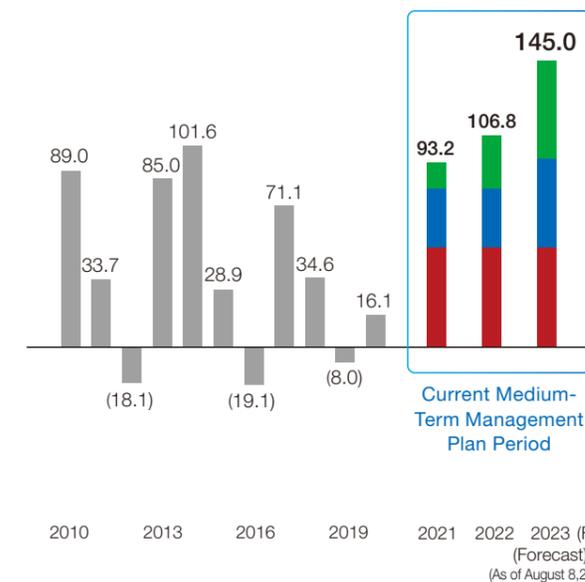
Earnings Status and Outlook

Ordinary profit was 93.2 billion yen in fiscal 2021 and 106.8 billion yen in fiscal 2022. Despite changes in the business environment, including the impact of the spread of COVID-19 and the emergence of geopolitical risks, we have been able to secure a certain level of earnings. Ordinary profit for fiscal 2023 is projected to be 145.0 billion yen, and we are making steady progress in our efforts to establish a stable earnings base. Regarding the financial outlook by business segment, we expect to secure stable earnings of around 45 billion yen in the materials business and 30 billion yen in the machinery business throughout the period of the

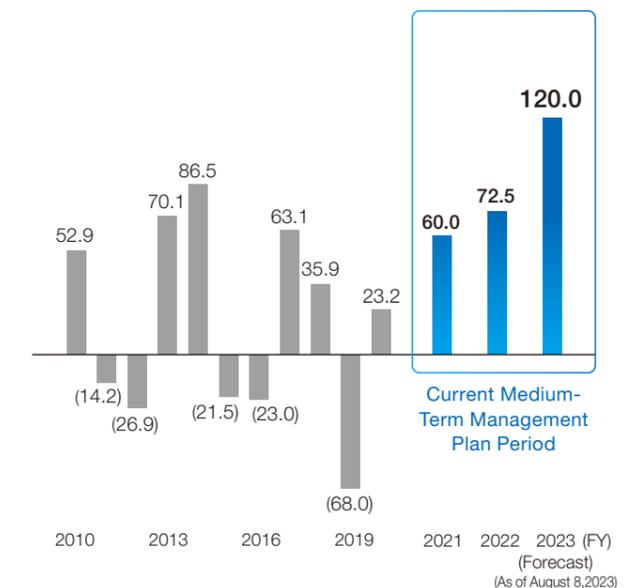
Medium-Term Management Plan. This will be supplemented by earnings from the electric power business, including the Kobe Power Plant No. 3 and No. 4 units, which started up during the period of the current Medium-Term Management Plan.

Amid the dizzying changes in the business environment, we continue to view the volatility of the materials businesses as an issue. With the electric power business underpinning the financial base, we have been able to build a structure that will solidify our stable earnings base.

Consolidated ordinary profit (loss) (Billions of yen)



Profit (loss) attributable to owners of parent (Billions of yen)



Status of Five Key Measures toward Establishing a Stable Earnings Base

Key measure	Current evaluation	Status
(1) Strengthening the earnings base in the steel business	△	Although we are on track to achieve a structure that turns profits at 6 million tons of steel production, we are only halfway through the effort to improve the product mix, partly due to a decline in demand for automobiles, affected by the slump in the automotive market.
(2) Smooth startup and stable operation of new electric power projects	○	Along with the stable operation of existing power plants, the Kobe Power Plant No. 3 and No. 4 units started commercial operations as planned.
(3) Strategic investment in the materials businesses leading to earnings contribution	×	Strategic investment in manufacturing is progressing largely as planned, but earnings did not reach the target due to the sluggish automobile market and soaring raw material prices.
(4) Restructuring unprofitable businesses	○	The steel casting and forging business, titanium business, and crane business are expected to return to profitability as planned.
(5) Stabilizing earnings in the machinery businesses and responding to growing markets	○	Our efforts are progressing as planned in enhancing our environmental product lineup, strengthening collaboration within the Group, and reforming the earnings structure of the construction machinery business.

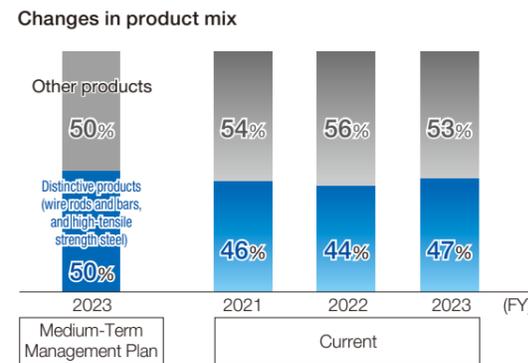
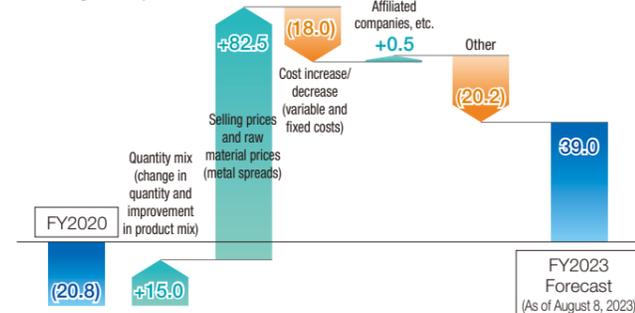
1 Fully achieve the results during the Current Medium-Term Management Plan Establishing a Stable Earnings Base

Key Measure 1 Strengthening the Earnings Base in the Steel Business

Our steel production has declined since fiscal 2022 as the macroeconomic environment conditions are worse than our assumptions in the Medium-Term Management Plan. Metal spreads have improved significantly since fiscal 2022, despite delays in fiscal 2021 in passing on soaring raw material costs to selling prices in businesses that handle large contracts with fixed destinations mainly in the automotive sector. With regard to the improvement of the product mix, aimed at increasing the ratio of our distinctive products in sales, such as wire rods and bars and high-tensile strength steel sheets, we expect it to be 47%, falling short of our fiscal 2023 target

of 50%, due to decreasing sales volumes in the automotive sector along with a decline in automobile production and delayed recovery. As a result of the improvement of metal spreads, the break-even point in crude steel production is expected to be lower than the target of 6 million tons. However, the situation remains uncertain as further cost increases are anticipated in the future. We believe that the target for the improvement of the product mix will be achieved as demand for automobiles recovers, but we will continue to focus on price improvements and cost reductions to mitigate volatility.

Changes in profit (loss)* between fiscal 2020 and 2023 (Billions of yen)
* Excluding inventory valuation

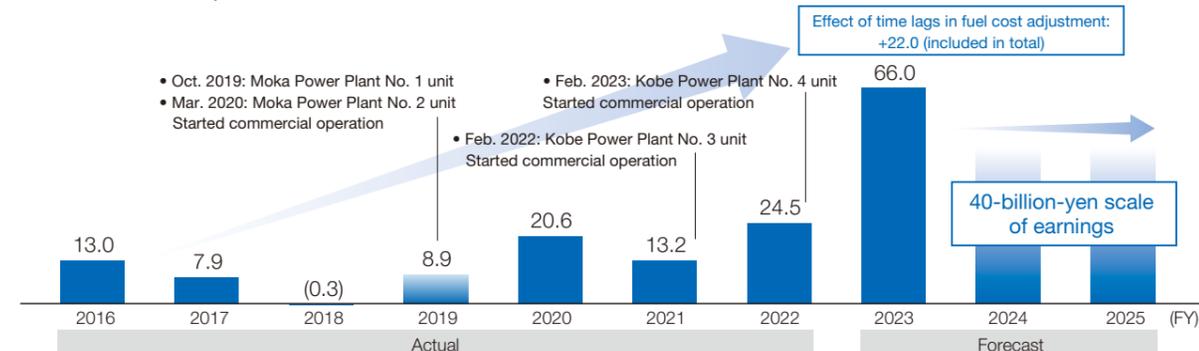


Key Measure 2 Smooth Startup and Stable Operation of New Electric Power Projects

The Kobe Power Plant No. 3 and No. 4 units began commercial operation as planned in February 2022 and February 2023, respectively. By having these new units along with the existing Kobe Power Plant No. 1 and No. 2 units and the Moka Power Plant No. 1 and No. 2 units, we have established a structure that will ensure stable earnings.

as possible inclusion of temporary gains in fiscal 2023, we aim to continue to secure earnings of around 40 billion yen as a baseline. The Kobe Power Plant has been supplying steam to a nearby sake brewery by effectively utilizing waste heat from the power plant. We will continue to work to improve the overall energy efficiency of urban and regional areas by supplying heat and hydrogen through steam utilization. We will also continue to take on the challenge of realizing carbon neutrality in the electric power business.

Profits in the electric power business (Billions of yen)



Key Measure 3 Strategic Investment in the Materials Businesses Leading to Earnings Contribution

Strategic investments in manufacturing have largely progressed as planned, but we have a remaining issue in productivity at KAAP in the United States, which manufactures and sells aluminum forged parts for automotive suspension systems. As for sales volume, we have not been able to secure the planned sales volume due to sluggish automobile production and slow progress in expanding aluminum applications, impacted by the acceleration of electrification. In the aluminum business, delays in passing on higher costs to selling prices also led to the decline in earnings in aluminum flat-rolled products, extrusions, and suspensions.

improvement at the end of fiscal 2022. In terms of sales volume, despite sluggish demand for automobiles, we have also made steady progress in activities to receive orders and have already secured the expected volume of orders for suspensions and extrusions for fiscal 2023. While continuing to strive to increase orders with a view to future demand recovery, we will work to pass on various soaring costs to selling prices.

There is no change in the policy of the Medium-Term Management Plan to capture the demand for automobile weight reduction. In response to changes in the external environment, we will work to strengthen profitability by improving margins and the quantity mix, ensuring that each business turns a profit.

In manufacturing, KAAP in the United States has been working to resolve various issues and achieved a certain level of productivity

	Strategic investment
Steel products (high-tensile strength steel)	New continuous galvanizing line (CGL) at PRO-TEC (US) Third CGL at Kakogawa Works
Aluminum flat-rolled products	Kobelco Automotive Aluminum Rolled Products (China) Co., Ltd. Ulsan Aluminum, Ltd. (South Korea) New aluminum sheet line at Moka Works
Aluminum extrusions	Additional investment in KPEX (US)
Aluminum suspensions	Additional investment in KAAP (US)

Current status	Current status	
	Manufacturing capability	Price
Establishment of mass-production system underway as planned	Quantity mix	Cost pass-through in progress
	Decline in automobile production	Rising costs in energy, secondary materials, etc.
Productivity target not achieved	Decline in automobile production and delay in expanding aluminum applications	Delay in cost pass-through

Decline in profitability of the aluminum business

Key Measure 5 Stabilizing Earnings in the Machinery Businesses and Responding to Growing Markets

Machinery business: Demand was strong in both the energy/chemical sector and the industrial sector, and orders were strong. As a result, orders in fiscal 2022 reached a record high, and earnings are steadily improving. In the fields of fossil fuels, the energy transition market for hydrogen and ammonia is expected to expand. Orders for decarbonization-related applications are on the rise, and we will promote our initiatives in the energy market.

Flex™, which enables flexible operations on different ratios of natural gas and hydrogen. **Construction machinery business:** We have made steady progress in breaking away from the dependence on China, as set forth in the Medium-Term Management Plan, and in strengthening profitability by mapping out a strategy that categorizes operations into areas for offense (U.S., Europe, and India) and for defense (Japan, China, and Southeast Asia). In fiscal 2023, we will work to improve profitability by steadily passing on higher costs to selling prices and re-launching models with alternative engines to address engine certification issues. In addition, we plan to reform our business earnings structure, with the aim of making solutions and peripheral businesses one of the pillars of our future earnings.

Consolidated ordinary profit in the machinery business* (Billions of yen)



Consolidated orders and ordinary profit in the engineering business (Billions of yen)



Consolidated ordinary profit in the construction machinery business (Billions of yen)



Note: Beginning in fiscal 2023, Kobelco Research Institute, Inc., which was under the Other segment, has come under the Machinery segment. According to this change, the results for fiscal 2022 have been recalculated.

Establishing a stable earnings base

Profitability (ROIC)

Basic Policy

We have positioned the period of the Medium-Term Management Plan (Fiscal 2021–2023) as a period to further deepen our efforts to enhance profitability with a focus on the materials businesses and establish a stable earnings base of our Group.

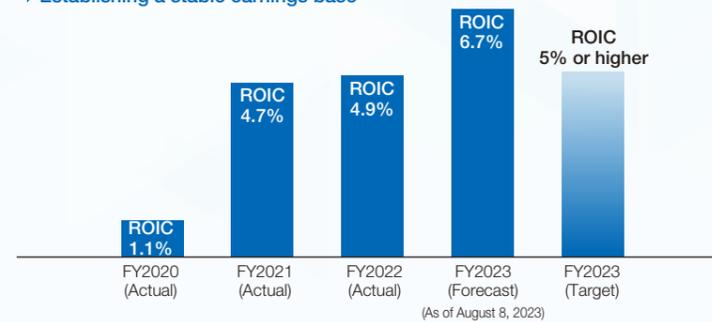
In fiscal 2023, when the startup of new electric power plant projects is completed and their contribution to earnings is made in full, we aim to secure a return on invested capital (ROIC) of 5% or higher and increase this to 8% or higher in the future toward our goal of becoming a corporate group that grows sustainably.

ROIC in fiscal 2022 was 4.9%. In fiscal 2023, we project an ROIC of 6.7% (as of August 8, 2023), exceeding the target ROIC of 5% or higher set in the Medium-Term Management Plan, with improvements to metal spreads in steel products and the electric power business's contribution to earnings.

Targets under the Medium-Term Management Plan



Targets under the Medium-Term Management Plan: ROIC of 5% or higher → Establishing a stable earnings base



Capital and Other Investments and Loans

Basic Policy

During the period of the Medium-Term Management Plan, in order to focus on rebuilding our financial base, we aim to keep capital investments within the range of operating cash flow, and we plan to spend approximately 100 billion yen per year on a decision basis. Basically, we will control expenditures, but we have increased IT strategy-related investment to roughly 15 billion yen a year.

Capital investments for fiscal 2022 totaled 103.7 billion yen (on a decision basis), which was within depreciation. In fiscal 2023, we plan to increase capital investments temporarily, focusing on maintenance/renewal-related investments aimed at rebuilding a stable production system.

