Progress of the KOBELCO Group Medium-Term Management Plan (FY2021–2023)

In the KOBELCO Group Medium-Term Management Plan (FY2021–2023) 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 working together as a group to tackle these priority issues while responding to the rapid changes in the business environment that are underway.

Key Issues of the KOBELCO Group Medium-Term Management Plan

Establishing a Stable Earnings Base—To Be Fully Achieved during the Current Medium-Term Management Plan

We are steadily implementing five key measures aimed at establishing a stable earnings base.

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

Taking on the Challenge of Realizing Carbon Neutrality—To Be Strategically Carried Out with a Long-Term Perspective

To achieve carbon neutrality in 2050, the KOBELCO Group is making bold efforts to reduce CO_2 emissions by promoting the development of its distinctive technologies and utilizing external innovative technologies.

- MIDREX® Process
- Initiatives toward carbon neutrality in the ironmaking process
- Initiatives toward carbon neutrality in the electric power business
- Initiatives to contribute to reduction of CO_2 emissions

In the KOBELCO Group Medium-Term Management Plan announced in May 2021, we have recognized the five elements of the business environment surrounding our Group: (1) Transition to carbon neutrality and social transformation, (2) Movement toward sustainability, (3) Digital transformation, (4) Structural problems of the steel industry, and (5) Changes in industrial structure triggered by COVID-19. There has been no change in our recognition of the current business environment, but the movement is accelerating in some areas.

In addition to these five, we have identified a new element (6) Higher procurement costs and supply chain risks (affecting both demand and production) associated with soaring energy and raw material prices, triggered by the current situation in Ukraine.

Since all of these are changes that cannot be avoided in the business environment, we believe it is necessary for our Group to address them using both "offensive" and "defensive" approaches.

Recognition of Current Business Environment

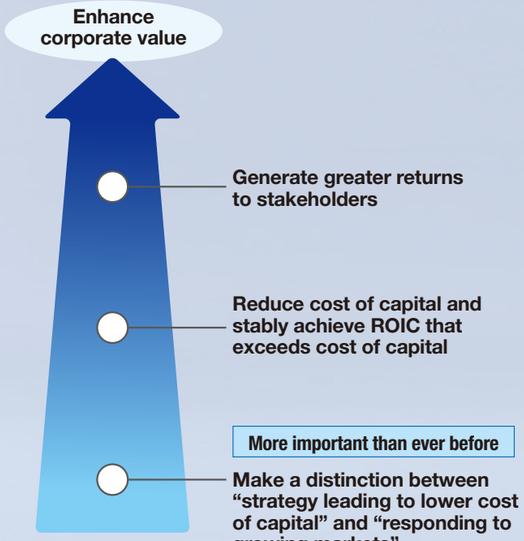
1. Transition to carbon neutrality and social transformation — Accelerating
2. Movement toward sustainability — Accelerating
3. Digital transformation — Accelerating

The KOBELCO Group

- Risks: Weakened earnings base and damaged corporate value
- Opportunities: Reformed business structures and new revenue generating opportunities

Emergence of new risks that heighten volatility

4. Structural problems of the steel industry
5. Changes in industrial structure triggered by COVID-19
6. Higher procurement costs and supply chain risks (affecting both demand and production) — Additional



In a rapidly changing business environment, companies must pursue sustainable growth and enhance corporate value over the medium to long term. To this end, we recognize that it is more important than ever before to make a clear distinction between "strategy leading 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 expanding business along with the movement toward carbon neutrality)."

The KOBELCO Group has a strong determination to generate greater returns to stakeholders including shareholders, investors, and members of the Group, by reducing cost of capital and stably achieve return on invested capital (ROIC) that exceeds cost of capital.

Establishing a Stable Earnings Base

In order to establish a stable earnings base, we are steadily implementing the five key measures stated in the 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, and (5) Stabilizing earnings in the machinery businesses and responding to growing markets. In addition, faced with soaring prices of raw materials, supplies, and energy, we will quickly and steadily pass on increases in procurement costs to selling prices.

Five Key Measures toward Establishing a Stable Earnings Base

Key Measure 1

Strengthening the earnings base of the steel business

Review of Fiscal 2021

In fiscal 2021, the metal spread significantly deteriorated due to a delay in passing on rising raw materials prices to selling prices.

Note: Approximately 75% of orders received by Kobe Steel consist of large projects with fixed destinations, mainly in the automotive, shipbuilding, and construction sectors. The Company focuses on these types of projects with fixed destinations, which are less susceptible to market fluctuations.

Order Composition of Kobe Steel

Progress in Fiscal 2022 and Beyond

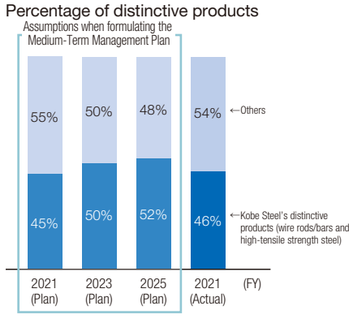
1. Improvement in steel prices

- We will significantly improve metal spreads by working on price improvements and stably maintain an appropriate level.