Capital Investment Plan as of May 2021 (Billions of yen)			Capital Investment as of May 2022 (Billions of yen)		
FY		2021–2023	FY		2021 (Actual) 2022 (Actual) 2023 (Plan)
Capital investment	Decision basis	310	Capital investment	Decision basis	98.9 103.7 140.0
	Accrual basis	360		Accrual basis	108.1 97.3 135.0
Of which, IT strategy-related		Approx. 15.0/year	Of which, IT strategy-related		9.1 10.6 22.0
Depreciation		345	Depreciation		105.1 112.5 120.0
Research and development expenses		Approx. 30.0/year	Research and development expenses		33.2 36.7 40.0

Financial Strategy

Basic Policy

We aim to keep investing cash flow within the range of operating cash flow and achieve a D/E ratio of 0.7 times or less by the end of fiscal 2023 by carefully selecting capital and other investments and loans. In addition, we will continue to promote activities to improve working capital and similar metrics. Along with this, in order to brace for downside risks in operating cash flow, we will strengthen our monitoring systems and study and prepare backup measures.

In fiscal 2022, free cash flow deteriorated due to a decline in sales volume and an increase in working capital associated with rising raw material prices. However, the D/E ratio at the end of fiscal 2022 improved to 0.65 times, achieving 0.7 times or less for the second consecutive year, the target to be attained by the end of fiscal 2023 as set forth in the Medium-Term Management Plan.

In fiscal 2023, free cash flow is expected to remain at a low level due to an increase in working capital resulting from strong orders in the machinery and engineering businesses and higher prices for raw materials and supplies. While strengthening management of invested capital, we will continue financial management with a focus on reducing cost of capital.

Cumulative Cash Flow Plan as of May 2021 (Excluding project financing) (Billions of yen)		Progress of Cash Flow Plan as of May 2023 (Excluding project financing) (Billions of yen)			
FY	2021–2023	FY	2021	2022	2023
Operating cash flow	Approx. 420.0	Operating cash flow	Approx. 345.0 (82%)		
Investing cash flow	Approx. (320.0)	Investing cash flow	Approx. (275.0) (86%)		
Free cash flow	Approx. 100.0	Free cash flow	Approx. 70.0 (70%)		
D/E ratio	0.7 times or less	D/E ratio	0.68 times*	0.65 times	Approx. 0.6 times

* Excluding early procurement of borrowings

Returns to Shareholders

Basic Policy

Our basic policy is to return profits to shareholders through dividends.

Kobe Steel determines dividends taking its financial condition, business performance, future capital needs, and other factors into overall consideration with the aim of paying dividends on a continuous and steady basis in principle. In fiscal 2023, the Company decided to raise the target of the dividend payout ratio, which was set at approximately 15–25% of consolidated profit attributable to owners of parent, to approximately 30%.

The dividend payout ratio for fiscal 2022 was 21.8%. Under the Medium-Term Management Plan, the Company has given priority to establishing a stable earnings base and strengthening its financial base and is making particular efforts in these areas. Based on our current business performance and financial condition, we have decided to raise the target of the dividend payout ratio.



2 Taking on the Challenge of Realizing Carbon Neutrality

—To Be Strategically Carried Out with a Long-Term Perspective

The Kobelco Group has set targets for 2030 and a vision for 2050 from two angles: (1) reducing CO₂ emissions in its own production processes, and (2) contributing to reduction of CO₂ emissions through the Group's distinctive technologies, products, and services.

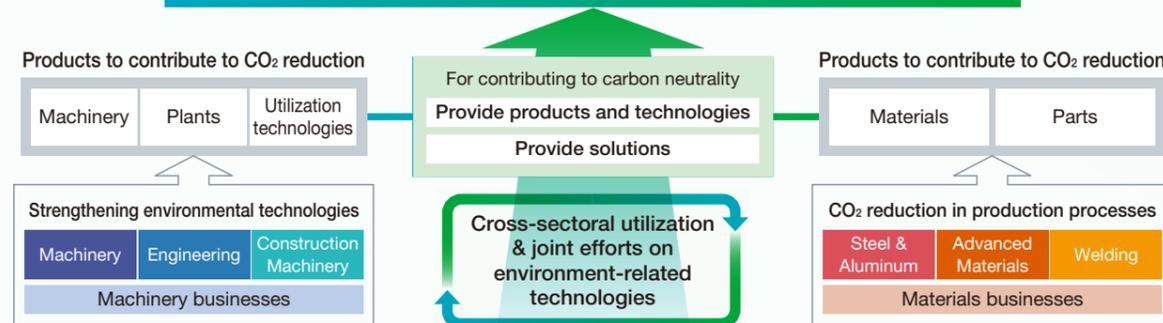
	2030 Target	2050 Vision
Reduction of CO ₂ emissions in production processes	30–40% (compared to fiscal 2013 levels) ¹	Taking on the challenge of realizing carbon neutrality
Contribution to reduction of CO ₂ emissions through technologies, products, and services ²	61 million tons (including at least 45 million tons through the MIDREX® Process ³)	100 million tons or more

1 Most of the reduction targets are associated with iron and steelmaking processes. We reviewed the targets announced in September 2020 (with the change from BAU to the total amount basis, and the increased use of original solutions reflected).
 2 The Kobelco Group contributes to the reduction of CO₂ emissions in various areas of society through its distinctive technologies, products, and services.
 3 Reviewed calculation formula announced in September 2020

For reducing CO₂ emissions in production processes, we will boldly take on the challenge of carbon neutrality with a focus on the steel business by promoting the development of our Group's distinctive technology and utilizing external innovative technology. For contributing to reduction of CO₂ emissions, our Group has a variety of promising technologies, products, and services in both

the machinery and materials businesses, such as the MIDREX® Process and materials for automobile weight reduction. Leveraging our Group's strengths that integrate diverse technologies and products to help reduce CO₂ emissions, we will capture the growing demand driven by the progress of carbon neutrality movement as a business opportunity.

2050 Vision: Taking on the Challenge of Realizing Carbon Neutrality

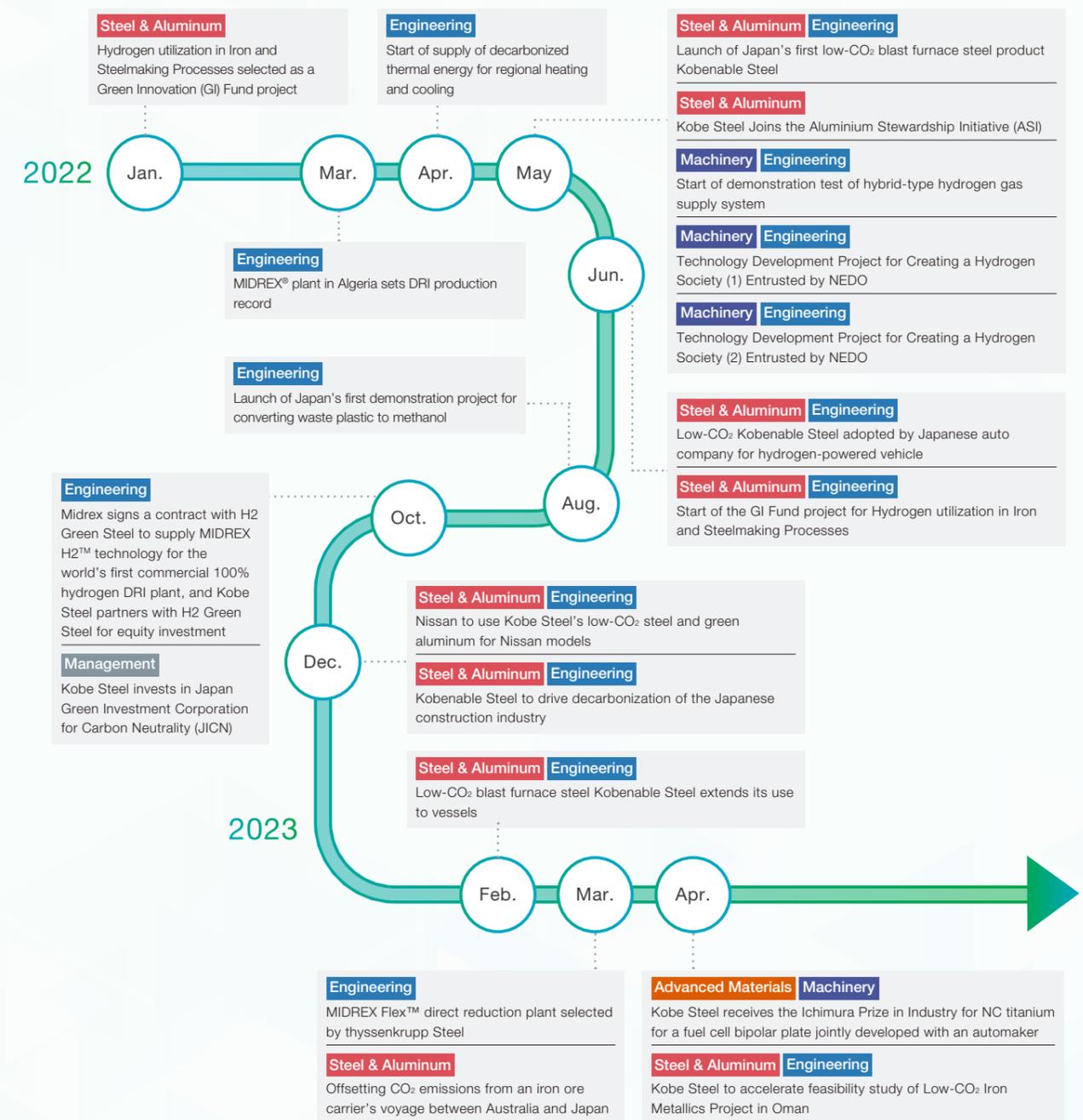


Recognition of External Environment and Our Group's Actions

	Internal environment	External environment	Our Group's actions
Risks (Negative factors)	Weakness <ul style="list-style-type: none"> Owns blast furnaces and coal-fired power plants with high CO₂ emissions 	Threats <ul style="list-style-type: none"> Increasing cost of measures to reduce CO₂ emissions of the Group Trend toward divestment by investors, etc. 	To minimize risks <ul style="list-style-type: none"> Disclosure of roadmaps for achieving carbon neutrality by 2050 Promotion of medium- to long-term technology development based on the roadmaps
Opportunities (Positive factors)	Strengths <ul style="list-style-type: none"> Numerous options for contributing to reductions of CO₂ emissions Capability to integrate various businesses and technologies 	Opportunities <ul style="list-style-type: none"> Increase in demand for options that contribute to reduction of CO₂ emissions 	To maximize opportunities <ul style="list-style-type: none"> Technology development and promotion of commercialization of options that contribute to reductions of CO₂ emissions

Recent Public Announcements Related to Carbon Neutrality

From January 2022 to the end of April 2023, we made 20 public announcements related to carbon neutrality, as we make significant progress in our Group's carbon neutrality efforts. Many of the initiatives are the result of collaboration among multiple business divisions, demonstrating the comprehensive strengths of our Group.



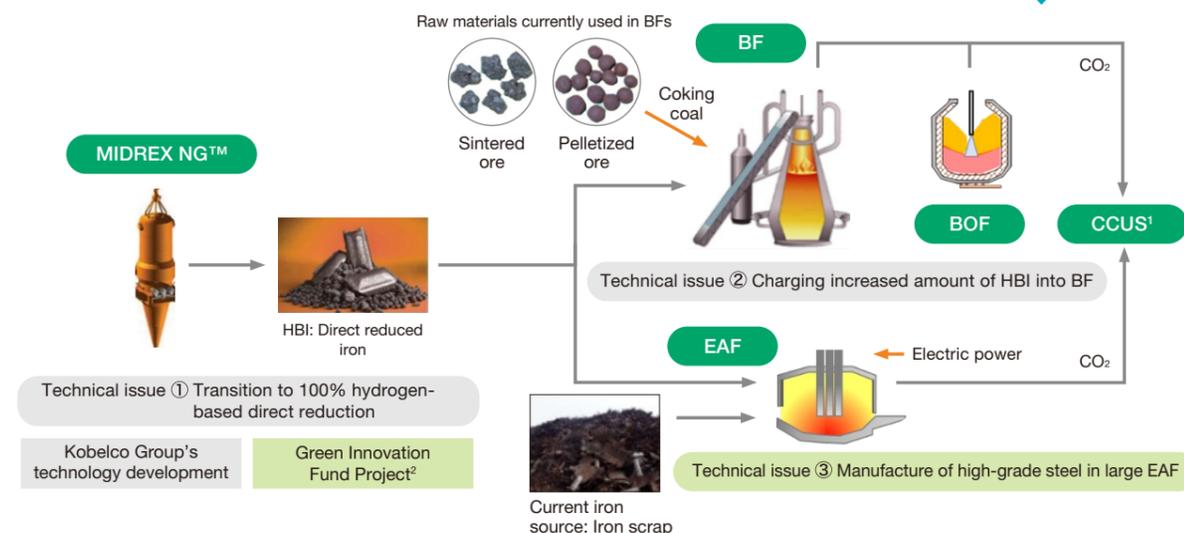
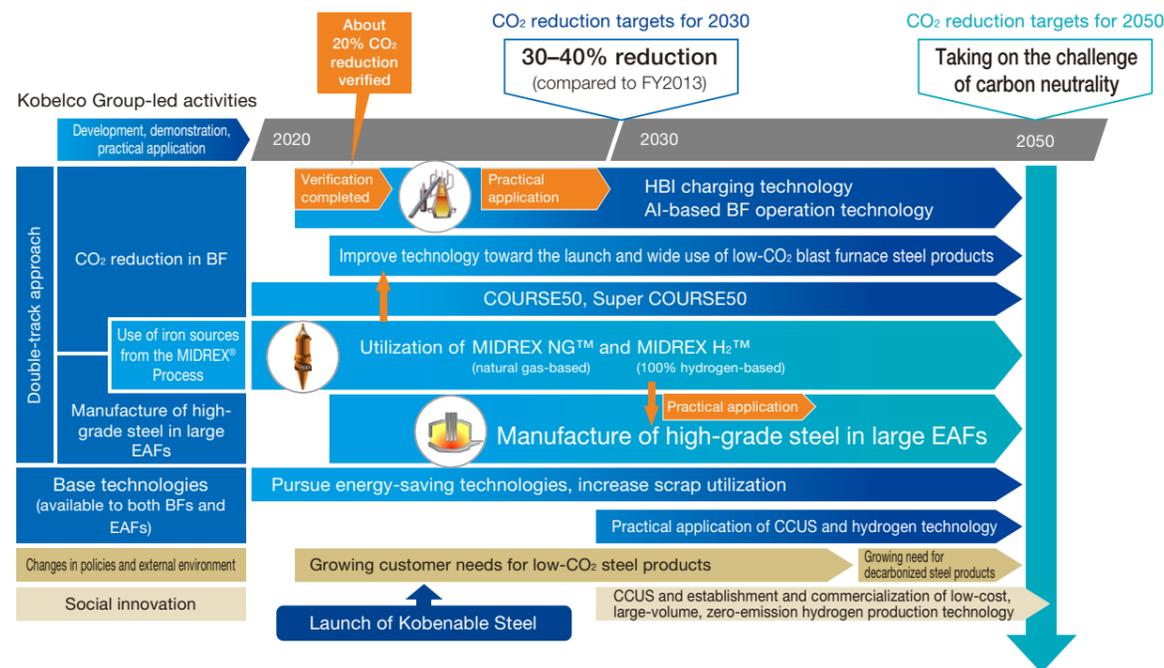
Taking on the challenge of carbon neutrality

1. Roadmap toward Carbon Neutrality in the Ironmaking Process

Our Group's efforts to realize carbon neutrality in the ironmaking process are aimed at achieving the targets by integrating the technologies of the steel business and the engineering business. Our basic strategy is to use iron sources from the MIDREX® Process, while working on a double-track approach of reducing CO₂ emissions utilizing existing blast furnaces and manufacturing high-grade steel in large electric arc furnaces.

There are three major technical issues that must be addressed to achieve the roadmap (please see the diagram below): ① Transition to 100% hydrogen-based direct reduction, which is related to manufacturing of direct reduced iron (DRI), ② Charging

increased amount of HBI into BF, and ③ Manufacture of high-grade steel in large EAFs, which are centered on the efforts at Kakogawa Works. Regarding technical issue ② Charging an increased amount of HBI into BF, we are currently working on upgrading HBI charging technology and studying HBI charging facilities to develop further HBI charging technology for blast furnaces. Technical issue ③ Manufacture of high-grade steel in large EAFs has been selected as one of the R&D items of the project for "Hydrogen Utilization in iron and Steelmaking Processes" by the Green Innovation Fund (GI Fund) of the Ministry of Economy, Trade and Industry (METI).

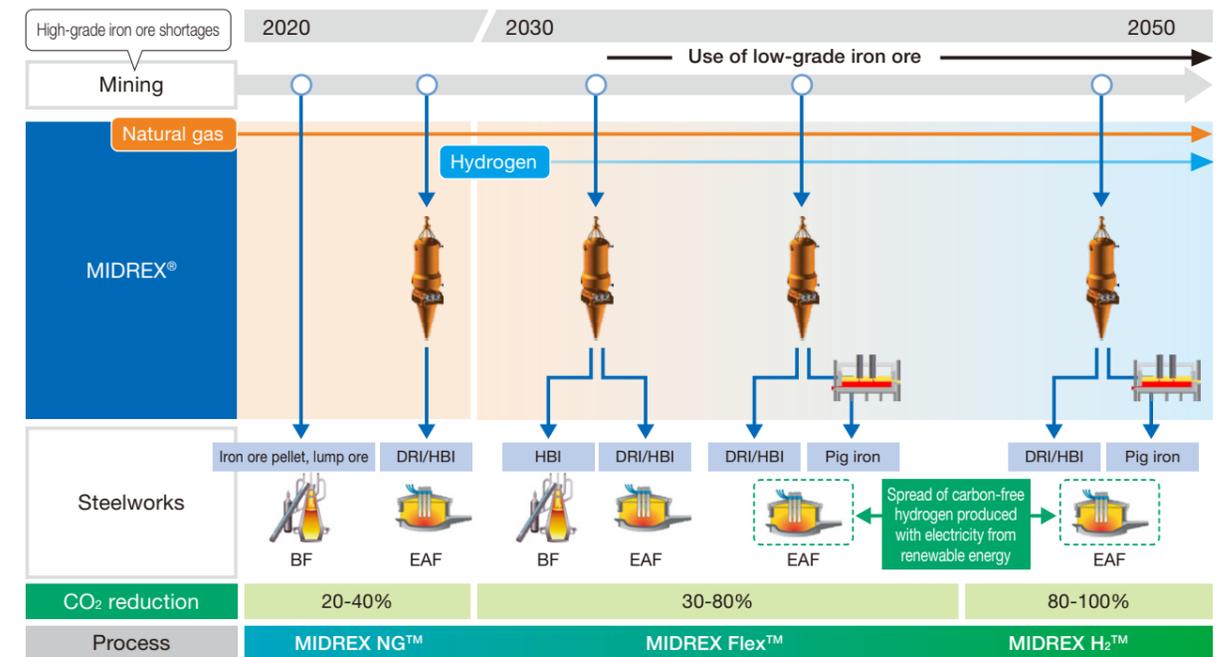


1 CCUS: Carbon Capture, Utilization and Storage
 2 The Hydrogen Steelmaking Consortium (Nippon Steel Corporation, JFE Steel Corporation, Kobe Steel, Ltd., and the JRCM) is commissioned to carry out the Green Innovation Fund Project entitled "Hydrogen Utilization in Iron and Steelmaking Processes."

2. Roadmap for CO₂ Reduction through the MIDREX® Process

The MIDREX® Process is attracting worldwide attention as a low-carbon ironmaking method. The MIDREX® process offers three options: MIDREX NG™, which uses natural gas as reducing gas; MIDREX Flex™, which enables flexible transition from natural gas to hydrogen up to 100%; and MIDREX H₂™, which uses 100% hydrogen as reducing gas. In accordance with the status of the expansion of carbon-free hydrogen use, which varies in speed from region to region, the MIDREX® Process offers optimal

solutions during the transition period toward future expansion of hydrogen use. Orders received in fiscal 2022 include MIDREX Flex™ for thyssenkrupp (Germany) and MIDREX H₂™ for H₂ Green Steel (Sweden). As the use of DRI is expanding in electric arc furnaces as well as blast furnaces, we believe that there is an increasing need for DRI as an iron source, in addition to the need for the MIDREX® Process to be introduced in plants.



Feasibility Study of Low-CO₂ Iron Metallics Project in Oman

In order to respond to the future increase in demand for low-carbon iron sources, our Group is working on the feasibility study of a low-CO₂ iron metallics project using the MIDREX® Process.

On April 9, 2023, Kobe Steel and Mitsui & Co., Ltd. signed a memorandum of understanding (MoU) on comprehensive cooperation for the low-CO₂ iron metallics project with the Public Authority for Special Economic Zones and Free Zones (OPAZ), an Omani authority that oversees all the special economic zones in Oman. The two companies also signed a land reservation agreement with Port of Duqm Company S.A.O.C., an Omani entity that undertakes the port development and management in the Special Economic Zone of Duqm. In addition, discussions are underway with the Sultanate of Oman's Ministry of Energy and Minerals to determine the detailed terms and conditions for the supply of natural gas required for the project.

Oman is a country rich in natural gas, which is used in the Midrex® Process, as well as an ideal location for the Low-CO₂ Iron Metallics Project as the country promotes renewable energies

and green hydrogen based on Oman Vision 2040. While natural gas is used as a reducing agent in the project for the time being, replacement of natural gas by hydrogen and combination with carbon capture, utilization, and storage (CCUS) will be considered to further reduce CO₂ emissions. The project estimates its annual DRI production at around 5 million tons.



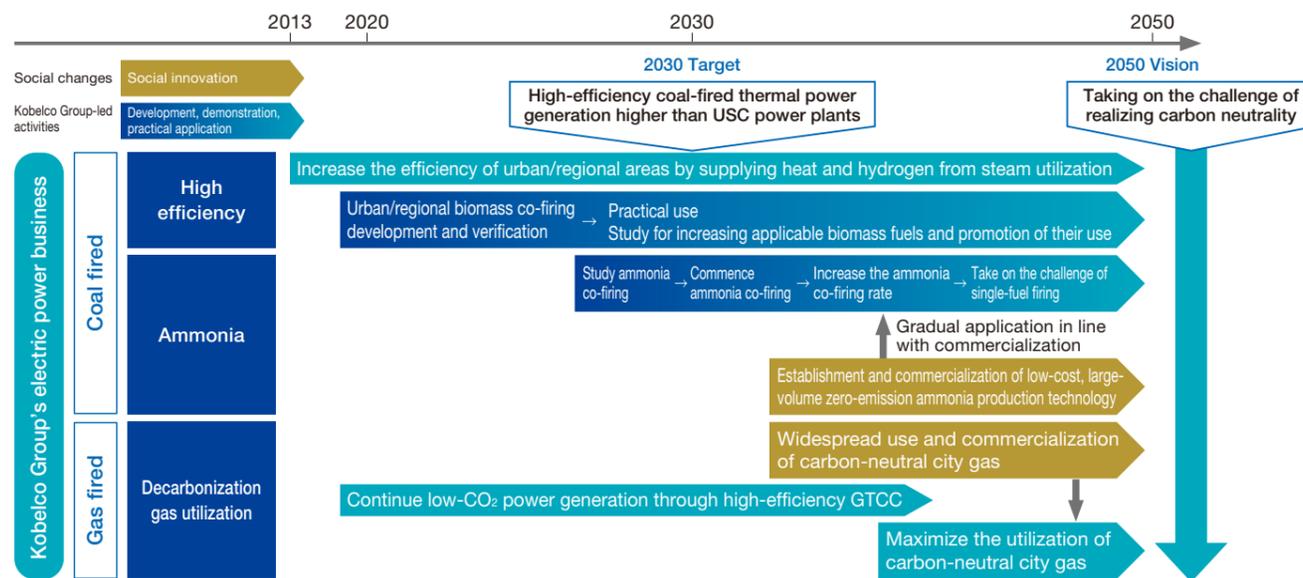
Taking on the challenge of carbon neutrality

3. Initiatives toward Carbon Neutrality in the Electric Power Business

At the Kobe Power Plant, which is a coal-fired power plant, we will continue to supply heat and hydrogen to surrounding areas by utilizing steam from the power plant and increase the efficiency of region-wide energy use. We will promote the collaboration of the Electric Power Business and the Engineering Business divisions to strengthen CO₂ reduction initiatives such as co-firing of biomass fuel (sewage sludge and food residue) and ammonia, aiming to achieve the world's most advanced urban coal-fired power plant.

At the Moka Power Plant, which is a gas-fired power plant, we will continue stable operation of low-CO₂ power generation using high-efficiency Gas Turbine Combined Cycle (GTCC).

In addition, at the Kobe Power Plant, we will increase the ammonia co-firing rate and ultimately we will take on the challenge of single-fuel firing. The Moka Power Plant is working on the study of the maximum use of carbon-neutral city gas, and through these measures, we aim to achieve carbon neutrality by 2050.

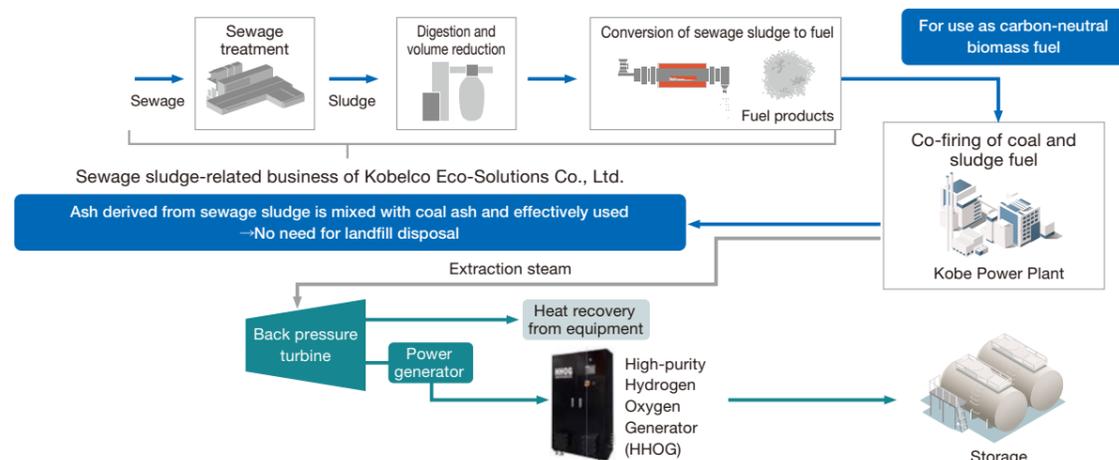


In order to promote initiatives aimed at practical application of ammonia co-firing, including the use of technology under development by NEDO-funded projects, we are moving forward with detailed internal studies, while following up on national policies and trends in technology development promoted by NEDO and other organizations.

As of the end of fiscal 2022, Kobelco Eco-Solutions received orders for three projects for converting sewage sludge to fuel. In collaboration with Kobelco Eco-Solutions, we are promoting a project for co-firing of biomass fuel derived from sewage sludge and utilization of extraction steam*.

* Hydrogen production by High-purity Hydrogen Oxygen Generator (HHOG)

Conversion of Sewage Sludge to Fuel—An Initiative for Hydrogen Production and Supply



4. Initiatives to Contribute to Reduction of CO₂ Emissions

Our Group's products contribute to reduction of CO₂ emissions by our customers in various ways. In addition to products manufactured with low CO₂ emissions in our production process,

we also have many products and solutions that contribute to the reduction of CO₂ emissions in customers' production processes or in the use of products manufactured by customers.

Our contribution to reducing CO₂ emissions ▶ See p. 74-75 "Climate-Related Disclosures Based on TCFD Recommendations"

Initiatives to Contribute to Carbon Neutrality in the Energy Industry

Along with the progress of carbon neutrality initiatives, there is a growing trend of energy transition to new energy sources, such as hydrogen and renewable energy. Our Group will contribute

to carbon neutrality in the energy industry not only through the machinery businesses but also through the materials businesses, including the welding business.

Initiatives in the Machinery Business

Our machinery business supplies compressors, heat exchangers, and vaporizers, which play a major role in the supply chain of the energy industry. In the energy industry, energy transition is expected to accelerate as the world moves toward carbon neutrality, and we believe that our products will play an essential

part in this movement. The products of the machinery business contribute significantly to the realization of a carbon-neutral society in every part of the hydrogen, ammonia, CO₂, and LNG supply chains.

	Produce	Transport	Store	Use
H₂ Hydrogen	• Electrolysis • Liquefaction	• Liquid hydrogen carriers	• Liquid hydrogen terminals	• Firing (mixed/single) • Ironmaking • Hydrogen stations
NH₃ Ammonia	• Synthesis • Liquefaction	• Liquid NH ₃ carriers	• Gasification	• Combustion
CO₂ Carbon dioxide	• Separation • Liquefaction	• CO ₂ pipelines	• CO ₂ batteries • CO ₂ capture and storage • Gasification	• Methanation
LNG Liquefied natural gas	• Gas purification • Liquefaction	• LNG carriers • Gas pipelines	• LNG terminals	• Gas turbine power generation • Fuel use

● Compressors ● Heat exchangers and vaporizers

Initiatives in the Welding Business

(1) LNG fuel tanks

Along with the global movement toward carbon neutrality, there is an increase in demand for LNG as a transitional energy source. In particular, the shipbuilding industry is working on the in-house production of LNG fuel tanks. To improve the quality of welding of fuel tanks using 9% Ni steel, which requires advanced welding skills, and to help resolve welder shortages, we have developed a compact, portable welding robot KI-700, equipped with a welding process for 9% Ni steel, and an automatic welding system that uses special welding consumables. Practical application of these products has already begun, and we will work to promote their widespread use.



(2) Offshore Wind Power Generation Towers

Special welding processes are used in the welding of offshore wind power generation towers. They require high-quality, high-efficiency technologies, including narrow groove welding, high-speed weldability, and high rigidity. Our Group has begun developing welding consumables and welding processes and is working on their practical applications. In particular, the Japanese market is moving toward the introduction of offshore wind power generation, and higher efficiency welding processes are being required to lower power generation costs. Going forward, we will continue to develop high-efficiency welding processes and optimal welding consumables and increase customer value by proposing welding solutions that leverage our strengths. We will thereby continue to support offshore wind power generation from the welding field and contribute to the reduction of CO₂ emissions.



Message from the CFO

We will fulfill the current Medium-Term Management Plan in a way unique to KOBELCO and build a foundation for our sustainable growth.

Yoshihiko Katsukawa

Executive Vice President and Representative Director



Looking Back over Fiscal 2022

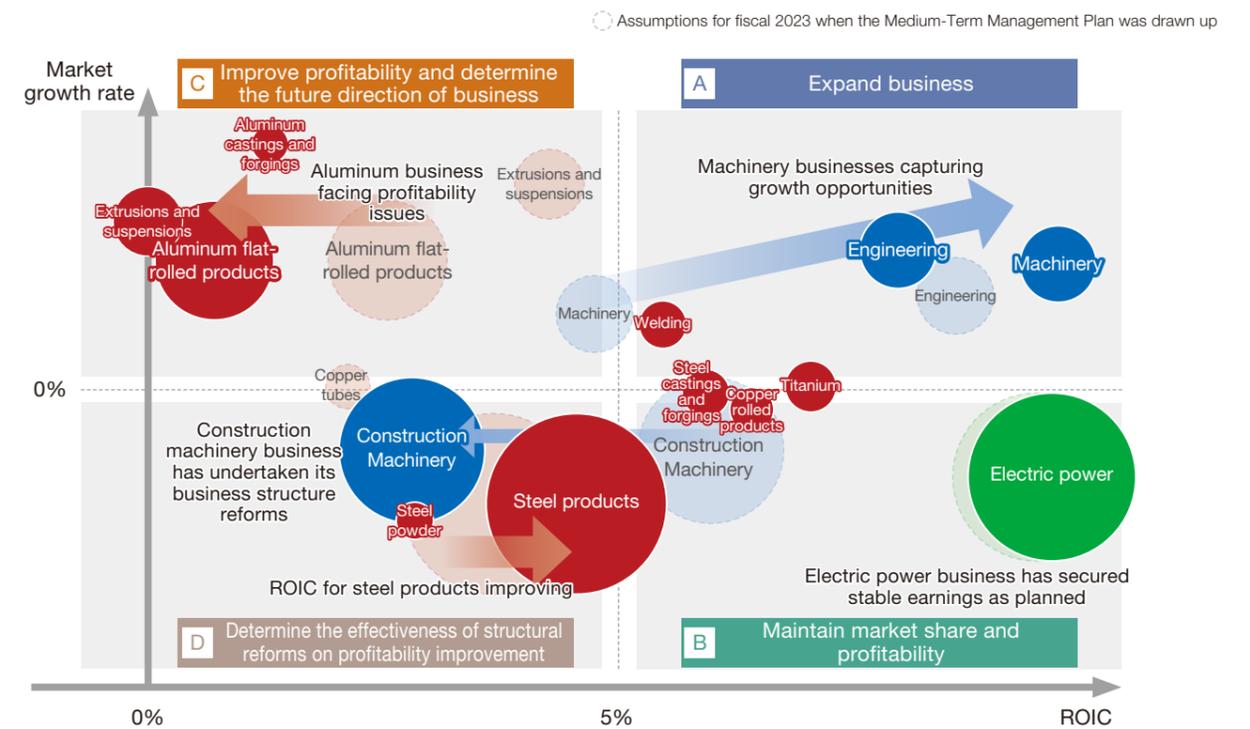
Under the Medium-Term Management Plan for fiscal 2021–2023, we have been working to establish a stable earnings base, with the two years from 2021 to 2022 positioned as the rebuilding period. In fiscal 2022, despite the challenging external operating environment, as exemplified by the slow recovery of automobile production due to the global semiconductor shortages and supply chain disruptions, the rise in materials and logistics costs, and the rapid depreciation of the yen, we continued to implement the five key measures set forth in the Plan, while maximizing our efforts to improve earnings with a main focus on passing on higher raw materials and procurement costs to selling prices. As a result, ordinary profit was 106.8 billion yen and return on invested capital (ROIC) was 4.9% in fiscal 2022, owing largely to a significant improvement in the steel price spread and the start of operation of the Kobe Power Plant No. 3 unit in the electric power business.

Overall, we believe that a stable earnings base is being established. However, we still have issues to address in fiscal 2023 and beyond in the aluminum business that includes aluminum flat-rolled products, suspensions, etc., partly due to the impact of declining demand in the automotive, IT, and semiconductor sectors, and the slow progress in passing on surging energy costs to selling prices.

Financial Strategy

In the financial strategy of the Medium-Term Management Plan, we aim to achieve a D/E ratio of 0.7 times or lower by the end of fiscal 2023 by carefully selecting new capital and other investments and loans and keeping investing cash flow within the range of operating cash flow, in order to strengthen our financial base. In fiscal 2022, while capital investment was within the range of depreciation, free cash flow was negative 200 million yen due to higher raw material prices and an increase in working capital along with an increase in orders in the machinery business. However, as a result of our efforts to reduce cash and deposits, the D/E ratio stood at 0.65 times at the end of the fiscal year, achieving the target of the Medium-Term Management Plan ahead of schedule. In fiscal 2023, as we forecast an increase in working capital, free cash flow is expected to be lower than estimated at the time of the formulation of the Medium-Term Management Plan. Even in such a situation, we will maintain a D/E ratio of 0.7 times or lower.

Regarding shareholder returns, we intend to provide stable returns to shareholders who have supported us for many years, and I believe that it is our responsibility to present an appropriate shareholder return policy. Taking our current business performance and financial condition into consideration, we have decided to raise our dividend payout ratio target from 15–25% to approximately 30% in order to further enhance the return of profits to shareholders. With a view to future carbon-neutral investments, we will continue discussions on cash allocation from a medium- to long-term perspective, while bearing in mind the need to further strengthen our financial base.

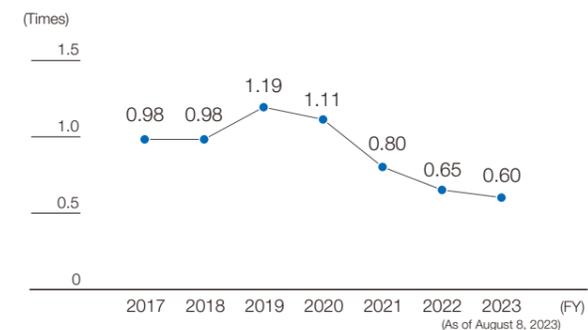


Estimated cumulative cash flow in 2021–2023

(Excluding project financing) (Billions of yen)

	As of May 2021	As of May 2023
Operating cash flow	Approx. 420.0	Approx. 345.0
Investing cash flow	Approx. (320.0)	Approx. (275.0)
Free cash flow	Approx. 100.0	Approx. 70.0
D/E ratio	0.7 times or lower (FY2023)	Approx. 0.6 times (FY2023)

D/E ratio (Excluding project financing)



Promoting ROIC Management

Since the start of the current Medium-Term Management Plan, we have been managing the Group's business portfolio based on ROIC. Specifically, the Business Portfolio Management Committee, which is an auxiliary body to the Executive Council, formulates companywide business portfolio strategies and monitors the status of each business unit. The results of these activities are reported to the Executive Council and discussed at meetings of the Board of Directors, as appropriate.

As I mentioned earlier, our Group's efforts to establish a stable earnings base are largely progressing, but issues remain for each business unit. In fiscal 2023, the final year of the Medium-Term Management Plan, we will focus on monitoring businesses that have not reached the ROIC target of 5%.

In the steel product business (placed in quadrant D in the lower left of the table above), profitability is increasing mainly due to improvements in metal spreads. However, we are only halfway through improving the product mix and the profitability of our overseas business, and we will continue to monitor progress and study future strategy to address carbon neutrality. The construction machinery business, also in quadrant D, has embarked on a restructuring of its global production structure. In the future, we will monitor the progress of profitability improvement and the progress of the solutions business along with other new businesses.

Message from the CFO

In the aluminum business (placed in quadrant C in the upper left of the table on the previous page), profitability has weakened due to slow progress in passing on rising energy and secondary materials costs to selling prices and a decline in demand. Although cost pass-through is currently progressing, we will continue to monitor the status of cost pass-through and the sales volumes as further cost increases are expected. In addition, we will continue to promote companywide initiatives to improve profitability. In businesses placed in quadrant B in the lower right of the table on the previous page, we will continue to strengthen our business structure, even though we expect to achieve an ROIC of 5%, and accelerate the study on our future strategy to address carbon neutrality with a focus on the electric power business as well as the steel business.

In businesses placed in quadrant A in the upper right of the table on the previous page, we will steadily capture opportunities for business expansion.

In parallel with our efforts in the existing businesses explained above, we have been exploring the creation of new businesses in each business division, and we will optimally allocate management resources to new businesses with growth potential.

Enhancement of Corporate Value

Return on capital and cost of capital

To enhance corporate value, we believe it is important not only to improve return on capital through ROIC management but also to control cost of capital. By pursuing both, we are working to enhance corporate value through the expansion of equity spreads (See p. 56 "Initiatives to Enhance Corporate Value").

While our Company has implemented ROIC management, the corresponding cost of capital, WACC, is currently estimated at about 4 to 5%. ROIC recovered to 4.9% in fiscal 2022 and is expected to be 6.7% in fiscal 2023 (as of August 8, 2023), exceeding WACC. Thus, we believe this is a result of our efforts to establish a stable earnings base. We will continue to strive to enhance our corporate value.

Improving return on capital

In order to build a business portfolio that can maintain ROIC at 5% in any external operating environment, we will continue to implement the five key measures set forth in the Medium-Term Management Plan aimed at establishing a stable earnings base, and at the same time, conduct invested capital management for the management that considers profitability

in parallel. The progress of these efforts is being closely monitored by the Business Portfolio Management Committee. The current Medium-Term Management Plan has set forth the ROIC target at 5% or higher for fiscal 2023, but in the future we hope to build a system that can maintain ROIC at 5% even in times of economic downturn, aspiring to achieve an ROIC of 8% or higher.

Controlling cost of capital

In light of our current financial position and upcoming investments in carbon neutrality, we are strengthening our financial base with a target to keep a D/E ratio at 0.7 times or lower under the Medium-Term Management Plan. WACC is on the rise due to the decline in the ratio of liabilities, but we will strive to control any increase in WACC by reducing earnings volatility and lowering the cost of shareholders' equity as we move forward with establishing a stable earnings base while maintaining financial stability.

We are also strengthening our sustainability measures with an eye on the accelerating ESG trend. In particular, attention is increasing on non-financial capital such as human capital and intellectual capital, and we will consider linking these intangible assets to the enhancement of corporate value.

On the other hand, our Group has the steel business and the electric power business with coal fired power plants, both of which emit a large amount of CO₂ emissions, and thus we must strive to explain our efforts to achieve carbon neutrality to the capital markets properly. By disseminating information on the aforementioned efforts for the enhancement of corporate value and sustainability in a timely and appropriate manner and promoting IR activities with the participation of all directors and executive officers, we aim to reduce information asymmetry with the capital markets and thereby enhance corporate value.

Market evaluation

Our Company has long faced the issue of its stagnant stock price. While exchanging opinions with analysts and shareholders either directly or through the IR team, we share the relevant information with members of the Board of Directors, including outside directors, for discussion. Our analysis finds that the current stock price reflects concerns about the instability of the earnings base and financial vulnerabilities based on past performance, as well as concerns about uncertainty about the future outlook amid various changes in the operating environment, including ESG trends such as carbon neutrality.

We believe that the best way to respond to these



concerns is to steadily accomplish our goals set forth in the Medium-Term Management Plan, which include establishing a stable earnings base, strengthening the financial base, and taking on the challenge of realizing carbon neutrality.

We are making steady progress with establishing a stable earnings base. For example, in the steel business, we are on track to build a profitable system at 6.0 million tons of crude steel production. It is the result of the accumulation of previous profit improvements such as cost reductions, as well as of increased marginal profits through price improvements, which have significantly lowered the break-even point. As indicated by these, our efforts to achieve stable profitability are progressing. We will continue to promote the key measures and deliver concrete results.

In order to cope with future uncertainty, we are promoting various initiatives by leveraging the Group's comprehensive strengths. For example, as a response to carbon neutrality, we are steadily implementing various measures to achieve our CO₂ reduction targets for fiscal 2030, which include the launch of Kobenable Steel, Japan's first low-CO₂ blast furnace steel product developed by combining our steel business's distinctive technologies and the MIDREX® Process. In order to respond to the energy transition to new energy sources, such as hydrogen and ammonia, for which demand is expected to grow, we are making efforts toward increasing orders for products in the machinery business, expecting that our products will become an essential part of the supply chain, and starting the demonstration test of the hybrid-type hydrogen gas supply system, taking advantage of being a producer as well as a user of hydrogen.

We believe that the drastically changing operating

environment presents us with an opportunity to become a market changer by quickly responding to various needs with the Group's diverse technologies, products, and services. By steadily seizing on growth markets, we will strive to raise the value of the Group, enhance our corporate value, and eventually improve our Company's stock price.

In Conclusion

We believe that engagement with the capital markets forms an important aspect of our efforts to enhance the Group's corporate value. We aim to improve the quality of management through constructive dialogue from a long-term perspective, while disclosing information in a timely and appropriate manner and promoting accurate understanding of the Group's value.

It is also important for the entire Group to reflect on our corporate value. We are working to provide opportunities for executives to explain directly to employees, as we hold IR seminars for employees and promote ROIC management. Through these initiatives, we hope to refine KOBELCO's unique value, which is the source of the Group's value creation.

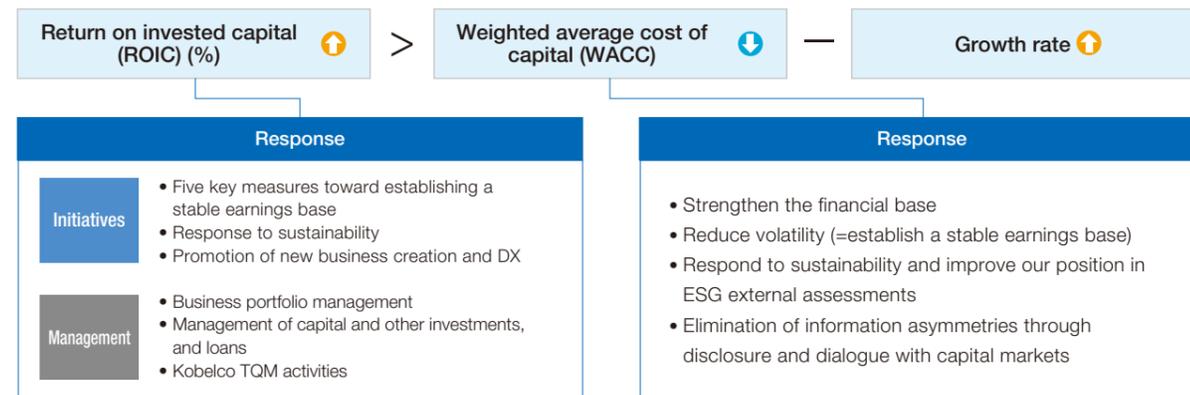
In fiscal 2023, the final year of the current Medium-Term Management Plan, we will steadily implement what is projected in the Plan and lay the foundation for sustainable growth. In addition, we will deepen discussions toward the next Medium-Term Management Plan, and in next year's integrated report, we hope to show our Group taking a solid step forward.

Enhancement of Corporate Value

Initiatives to Enhance Corporate Value

We believe that the Kobelco Group's corporate value comes from the various technologies, products, and services that we have cultivated over the past 117 years, the human resources and intellectual property that have supported and developed them, and the relationships of trust that we have built with our stakeholders.

Our Group has introduced ROIC as a performance indicator for management that emphasizes return on capital. By securing ROIC that exceeds the cost of capital and working to lower the cost of capital, we will expand the equity spread and enhance corporate value.



Return on Capital and Cost of Capital

Return on capital: ROIC (return on invested capital)

We have adopted ROIC as an indicator for return on capital. Under the Medium-Term Management Plan, we aim to achieve an ROIC of 5% or higher in fiscal 2023 and stably secure 8% or higher in the future.

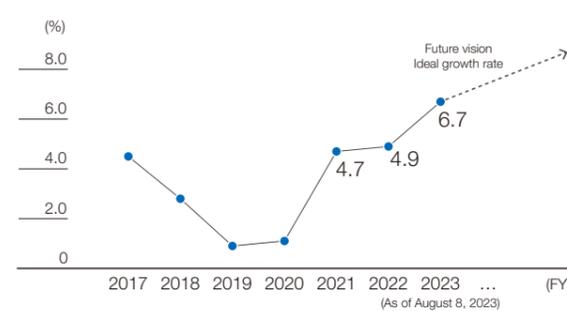
The first step is to implement the five key measures set forth in the Medium-Term Management Plan aimed at establishing a stable earnings base that maintains ROIC at 5% in any external operating environment. Along with this, we will conduct invested capital management for the improvement of ROIC with a focus on both profitability and invested capital. In order to achieve an ROIC of 8% or higher, we will visualize the positioning of each business with an eye on the ideal business portfolio and move forward with our response to growth markets.

Cost of capital: weighted average cost of capital (WACC)

We use WACC as a metric that represents the cost of capital corresponding to ROIC. The cost of shareholders' equity is calculated based on the capital asset price model (CAPM), and WACC is calculated by weighted averaging the cost of liabilities and the cost of shareholders' equity. The current WACC is estimated at about 4 to 5%.

Financial security is as an important factor in light of the Group's current financial situation and the upcoming investments in carbon neutrality. In the Medium-Term Management Plan, we have set a target of a D/E ratio of 0.7

ROIC



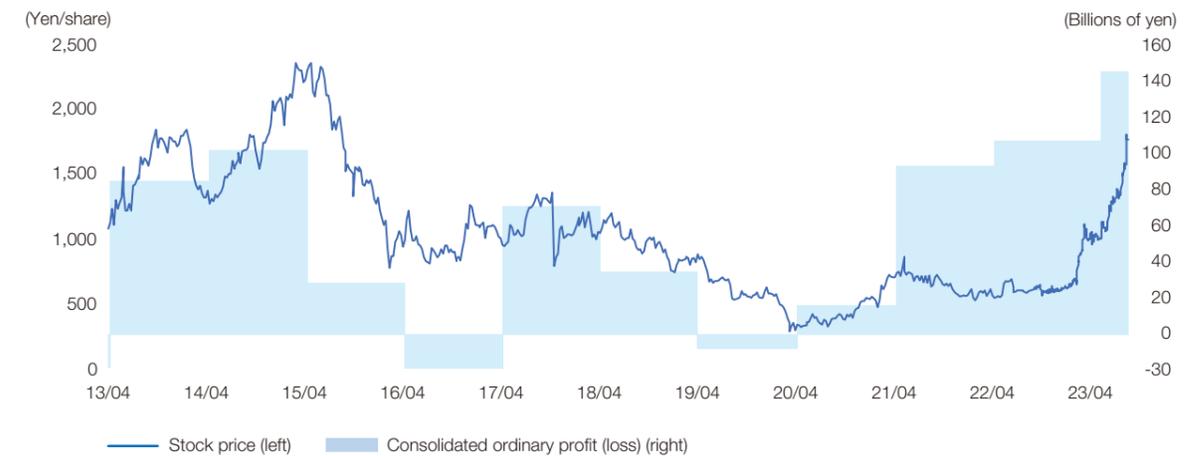
times or lower and aim to control WACC by lowering the cost of shareholders' equity while maintaining financial security.

Since the cost of shareholders' equity is at a relatively high level against the backdrop of high volatility in past performance, we are working to establish a stable earnings base under the Medium-Term Management Plan. Amid the recent trend toward sustainability, we believe that uncertainty about the future of the Company is another factor driving the increase in the cost of shareholders' equity. While sincerely addressing and responding to these issues, we will strive to foster better understanding of the Group's policies and initiatives through timely and appropriate information disclosure and dialogue between the executives and stakeholders.

Market Evaluation

The chart below shows the Group's consolidated ordinary profit and stock price trends over the past 10 years. Compared to fiscal 2014, when the stock price reached a record high of 2,360 yen, ordinary profit in fiscal 2022 was at a level similar to fiscal 2014, but the stock price remained at a lower level than fiscal 2014. Our Group exchanges

opinions with analysts and other external stakeholders to analyze the reasons for the discrepancy in stock prices between fiscal 2022 and fiscal 2014 and regularly discuss measures to increase the stock prices among members of the Board of Directors.



Note: The Company carried out a 1-for-10 reverse stock split of its shares on October 1, 2016. Data has been recalculated accordingly based on the assumption that the reverse stock split had been carried out at the beginning of fiscal 2013.

Reason for Discrepancy in Stock Prices

Our analysis finds that the current stock price reflects concerns about the instability of the earnings base and financial vulnerabilities based on past performance, as well as concerns about uncertainty about the future outlook amid various changes in the operating environment, including ESG trends such as carbon neutrality.

Response

Our Group has already addressed the above-mentioned concerns and anxieties in the capital markets through initiatives to enhance corporate value and through the Medium-Term Management Plan, and we believe that accomplishing these initiatives will lead to an increase in stock price.

To address concerns and evaluations based on past performance, we have been working to establish a stable earnings base and strengthen our financial base. In fiscal 2022, our ROIC was 4.9% and the D/E ratio stood at 0.65 times, indicating we are achieving steady results. Of the five key measures toward establishing a stable earnings base, some measures have not made sufficient progress yet.

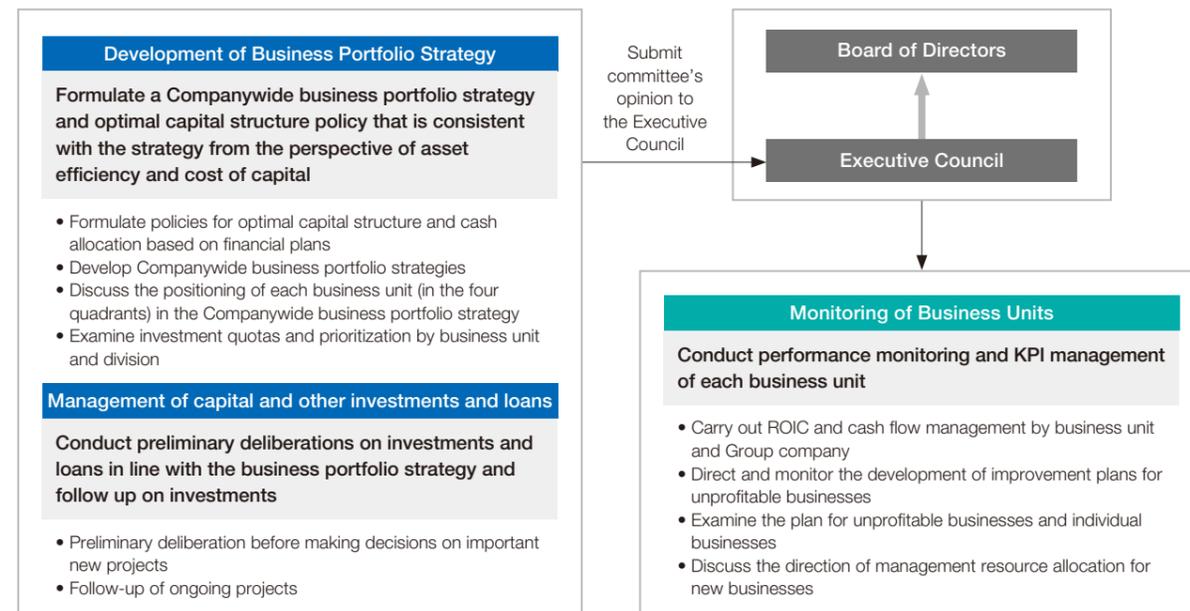
Focusing on these, we will work to increase earnings at an early stage and deliver results showing that we are able to maintain ROIC at 5% even in times of economic downturn, so that we can dispel concerns in capital markets.

As for concerns regarding uncertainty about the future outlook, in terms of response to carbon neutrality, roadmaps toward carbon neutrality by 2050 have been presented by the steel business and electric power business, both of which emit a large amount of CO₂ emissions, and we are currently working to make further detailed roadmaps with concrete steps. In the energy transition to new energy sources such as hydrogen and ammonia, we will strive to seize growth opportunities in the industries for the next stage of growth. In an environment where the market changes drastically, our Group, which has a variety of technologies, products, and services, can be a provider of new value by identifying customer needs in a timely manner and offering solutions through integration of businesses and technologies. Going forward, we will continue to leverage the Group's strengths to enhance corporate value and improve the stock price.

Enhancement of Corporate Value

Business Portfolio Management

In order to facilitate the monitoring of each business unit in terms of asset efficiency and cost of capital (identified as an issue in the Medium-Term Management Plan), our Group is working to make efficient use of cost of capital and management resources and strengthen the business foundation by utilizing return on invested capital (ROIC) in the management and evaluation of our business units.



Management Policy and Future Initiatives

In our business portfolio management, we classify our business units into four quadrants (A to D) along the axes of profitability (ROIC) and market growth potential. This allows us to examine measures tailored to each quadrant and implement them while optimizing the allocation of management resources according to the corresponding strategy.

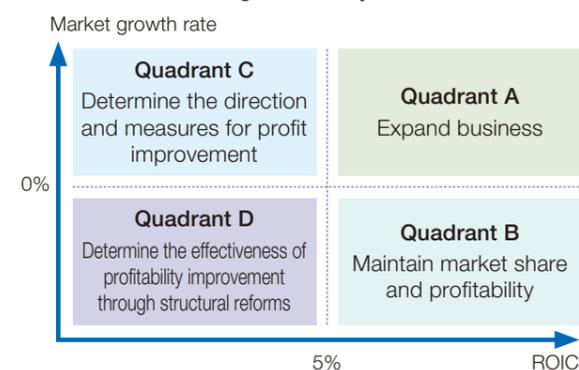
Our Group has been promoting business portfolio reforms, which include the sale of the copper tube business (a non-core business), and in quadrant A where growth is expected, we made Kobelco Eco-Solutions Co., Ltd. a wholly owned subsidiary and formed a capital and business alliance with Miura Co., Ltd. for standard compressors.

In the business portfolio (assumptions for fiscal 2023) updated in May 2023, the machinery business, which was in quadrant C at the time of planning the Medium-Term Management Plan, was moved to quadrant A due to strong orders in the energy and industrial sectors and a significant improvement in profitability. On the other hand, the excavator business, which was located in quadrant B, has shifted to quadrant D due to factors such as the deterioration of profitability affected by soaring raw material and logistics costs, as well as by the intensified price competition from Chinese manufacturers that are increasing

the presence. In addition, the profitability of the aluminum businesses, located in quadrant C, declined due to weaker demand for automobiles and slow progress in passing on higher costs to selling prices.

As future initiatives, for quadrants A and B, where we expect high profitability, we will continue to monitor the status of our efforts to strengthen the financial base aimed at achieving ROIC that consistently exceeds the cost of capital. For quadrants C and D, where profitability is low, we will determine the direction of each business while working to improve profitability in fiscal 2023 and monitoring and following up the progress of improvements.

Business Portfolio Management Policy



Business Management Based on ROIC Tree

Each business unit has set major KPIs in the ROIC tree and use KPIs for performance management. The Business Portfolio Management Committee conducts monitoring on a quarterly basis.

An Initiative in the Advanced Materials Business—Utilizing the ROIC Tree for Management of TQM Activities

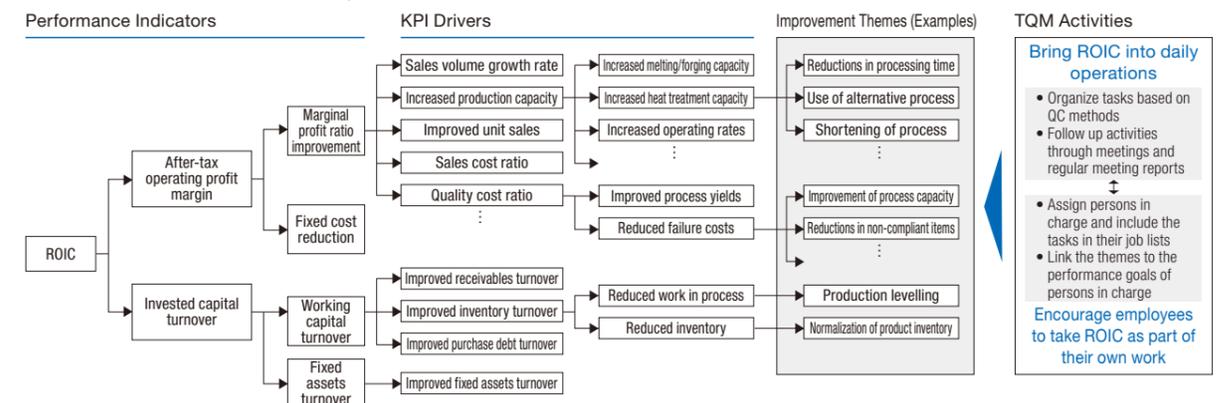
Our Group is working on Kobelco Total Quality Management (TQM) activities* and has introduced the ROIC tree in the management of Kobelco TQM.

In the Advanced Materials Business, we have set improvement themes corresponding to KPI drivers of the ROIC tree with the aim of bringing awareness of ROIC improvements into daily operations. Based on the improvement themes, tasks are organized using quality control (QC) methods. Progress of each theme is followed up through unit meetings and regular meeting reports. In addition, in order to encourage each and every employee to take ROIC as part of their own work, each unit prepares budgets for improvement themes and appoints a person in charge, whose performance goals are linked to the assigned improvement themes.

By linking Kobelco TQM activities and the ROIC tree in this way, we are working to build a framework in which each employee works with an awareness of improving the quality of their work along with the ROIC.

* Kobelco TQM activities are systematic activities aimed at achieving the objectives of the organization as a whole through effective and efficient operations of all divisions of the organization, so that we can provide products and services of quality that satisfies customers in a timely manner and at appropriate prices.

Example: The ROIC Tree Created by the Copper Rolled Products Unit



Management of Investments and Loans

For important investment projects, the Investment and Loan Committee, which is an advisory body to the Executive Council, works with the Business Portfolio Management Committee to conduct preliminary deliberations that include risk analysis of the investment project and the assessment of the target projects for which investment is being considered. The committee also conducts in-depth discussions on the timing of implementation and whether or not investment should be implemented and submit its opinion to the Executive Council. For the follow-up of investment

projects that have already been decided, the committee reports the results of the follow-up with its opinions to the Executive Council after thorough discussions based on the knowledge and know-how obtained through the centralized management of investment projects so that the expected results can be achieved as planned. By strengthening our PDCA cycle for investment projects, we are working on the careful selection of investment projects with the aim of ensuring expected results are fully achieved.



* Risk analysis is conducted by the relevant departments, including Corporate Planning Department, Finance and Accounting Department, Business Development Department, IT Planning Department, Environment and Safety Department, Legal Department, etc.

Economic Environment by Customer Domain

The Kobelco Group operates businesses centered on seven segments, and its main customer fields can be divided into the three categories of Mobility, Life, and Energy & Infrastructure. The table below summarizes the economic environment, risks, and opportunities associated with each of these three categories.

Related Segments

- Steel & Aluminum
- Advanced Materials
- Welding
- Machinery
- Engineering
- Construction Machinery
- Electric power

	Economic Environment	Risks and Opportunities		Economic Environment	Risks and Opportunities
Mobility			Energy & Infrastructure		
Automobiles	<ul style="list-style-type: none"> Demand for automobiles remains steady despite growing concerns about a decline in demand as inflation accelerates worldwide. Production is expected to recover as the COVID-19 pandemic subsides and supply constraints caused by semiconductor shortages ease. Unit sales are expected to increase over the medium to long term. The semiconductor supply shortage is expected to continue until the end of 2023, but it still remains difficult to predict when the shortage will end. Countries are further accelerating the shift to EVs as a national effort to achieve carbon neutrality. China has already entered a phase of market-driven EV growth. Application of connected vehicles is increasing in new models. Testing and legislation for the practical use of autonomous driving are expanding in various countries. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in demand for automobiles due to changes in lifestyles and increased adoption of carsharing and Mobility as a Service (MaaS) Further tightening of fuel efficiency regulations and enactment of Life Cycle Assessment (LCA) regulations <p>Opportunities</p> <ul style="list-style-type: none"> Acceleration of electrification Increase in demand for related parts due to the expansion of applications of connected vehicles and autonomous driving 	Petroleum refining and petrochemical	<ul style="list-style-type: none"> Global demand is expected to be on an upward trend as energy consumption expands, driven by economic recovery and a recovery from the downturn in travel and transportation demand impacted by the COVID-19 pandemic. In particular, demand is expected to increase in Asia, centered on China and the ASEAN region, due to increased energy consumption along with economic growth and increased demand triggered by the growth of the petrochemical industry, driving the increase in global demand. Demand in Japan is expected to recover as the economy improves, but over the medium term, oil demand will continue to decline due to the improved fuel efficiency of vehicles and the shift to other energy sources. In refinery operations, the scale of the petroleum refining business will inevitably be reduced in line with waning domestic demand, and refineries will need to reduce capacity. With changes in the business environment toward carbon neutrality, the current uncertainty is expected to continue due to delays in development and capital investment projects by major oil companies. 	<p>Risks</p> <ul style="list-style-type: none"> Tightening of regulations with a view to carbon neutrality Accelerated decline in demand, driven by the progress of carbon neutrality initiatives such as improving fuel efficiency, transition to alternative fuels Declining demand for crude oil and price fluctuations <p>Opportunities</p> <ul style="list-style-type: none"> Expansion of non-fossil energy businesses
Aircraft	<ul style="list-style-type: none"> With the end of the COVID-19 pandemic and the easing of border measures, passenger demand is on a gradual recovery trend. Demand is expected to recover to pre-pandemic levels in a few years and then grow steadily. Along with this, aircraft production rates are also expected to recover steadily. Airline profitability has improved. Along with the recovery in air travel demand, air cargo demand continues to be strong. Along with the acceleration of global carbon neutrality efforts, airlines are increasingly introducing fuel-efficient aircraft and improved engines and considering the adoption of emission credits and alternative aviation fuels. Russia's invasion of Ukraine has exposed geopolitical risks in the supply chain centered on titanium, accelerating global supply chain restructuring 	<p>Risks</p> <ul style="list-style-type: none"> Decrease in air travel demand due to lifestyle changes Sluggish demand for new aircraft due to deteriorating airline profitability <p>Opportunities</p> <ul style="list-style-type: none"> Increase in air travel demand with the easing of travel restrictions Higher demand for in-bound tourism in Japan driven by yen's depreciation Increase in cargo demand Growing domestic production of aircraft parts, centered on titanium alloys 	Industrial machinery	<ul style="list-style-type: none"> Capital investment is expected to recover as demand recovers in major industries with the end of the COVID-19 pandemic, but the recovery is slow, and the situation remains uncertain. Domestic demand remains strong with demand for automation and labor saving of production facilities and digitalization mainly in manufacturing industries. Global demand is expected to remain strong with many new investment projects in various countries striving to invite plants in the semiconductor and EV sectors. With the acceleration of carbon neutrality initiatives, demand for CO₂ reduction and energy savings is increasing. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in corporate investment sentiment due to economic downturn <p>Opportunities</p> <ul style="list-style-type: none"> Growing demand for energy savings to achieve carbon neutrality Advancement of labor savings and work style reforms along with the progress of digital transformation
Shipbuilding	<ul style="list-style-type: none"> Despite the continued rise in materials and equipment prices, ship prices have been on a recovery trend since 2023, and ship owners who were sitting on the sidelines have resumed ordering new ships. As a result, shipyards have secured a certain amount of work for at least the next two to three years. Demand is expected to remain strong over the medium and long term due to the replacement of old ships with environmentally friendly vessels. However, there are emerging issues for the enhancement of shipbuilding capacity, such as difficulties securing personnel and procuring materials and equipment. Shipbuilders are accelerating studies of low-carbon fuels and zero-emission vessels compliant with significantly tighter environmental regulations on marine transportation. With advances in IoT and AI, the logistics revolution, etc., new types of ships, such as autonomous ships, are emerging and driving the transformation of ship concepts and values. 	<p>Risks</p> <ul style="list-style-type: none"> Constraints in enhancing shipyard capacity due to labor shortages Intensifying competition with Chinese and Korean shipbuilders Difficulty procuring materials and equipment and soaring prices <p>Opportunities</p> <ul style="list-style-type: none"> Increasing need and accelerating introduction of low-carbon/zero-emission vessels Introduction of IoT and AI for vessels 	Urban transit	<ul style="list-style-type: none"> The number of urban transit users in Japan is on a recovery trend with the end of the COVID-19 pandemic, but there are no immediate plans for new construction, extension or large-scale renovation projects. The need for transportation systems to alleviate traffic congestion and prevent air pollution is strong in metropolitan population centers in emerging countries. Japanese ODA loan projects continue mainly in Southeast Asia. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in users in Japan due to the declining birthrate and aging population <p>Opportunities</p> <ul style="list-style-type: none"> Increased demand for maintenance of existing projects and emergence of new and extension projects in Japan Continuation of Japan's infrastructure export policy
Life					
Food containers	<ul style="list-style-type: none"> Environmental considerations are driving a worldwide shift from plastic bottles to aluminum cans, particularly in Europe and North America Overseas demand is increasing due to the emergence of new types of canned beverages, such as low-alcohol hard seltzer beverages (alcoholic sparkling water) and wines. In Japan, the tax on alcohol will be revised in October 2023. Demand for aluminum cans is expected to remain firm. Total demand for aluminum cans in Japan is expected to increase in 2023 compared to the previous year. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in domestic production due to imported materials <p>Opportunities</p> <ul style="list-style-type: none"> Return to metal containers due to the growing attention to microplastic problems 	Direct reduced iron (DRI)	<ul style="list-style-type: none"> Direct reduction ironmaking process, which emits less CO₂ emissions than the blast furnace method, is attracting increasing attention in the move toward carbon neutrality. Increasing worldwide need for green steel production is driving higher demand for DRI supply among steelmakers. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in investment sentiment among steelmakers, etc., due to economic downturn Intensifying competition and lower barriers to entry due to the rapid expansion of the DRI market <p>Opportunities</p> <ul style="list-style-type: none"> Growing interest in low-CO₂ steel products along with the acceleration of the movement toward carbon neutrality Tighter regulations on CO₂ emissions in various countries
IT and semiconductors	<ul style="list-style-type: none"> Amid the slowdown in the global economy, global demand will temporarily shrink due to a decline in unit prices affected by softening of supply and demand and a diminished production volume linked with cutbacks in procurement. However, over the medium to long term, demand will expand driven by higher functionality and diversification of products and an increase in the number of parts installed in automobiles, etc. Demand in Japan will also shrink as the global economy slows. Over the medium term, however, demand will grow due to demand for electrification of automobiles and the development of information infrastructure such as data centers. Despite cyclical fluctuations in demand, this sector is anticipated to grow over the medium to long term. 	<p>Risks</p> <ul style="list-style-type: none"> Supply chain disruptions such as excess inventory of materials due to deteriorating supply-demand balance Geopolitical risks <p>Opportunities</p> <ul style="list-style-type: none"> Advances in digitalization Expanded application of connected and self-driving cars Expansion of semiconductor manufacturing plants (increased demand for related facilities) 	Renewable energy	<ul style="list-style-type: none"> In Japan, the cost of power generation using renewable energy is steadily declining as it has become a power source that is cost-competitive compared to conventional power sources, but it is still high in Japan compared to international levels due to factors such as construction costs and location restrictions. With the acceleration of carbon neutrality initiatives, the application of renewable energy is expected to expand and grow significantly over the medium to long term. Development of nationwide transmission and distribution networks is essential for the smooth transmission of the growing volume of electricity generated from renewable energy sources. Future national policies may further accelerate the use of renewable energy. 	<p>Risks</p> <ul style="list-style-type: none"> Delays in the development of national policies and legislation Cost competition due to intensifying competition and increased cost burden for the development and verification of technologies <p>Opportunities</p> <ul style="list-style-type: none"> Legislation and increased investment in various countries along with the acceleration of carbon neutrality initiatives Expanded use of renewable energy driven by lower cost of energy-saving facilities
Energy & Infrastructure					
Construction and civil engineering	<ul style="list-style-type: none"> Overseas demand is expected to remain firm in the United States, Europe, and ASEAN, recovering from the decline in demand impacted by the COVID-19 pandemic. On the other hand, demand continues to shrink in China where infrastructure investment loses momentum. Demand in Japan is expected to remain largely unchanged over the medium term, supported by large-scale redevelopment in the Tokyo metropolitan area for national resilience projects, linear high-speed train-related construction, and renewable energy projects, which will offset declining demand for private-sector housing due to Japan's declining population. Labor shortages are becoming more serious due to the declining working population, and there is a growing need to enhance the labor environment by improving the work environment and safety. 	<p>Risks</p> <ul style="list-style-type: none"> Decline in infrastructure investment in various countries due to economic downturn Soaring materials prices Possibility of tighter supply due to caps on working hours <p>Opportunities</p> <ul style="list-style-type: none"> Acceleration of efforts toward the development of smart cities Promotion of information technology in the construction machinery industry (autonomous operation, remote control, etc.) Advances in digital transformation at construction sites 	Electric power	<ul style="list-style-type: none"> Domestic electricity demand increased year on year in 2022 due to post-pandemic economic recovery but is expected to decline in 2023 due to slowing economic growth and implementation of further energy conservation measures. In 2022, the thermal coal supply and demand was tight due to the impact of Russia's invasion of Ukraine, and thermal coal prices remained at record-high levels until the end of the year. However, prices plummeted at the beginning of 2023 because of the warm winter in the northern hemisphere and have returned to levels before the invasion of Ukraine. Wholesale electricity market prices, which rose sharply in 2022, have been falling since the beginning of 2023 and are currently stable. 	<p>Risks</p> <ul style="list-style-type: none"> Anti-coal trend and investor divestment movement Phase-out of inefficient coal-fired power plants <p>Opportunities</p> <ul style="list-style-type: none"> Medium- to long-term increase in the amount of electricity along with the advancement of electrification in the electric power sector Growing need for effective use of biomass such as sewage sludge
Water treatment and waste treatment	<ul style="list-style-type: none"> While demand for domestic public investment is expected to continue to be strong for the time being due to the extension of Japan's initiatives for building national resilience, etc., the market is undergoing changes with population decline, expansion of coverage area of public service, and increasing public-private partnerships. Demand for water treatment-related infrastructure will continue to grow, especially in emerging Asian countries, as populations increase and living standards improve. Although the market size of general waste will remain unchanged for the time being, companies have started demonstration tests to meet the needs of realizing carbon-neutral technology to replace conventional heat recovery and upgrading technologies to reduce environmental impact. 	<p>Risks</p> <ul style="list-style-type: none"> Slowdown in public investment in Japan <p>Opportunities</p> <ul style="list-style-type: none"> Increase in needs driven by economic growth in emerging countries Increase in demand for new environmental businesses that contribute to carbon neutrality 			

Business Overview by Operating Segment

Materials Businesses

In the materials businesses, which consists of three segments of steel & aluminum, advanced materials, and welding, we are working on establishing a stable earnings base, which is a priority issue under the Medium-Term Management Plan. Along with this, we are also working on reducing CO₂ emissions in our own production processes and contributing to the reduction of CO₂ emissions through our technologies, products, and services as key management issues. We will contribute to the reduction of CO₂ emissions throughout society by promoting initiatives from these two aspects.



Steel & Aluminum Business

In fiscal 2022, we steadily promoted initiatives to reduce CO₂ emissions for both steel products and aluminum flat-rolled products, such as the launch of Kobenable Steel, Japan's first low-CO₂ steel product, and the application of aluminum flat-rolled products in materials using green aluminum raw materials for automobiles. Going forward, we will continue to accelerate these initiatives.

Makoto Mizuguchi
Executive Vice President
Head of the Steel & Aluminum Business

Strategy by Operating Segment

Establishing a stable earnings base

(1) Strengthening the earnings base in the steel business

On the assumption that demand for steel products in Japan will continue to decline over the long term, we aim to build a structure whereby we can secure stable earnings at 6.3 million tons of annual crude steel production and maintain profitability even at 6.0 million tons. To this end, we are working to lower the break-even point by improving steel product prices and product mix as well as by reducing fixed costs.

In terms of improving the product mix, we will work to raise the ratio of special steel wire rods and high-tensile strength steel, which was 44% in fiscal 2022, aiming to achieve the fiscal 2025 target of 52%. As for the reduction of fixed costs, there has been a further increase in personnel costs, but we are proceeding with measures such as automation through the promotion of DX.

(2) Strategic investment leading to earnings contribution

Among the strategic investments made in high-tensile strength steel, aluminum sheet materials for automotive panels, aluminum suspensions, and aluminum extrusions, the profitability of the aluminum businesses declined due to lower-than-expected automobile production volumes, slow progress in expanding aluminum applications, impacted by the acceleration of electrification, and delays in passing on price increases to selling prices in the aluminum business. Going forward, we will work to achieve profitability by continuing our efforts to capture recovering automobile demand, expand sales of aluminum sheet materials for automotive panels to new customers, pass on higher energy costs to selling prices, and secure appropriate margins.

(3) Restructuring unprofitable businesses

The steel casting and forging business and the titanium business achieved profitability as planned.

Taking on the challenge of realizing carbon neutrality

For CO₂ reductions in the ironmaking process, we will promote our initiatives centered on CO₂ reduction solutions for blast furnace ironmaking that utilize hot briquetted iron (HBI) manufactured by the MIDREX® Process. In moving toward taking on the challenge of realizing carbon neutrality by 2050, we will take a double-track approach aimed at reducing CO₂ emissions in blast furnaces and manufacturing high-grade steel in large EAFs. Along with our own internal efforts, we will engage in various projects such as three projects promoted by the NEDO, namely COURSE50, Ferro-Coke, and Super COURSE50, and proceed with initiatives for Hydrogen Utilization in Iron and Steelmaking Processes, which has been selected for funding by Japan's Green Innovation Fund and promoted by a consortium centered on steel manufacturers.

Kobenable Steel, Japan's first low-CO₂ blast furnace steel developed by our CO₂ reduction solution for blast furnace ironmaking, has extended its use to various business sectors, such as automobiles, construction, and shipbuilding. We believe it has also contributed to raising awareness of green steel in Japan. Our Group will promote the standardization of green steel and take the lead in expanding the green steel market in the future.

Initiatives aimed at achieving carbon neutrality are underway, as exemplified by weight reduction of automobiles and aircraft to improve fuel efficiency, vehicle electrification, and increased use of renewable energy, but there are many technical issues for the widespread use of these items in terms of product characteristics and cost. We believe that our Group's materials (steel & aluminum, advanced materials, and welding materials) and solution technologies that utilize them will be useful in resolving such issues. Through contributing to CO₂ reductions, we will further strengthen our materials businesses.

Fiscal 2022 Summary

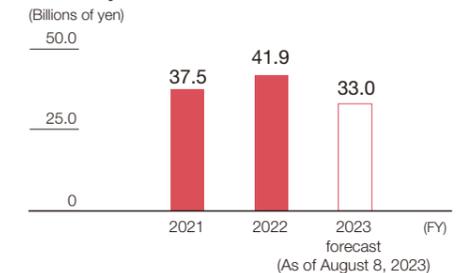
Steel

- Sales volume of steel products declined year on year due in part to lower demand for automobiles.
- Selling prices were higher than the previous fiscal year due to factors such as an increase in the steel market prices and the pass-through of rising raw material costs to selling prices.
- Ordinary profit was 49 billion yen due to significant improvement in selling prices, despite negative factors such as a decrease in sales volume, cost increases centered on fixed costs, and a decrease in inventory valuation gains.

Aluminum

- Sales volume of aluminum flat rolled products declined year on year due to sluggish demand for beverage can stock.
- Selling prices were higher than the previous fiscal year due in part to higher ingot prices being passed on to selling prices.
- Ordinary loss was 7 billion yen mainly due to a decline in sales volume and a delay in passing on higher procurement costs to selling prices.

Ordinary Profit



Key Initiatives for Sustainability Management

- We launched Kobenable Steel, Japan's first low-CO₂ blast furnace steel product with CO₂ reduction effects from HBI charging into the blast furnace, in May 2022.
- We will work to reduce CO₂ emissions through measures such as expanding our supply capacity of aluminum sheet materials for automotive panels that contribute to weight reduction of automobiles, improving the recycling rate, and utilizing green aluminum.
- Leveraging synergies in the materials businesses, we will promote our Group's unique automotive weight-reduction proposal activities,

which include the global supply of automotive weight-reduction technologies and lightweight materials, in order to contribute to further CO₂ reduction in the automotive sector.

- We will control the increase in plastic waste (PET bottles) and contribute to the conservation of the marine environment through the manufacture of highly recyclable aluminum can stock.



Strengths

Overall Steel & Aluminum Business

- Our Group's unique ability to propose automotive weight reduction by leveraging synergies in its materials businesses
- One-stop service system to propose solutions with a combination of steel products and aluminum flat-rolled products to customers

Steel products

- Improved cost competitiveness through consolidation of upstream processes
- Distinctive products (special steel wire rods, high-tensile strength steel)

Aluminum flat-rolled products

- Beverage can stock: Strong relationships with customers
- Automobiles: New heat treatment lines and solution proposal (analysis and design)
- Disks: Approx. 60% global market share

TOPICS

CO₂ Reduction Initiatives

- We started selling Kobenable Steel, Japan's first low-CO₂ blast furnace steel product in May 2022. It has been adopted by automakers, general contractors, shipbuilders, etc., as it can contribute to CO₂ reduction while maintaining the quality of blast furnace steel.
- Regarding the reduction of CO₂ emissions in aluminum products, in December 2022, we announced our plan to supply an automaker with aluminum sheets made from green-aluminum raw materials that are electrolytically smelted using only electricity generated by solar power. We will also develop a system to collect and utilize aluminum scrap disposed of by customers.

Main products



Largest market share in Japan
High-tensile strength steel sheets



Largest market share in Japan
Aluminum forgings for automotive suspensions



Contributing to increased productivity of architectural steel frames
Robotic welding system for architectural steel frames equipped with REGARC™ process



Approx. 70% market share in Japan
Aluminum bottle can stock



Largest market share in Japan
Copper alloys and plating for automotive terminals and connectors



Reducing environmental impact
Non-copper coated solid wires (SE wires)



Advanced Materials

Our distinctive products created by our original material development and processing technologies are highly evaluated in various fields. We will continue to deliver reliable and valuable products and contribute to the realization of safe, secure, and prosperous lives through manufacturing.

Shoji Miyazaki
Executive Officer
Head of the Advanced Materials Business



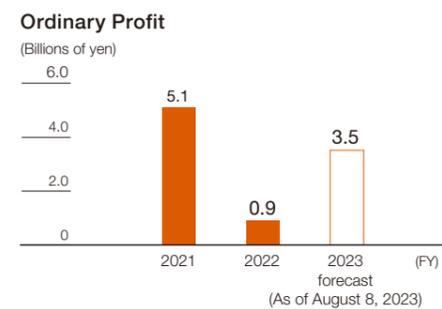
Welding

With quality as the pillar of our management, we aim to be the most reliable welding solutions company in the world based on "quality and technology," "trust and security," and "pride and responsibility." We will continue to take on the challenges of providing solutions to the needs of society and realizing a sustainable society.

Kazuyuki Suenaga
Executive Officer
Head of Welding Business

Fiscal 2022 Summary

- Sales volume of advanced materials increased year on year in steel castings and forgings, which captured demand for shipbuilding, and in titanium, which saw a recovery in demand in the general industrial sector. On the other hand, sales volume of aluminum extrusions, copper flat rolled products and steel powder declined year on year due to lower demand for automobiles.
- Ordinary profit was 0.9 billion yen due in part to cost increases centered on fixed costs and a decrease in inventory valuation gains in the copper tube business.



Key Initiatives for Sustainability Management

- We will provide reliable and valuable products and services and contribute to the creation of a safe and secure society by leveraging synergies through the sharing and integration of diverse business assets (human resources, information, intellectual property, etc.) and technological assets (such as castings, forgings, and fabrication).
- We will contribute to the sustainable development of society and industry and contribute to carbon neutrality by supplying aluminum (extrusions, suspensions, castings and forgings), titanium, steel castings and forgings, copper, and steel powder products globally to address the need for the weight reduction of transportation equipment (automobiles, aircraft, ships, rolling stock, etc.), the electrification of vehicles, and the growing needs of these materials in the IT and semiconductor sectors. In addition, we are working to promote the use of scrap at each plant to contribute to recycling and resource circulation.



Strengths

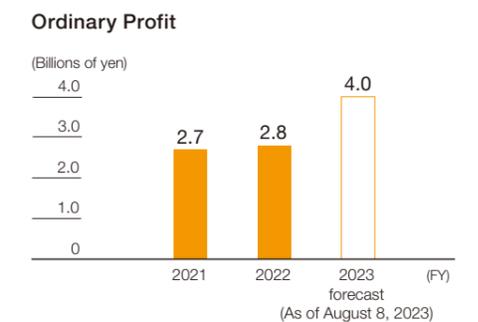
- Diverse customer base in a wide range of industries such as automobiles, aircraft, ships, rolling stock, semiconductors
- Development and manufacturing technology to produce niche products that achieve dominant market shares, such as aluminum forgings for automotive suspensions and copper alloys and plating for automotive terminals and connectors
- Materials/parts and global production bases that respond to the trends of weight reduction and Connected, Autonomous, Shared and Electric (CASE)
- Integrated production system of titanium, aluminum, and copper products from materials
- Japan's only full-lineup manufacturer of material products for ships with a wealth of experience and integrated production system from steelmaking to finished goods
- The only supplier in Japan with extensive experience in large titanium forgings and large aluminum castings for aircraft
- Robust quality assurance system cultivated through the development of products for aircraft

TOPICS

Nano-carbon composite coat titanium (NC titanium)
Our Company, together with Toyota Motor Corporation, succeeded in the world's first mass production of nano-carbon composite coat titanium (NC titanium). NC titanium is used as a material for the fuel cell bipolar plate in the fuel cell vehicle, achieving both high corrosion resistance and conductivity by dispersing conductive carbon particles in the oxide film on the titanium surface. It is expected to be a product that help expand fuel cell applications in the automobile industry, as well as other industries such as railways and ships.

Fiscal 2022 Summary

- Sales volume of welding consumables declined year on year due to lower demand in Southeast Asia.
- Selling prices were higher than the previous fiscal year, mainly due to the pass-through of higher procurement costs to selling prices.
- Ordinary profit was 2.8 billion yen.



Key Initiatives for Sustainability Management

- We will contribute to society through our welding solution business that meets the needs of our customers by providing distinctive products and services globally, including welding consumables with lower environmental impact (solid wire with no copper coating); our REGARC™ welding process, which significantly reduces the amount of spatter generated; and our automation solutions (robotic welding systems for hull assembly in shipbuilding).
- In response to changes in energy demand, we will contribute to the realization of carbon neutrality by promoting the development of compact portable welding robot systems for 9% Ni steel that enable automated welding of LNG fuel tanks as well as welding consumables and equipment that achieve high-efficiency, high-quality construction methods for offshore wind power generation towers.
- By upgrading the functionality of welding robots using AI and providing labor-saving, high-efficiency products and services, we will respond to the shortage of welders in Japan and overseas, support customers' manufacturing in terms of both efficiency and quality, and contribute to the development of social infrastructure and the local economy.
- We will bring our problem-solving assistance closer to the customer through the Kobelco Welding smartphone app, which provides technical information on welding and solutions for welding-related problems.



Strengths

- One of the few integrated welding companies in the world offering comprehensive solutions in welding consumables, robot systems, power supplies, and processes
- Ability to propose solutions based on thorough on-site focus and quick responses
- Japan's largest sales force that handles welding consumables and welding systems in the welding industry
- Overseas sales bases that provide welding consumables of consistent quality common to all bases.
- A spirit of Kobelco Welding Way that promotes innovation while embracing tradition

TOPICS

Community Development with Fujisawa City
In February 2022, Kobe Steel and Fujisawa City concluded a partnership agreement for community development in the area around the Muraoka new railway station. To foster a creative and sustainable community and support citizens to live better lives, we are working on "developing a creative environment," "developing new transportation nodes," "community development rich in greenery and culture," and "safe and secure community development."

Introduction of Renewable Energy
Kobelco Welding of Europe, a Group company in Europe, has begun purchasing electricity generated from wind power. This has resulted in a reduction of 1,230 tons of CO₂ emissions annually, leading to the acquisition of a green energy certificate.



Machinery Businesses

The machinery businesses, composed of the three segments of machinery, engineering, and construction machinery, serves global customers in a diverse range of fields, including the automotive, aircraft, shipbuilding, construction and civil engineering, social and industrial infrastructure, and environmental and energy sectors. Our machinery businesses cover a broad range of technologies, products, and services that help reduce CO₂ emissions and environmental impact. On a global basis, our machinery businesses aim to provide solutions to the social issues faced by our customers and contribute to the environment and society.



Machinery

Products in the machinery segment are used by a wide variety of customers around the world, including those in the energy, chemical, automotive, and semiconductor industries. We have many products and technologies that help reduce CO₂ emissions and environmental impact. Looking ahead, we will continue to work with our customers to reduce their environmental impact and contribute to the realization of a sustainable society.

Masamichi Takeuchi

Executive Vice President
Head of the Machinery Business,
General Manager of the Management
Division in the Machinery Business

Strategy by Operating Segment

Establishing a stable earnings base

In the machinery segment, one of the main demand areas is energy-related industries, where energy transition is progressing alongside advances of carbon neutrality initiatives. Going forward, we will step up our efforts to increase orders by targeting the energy transition market for new resources such as hydrogen and ammonia, which has growth potential.

In the engineering segment, we aim to maximize earnings by promoting environmentally friendly options. Through further expansion of the MIDREX[®] business, which contributes to the decarbonization of the entire steel industry, and through collaboration with other segments such as steel and electric power as well as with Kobelco Eco-Solutions, which became a wholly owned subsidiary of Kobe Steel in November 2021, we will strive to deploy the collective strengths of the Group and create value unique to the Kobelco Group.

In the construction machinery segment, we are working to ensure stable earnings by optimizing our business in China. Along with this, we are working to build an earnings structure that is less dependent on the Chinese market by implementing optimal measures for each area in terms of business structures, products, and distribution with our area strategy categorizing operations into "areas for offense" targeted at Europe, North America, and India, where there is room to increase our market share, and "areas for defense" targeted at Japan and Southeast Asia, where we already have a large market share, and China, where we are scaling back our business operations. We are also working to make the solutions and peripheral businesses a new earnings pillar, in addition to the machinery business and the parts and maintenance business. We will work to transform our profit structure through the K-DIVE[®] remote operation technology for construction machinery that began service in December 2022, and the K-D2 PLANNER[®] product that was launched in April 2023.

Taking on the challenge of realizing carbon neutrality

Our compressors, heat exchangers, and vaporizers in the machinery segment play a major role in various parts of the supply chain of the energy transition industry, and we believe they can contribute to the realization of a carbon-neutral society in the future. Harnessing technologies of these products, we are developing the hybrid-type hydrogen gas supply system in cooperation with other business segments and Group companies. Its demonstration test began in March 2023 as originally planned. We will continue our efforts to create and provide optimal solutions by leveraging the comprehensive strengths of our Group.

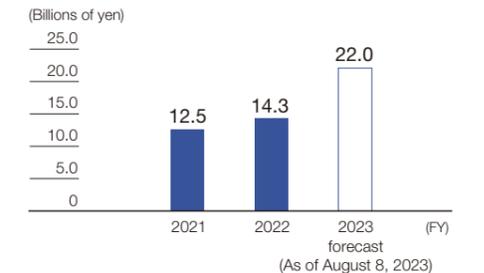
The MIDREX[®] process in the engineering business currently offers three options: MIDREX NG[™], which uses natural gas as reducing gas; MIDREX H₂[™], which uses 100% hydrogen; and MIDREX Flex[™], which enables flex transition from natural gas to hydrogen up to 100%. Through these, we are able to provide CO₂ reduction solutions aligned with regional hydrogen availability and customer requests. We are moving forward with the feasibility study of a low-CO₂ iron metallics project in Oman in collaboration with Mitsui & Co., Ltd. The project estimates its annual DRI production at around 5 million tons.

In addition, Kobelco Eco-Solutions Co., Ltd. is expanding its clean energy business by leveraging its strengths in the water treatment and waste treatment businesses. The company is also working to establish plastic waste gasification technology necessary for chemical recycling of plastic waste.

Fiscal 2022 Summary

- Orders increased year on year mainly due to strong performance in the petrochemical and energy sectors.
- Ordinary profit increased to 14.3 billion yen, mainly due to an increase in net sales and improvements in profitability of orders, driven by strong demand.

Ordinary Profit



(As of August 8, 2023)
Beginning in fiscal 2023, Kobelco Research Institute, Inc., which was under the Other segment, has come under the Machinery segment. According to this change, the Machinery segment includes Kobelco Research Institute in the forecast of ordinary profit for fiscal 2023.

Key Initiatives for Sustainability Management

- With a focus on the core technologies of the machinery business division—mixing, compressing, and heat exchange—we continue to develop new machinery and manufacturing technologies that meet the needs of the market and our customers. We will accelerate the transition to a more advanced industrial structure through technological innovation, provide technologies related to energy resources with low environmental impact, and contribute to the reduction of industrial waste.
- We are leading cutting-edge technological innovations through efforts to demonstrate the hybrid-type hydrogen gas supply system, as well as activities to create new products in the three fields of carbon neutrality, resource circulation, and semiconductors. We will contribute to the realization of a sustainable world through the creation of new businesses and the provision of products and services.



Strengths

- Over the span of many years, we have developed various technologies related to non-standard machinery. Especially, we possess technologies that compete with global competitors in fields where entry barriers are high, such as high-pressure technologies and drive, vibration, and noise control technologies for high-speed rotating machinery.
- While many of our competitors are located in Europe, we have main manufacturing facilities in Japan, China, and India, enabling us to supply products and parts quickly to customers in Asia.
- We are developing technologies in the growing energy transition market (hydrogen, ammonia, LNG, etc.), utilizing our experience accumulated in the energy field.

TOPICS

Plant Expansion Completed, at Kobelco Industrial Machinery India

Our Group company Kobelco Industrial Machinery India Pvt. Ltd. (KIMI; Tamil Nadu, India) celebrated the completion of expansion work started in 2021 with a ceremony in November 2022. The expansion work significantly increased KIMI's rubber mixer production capacity, and KIMI is now able to produce the large rubber mixers previously manufactured at the machine plant at Takasago Works. KIMI will supply high-quality rubber mixers to the rapidly growing Indian market and also to tire manufacturers worldwide.

Main products



Our exclusive technology
Compressors for LNG fuel carriers



World-leading market share
MIDREX[®] Process



New generation heavy machinery standard
SK75SR-7 Performance X Design



70% global share
Isostatic presses



More than 70 facilities nationwide
Waste treatment and power generation facilities



For everyone working with cranes
Crawler cranes Mastertech7200GNEO



Engineering

Our focus areas in the engineering segment are low-CO₂ (CO₂ reduction), the environment, and energy.

With our vast environmental contribution lineup, we will contribute to maximizing Kobelco Group's earnings and taking on the challenge of carbon neutrality.

Masahiro Motoyuki

Executive Officer
Head of the Engineering Business,
Responsible for Companywide construction businesses



Construction Machinery

Kobelco Construction Machinery's DX solutions were created to solve the problems faced by our clients in the construction sites. Based on "user hands-on approach," our management principle, we will revolutionize everyone's ways of working in the construction sites through cutting-edge technology.

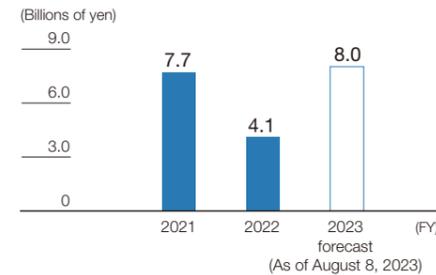
Akira Yamamoto

Kobelco Construction Machinery Co., Ltd.
President and CEO

Fiscal 2022 Summary

- Orders decreased compared to fiscal 2021 that saw an increase in orders with several large projects in the DRI-related business and waste treatment-related business
- Ordinary profit decreased to 4.1 billion yen, mainly due to changes in the project composition, particularly in the DRI-related business.

Ordinary Profit



Key Initiatives for Sustainability Management

- Contribution to carbon neutrality
 - In addition to low-CO₂ ironmaking solutions using the MIDREX® Process, we will also provide clean energy through the combined treatment of general waste, industrial waste, and sewage sludge.
- Contribution to securing safe water sources and creating sustainable communities
 - We will develop infrastructure centered on the water treatment and waste treatment businesses and provide hydrogen generation systems that contribute to the realization of a hydrogen society.
 - We will contribute to the development of transportation infrastructure, leveraging our autonomous driving technologies and system integration capabilities that we developed through the development of urban transit systems.



Strengths

- Extensive lineup of environmentally friendly options focused on low-CO₂ (CO₂ reduction), water treatment, waste treatment, and renewable energy
- MIDREX® Process owner with a large global DRI market share
- Creating new value through collaborations with other businesses, as exemplified by CO₂ reduction solutions for the ironmaking process and co-firing of biomass fuel (carbonization of sewage sludge) at the Kobe Power Plant

TOPICS

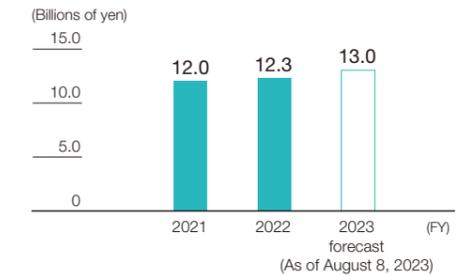
Start of Japan's first demonstration project for production of methanol from plastic waste

The demonstration project for converting plastic waste to methanol, proposed by five companies, Kobelco Eco-Solutions Co., Ltd., Daiei Kankyo Co., Ltd., DINS Kansai Co., Ltd., Mitsubishi Gas Chemical Company, Inc., and Mitsubishi Kakoki Kaisha, Ltd. was selected by the Ministry of the Environment for the 2022 Subsidy for CO₂ Emission Control Measures: Demonstration Project for a Plastic Resource Circulation System toward a Decarbonized Society. Through this demonstration, we will establish Japan's first technology for converting residual plastic waste to methanol and contribute to the resource recycling of plastics, which is a global issue.

Fiscal 2022 Summary

- Unit sales of hydraulic excavators declined year on year due to a decline in demand in China, faced with flagging infrastructure investment, as well as in Japan, Europe and North America, affected by shortages of procured parts.
- Unit sales of crawler cranes declined year on year due to a decline in North America, affected by the engine certification problem.
- Selling prices were higher than the previous fiscal year due to the pass-through of higher procurement costs and the weaker yen against the US dollar and the euro.
- Ordinary profit increased to 12.3 billion yen due to an improvement in export profitability along with the weaker yen and an increase in compensation income for the engine certification problem, despite negative factors such as a decline in unit sales and a delay in passing on higher procurement costs to selling prices.

Ordinary Profit



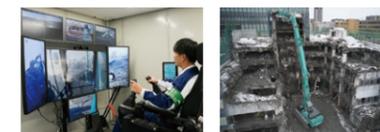
Key Initiatives for Sustainability Management

- Contribute to solving the shortage of skilled construction workers, improving site productivity, and ensuring essential safety through unmanned operations
 - K-DIVE®, a remote operation technology for construction machinery, enables "telework at construction sites"
- Contribute to the creation of a global resource-circulating society
 - Provide a wide range of recycling machinery such as automobile dismantling machinery, building demolition machinery, and metal-handling machinery
- Contribute to the reduction of climate change risks
 - Develop and commercialize construction machinery that employs low-carbon technologies such as electrification and fuel cells, providing environmentally friendly, fuel-efficient construction machinery



Strengths

- A diverse lineup of construction machinery and sales and service support capabilities that meet the needs of our customers, nurtured through a rigorous user hands-on approach
- Industry-leading next-generation technology development capabilities, including Japan's first electric mining shovel, Japan's first compact rough terrain crane, the world's first hybrid excavator, and K-DIVE®, which enables remote operation of hydraulic excavators



K-DIVE® Cockpit

Demolition machine

TOPICS

Providing DX solutions

Kobelco Construction Machinery Co., Ltd. works to resolve issues through DX solutions with the aim of achieving a "workplace where anyone can participate." In April 2023, we started selling the KD2 PLANNER® simulation software for crane operation planning. It enables easy creation of work plans, which reduces operating costs and improves safety and productivity. In December 2022, we started offering service of K-DIVE®, a remote operation system for excavators, which is expected to not only help improve on-site safety and productivity, but also create a workforce consisting of diverse human resources by eliminating restrictions on working hours and places for work.

Electric Power Business

Kobe Power Plant No. 3 unit began operating in February 2022, and then Kobe Power Plant No. 4 unit began operating in February 2023 as planned. As with the existing Kobe Power Plant No. 1 and 2 units and the Moka Power Plant No. 1 and 2 units, we are committed to a stable supply of electricity to local communities. Now, our Group has established an operation structure with six power units that add stability to its earnings base. In line with the national energy policy, we will continue to provide a stable supply of low-cost electric power through the operation of highly efficient power generation facilities, and work to achieve even higher efficiency and reduce carbon emissions toward realizing carbon neutrality by 2050.



Amid major changes in Japan's energy situation in recent years, we believe that it is of great social significance to have disaster-resistant large-scale thermal power plants, capable of providing a stable supply of large volume of electricity, close to demand areas. We will strive to realize safe, secure, and prosperous lives by providing a stable supply of low-cost electric power through the operation of highly efficient power generation facilities in accordance with the national energy policy, and by working for even higher efficiency and lower CO₂ emissions toward realizing carbon neutrality by 2050.

Jiro Kitagawa
Executive Officer
Head of Electric Power Business

Strategy by Operating Segment

Establishing a stable earnings base

Kobe Power Plant No. 3 and No. 4 units began commercial operation in February 2022 and February 2023, respectively, as planned, and have been operating smoothly so far.

Our forecast for fiscal 2023 projects ordinary profit of 66.0 billion yen, which exceeds the estimate under the Medium-Term Management Plan. This includes one-time gains of 22.0 billion yen due to the effect of time lags in fuel cost adjustments, but even excluding this, we expect to be able to secure ordinary profit of about 40.0 billion yen for the full fiscal year, a target of the Medium-Term Management Plan. (Based on the forecast as of August 8, 2023)

Taking on the challenge of realizing carbon neutrality

Based on the roadmap set out in the Medium-Term Management Plan, our Group will continue to provide a long-term stable supply of electric power with low environmental impact and high economic efficiency, while strengthening its efforts to achieve even higher efficiency and lower CO₂ emissions with the aim of realizing carbon neutrality by 2050.

At the Kobe Power Plant, we are considering co-firing of sewage sludge-derived fuel for the effective use of regional biomass and hydrogen supply, in addition to regional heat supply that is already in place. Kobelco Eco-Solutions Co., Ltd. has received several orders for facilities to convert sewage sludge to fuel and is working to realize co-firing of sewage-sludge-derived fuel. In addition, we are exploring the introduction of technology for ammonia co-firing.

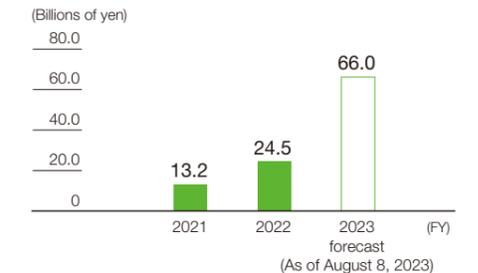
At the Moka Power Plant, we will continue stable operation of low-CO₂ power generation using high efficiency Gas Turbine Combined Cycle (GTCC).

Through the stable supply of electricity, we will contribute to local communities and the global environment, and also contribute to a world in which people can enjoy safe, secure, and prosperous lives.

Fiscal 2022 Summary

- Electricity sales increased year on year due to the operation of the Kobe Power Plant No. 3 and No. 4 units, which began operation in February 2022 and February 2023, respectively.
- The electricity unit price increased year on year due to the increase in thermal coal market prices.
- Ordinary profit increased to 24.5 billion yen, mainly due to the operation of the Kobe Power Plant No. 3 and No. 4 units.

Ordinary Profit



Key Initiatives for Sustainability Management

- Provide low-cost and stable power supply in accordance with the national energy policy (S+3E*) through stable operation of the Kobe Power Plant and Moka Power Plant.
- Operate a heat supply business (Kobe Power Plant) and community facilities (Kobe Power Plant and Moka Power Plant) under the keywords of interaction and coexistence with the community. Contribute to attractive community development.
- Accelerate the practical application of CO₂ reduction technologies such as biomass and ammonia co-firing through intra-group cooperation with the engineering segment, etc., toward carbon neutrality.

*Japan's energy policy sets out its basic principles with a focus on S+3E (Safety + Energy Security, Economic Efficiency, and Environment)



Power Plants in Operation

	Location	Power generation method	Power generation capacity	Start of commercial operation	Wholesale customer
Kobe Power Plant No. 1 and No. 2 units	Kobe, Hyogo Prefecture	Coal fired	700 MW/unit	No. 1 unit: April 2002 No. 2 unit: April 2004	Kansai Electric Power Co., Inc.
Kobe Power Plant No. 3 and No. 4 units			650 MW/unit	No. 3 unit: February 2022 No. 4 unit: February 2023	
Moka Power Plant No. 1 and No. 2 units	Moka, Tochigi Prefecture	Gas fired	624 MW/unit	No. 1 unit: October 2019 No. 2 unit: March 2020	Tokyo Gas Co., Ltd.

Total about 3.95 GW



Kobe Power Plant No. 1 and No. 2 units



Kobe Power Plant No. 3 and No. 4 units



Moka Power Plant No. 1 and No. 2 units

Strengths

Kobe Power Plant (Coal Fired)

- In-house power generation technology developed through years of steelworks operations, availability of port facilities and other infrastructure, and over 20 years of stable operation of large-scale power plants
- Heat supply that improves overall regional energy efficiency by taking advantage of urban location, the planned effective use of sewage sludge generated in urban areas as biomass fuel in progress, and minimized transmission loss
- An urban power plant that complies with the strictest environmental standards in Japan
- Supply capacity exceeding the maximum power demand in Kobe City, which contributes to the improvement of the electric power self-sufficiency rate in the Hanshin area, and multiplexed power supply networks that lead to the creation of cities that are resilient to disasters

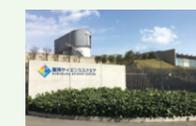
Moka Power Plant (Gas Fired)

- Japan's first inland thermal power plant with low risk of damage from natural disasters such as earthquakes and tsunamis, serving as backup to coastal power plants in the Tokyo metropolitan area
- Gas turbine combined cycle (GTCC) system that meets the world's highest standards
- Utilization of existing infrastructure such as gas trunk lines and industrial complexes that have already been developed, as well as technologies and know-how accumulated through in-house power generation
- Power generation capacity that covers approximately 40% of peak power demand in Tochigi Prefecture

TOPICS

We operate the facilities for community interaction, which include Nadahama Science Square, a hands-on learning facility close to the Kobe Power Plant; Nadahama Garden Baden, a health spa facility that uses the energy generated by the power plant; and Meline, a tour facility for the Moka Power Plant. Use of these facilities was restricted during the COVID-19 pandemic, but they began operating normally again in May 2023.

In addition, we are currently planning to renew the exhibits at Nadahama Science Square. We aim to create an attractive learning facility where visitors can experience the fun of ingenuity, the fascination of taking on challenges, and the excitement of discoveries.



Nadahama Science Square close to the Kobe Power Plant



Meline at the Moka Power Plant