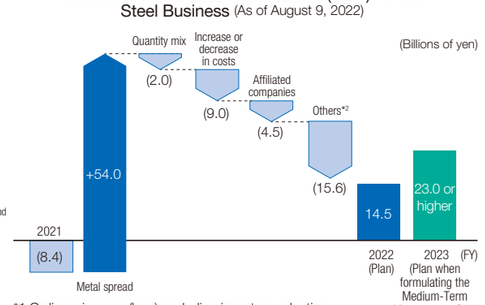
2. Improvement in product mix

- Among the products planned for sales expansion, we are making progress in improving product mix of wire rods and bars and high-tensile strength steel as planned.
- We are working to further improve product mix by providing products and solutions that meet the social demand for CO_2 reduction and customers' needs for carbon neutrality.

Percentage of distinctive products



Forecast of Fiscal 2022 Real Income (Loss)*1 in the Steel Business (As of August 9, 2022)



*1 Ordinary income (loss) excluding inventory valuation
*2 Including increases in logistics costs and material prices, etc.

3. Reduction in fixed costs

- Although we have factored into the budget increases in labor costs and maintenance costs as short-term measures, we will continue to work to reduce fixed costs permanently through promoting DX and automation, etc.

* We are studying large-scale investments in upstream-process facilities with a view to achieving carbon neutrality.

Key Measure 2

Smooth startup and stable operation of new electric power projects

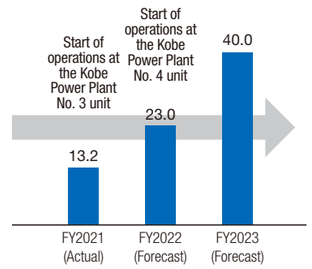
Review of Fiscal 2021

The Kobe Power Plant No. 3 unit started commercial operations in February 2022 as scheduled and is operating stably.

Progress in Fiscal 2022 and Beyond

- The Kobe Power Plant No. 4 unit is scheduled to begin commercial operations in the second half of fiscal 2022.
- The start of operations of all power plants, including the Kobe Power Plant No. 1 and No. 2 units and the Moka Power Plant No. 1 and No. 2 units, will contribute 40.0 billion yen annually to earnings from fiscal 2023.
- As our medium- to long-term efforts to address climate change, we will promote CO_2 reduction and decarbonization in accordance with laws and regulations and national policies. We will take on the challenge of realizing carbon neutrality by 2050 and continue to supply electric power with safety, economic efficiency, and stability.

Ordinary Income of the Electric Power Business (Billions of yen)



(As of August 9, 2022)

Key Measure 3

Strategic investment in the materials businesses leading to earnings contribution

Review of Fiscal 2021

- As part of our strategy aimed at automotive weight reduction, we made strategic investments in high-tensile strength steel, aluminum sheet materials for automotive panels, aluminum suspensions, and aluminum extrusions. Despite the impact of the COVID-19 pandemic, we have been making progress as planned by and large toward obtaining approval for materials and establishing mass production systems with the new continuous galvanizing lines (CGLs) at Kakogawa Works and in North America, as well as heat treatment and surface treatment facilities at Moka Works.
- Due to delays in the timing of the expected demand growth and issues with *monozukuri* (manufacturing) capabilities, etc., the contribution to earnings that was initially expected has not yet been achieved. Nevertheless, medium- to long-term demand for automotive weight reduction has remained high, and we have continued to see brisk business inquiries.

Progress in Fiscal 2022 and Beyond

- We will turn a profit in aluminum suspensions and aluminum extrusions in fiscal 2022.
- While time is required before turning a profit in aluminum sheet materials for automotive body panels, we achieved profitability in overall aluminum rolled products in fiscal 2021.
- Since the increase in procurement costs due to soaring raw materials and energy prices is beyond the scope of our Company's own efforts, we are requesting customers to accept the need to pass on the increased prices to selling prices as appropriate. In steel castings and forgings and titanium, we are working to pass on higher procurement costs to selling prices. Along with this, we have a plan to improve margins with the recovery in demand and are working on it.
- We have begun to gain a certain level of understanding from our customers regarding rising procurement costs. We will continue to provide thorough explanations.

Key Measure 4

Restructuring unprofitable businesses

Review of Fiscal 2021

Titanium Business

The titanium business returned to profitability in fiscal 2021 by commencing massproduction of nano-carbon composite coat (NC) titanium for automotive fuel cells while promoting measures such as withdrawing from welded pipes, an unprofitable product, carefully selecting orders for large forgings, and reducing fixed cost for upstream processes.

Progress in Fiscal 2022 and Beyond

Steel Casting and Forging Business

With demand for domestic shipbuilding expected to wane, we will withdraw from unprofitable products (products for assembly and integrated small- and medium-sized products shipped to China) and reduce the workforce with the aim of turning a profit in fiscal 2022.

Crane Business

As total demand for cranes is expected to remain low even after the COVID-19 pandemic and competition is expected to intensify both in Japan and overseas, we aim to turn a profit in fiscal 2022 by reducing fixed costs through the review of business scale.

Key Measure 5

Stabilizing earnings in the machinery businesses and responding to growing markets

Machinery

Enhancing environmental solutions

Standard compressors: The capital and business alliance with Miura Co., Ltd., which was put into effect on January 5, 2022, enables us to provide customers with a system that offers comprehensive solutions for energy savings and CO_2 reduction.

For details on the capital and business alliance, please visit our website below.
https://www.kobelco.co.jp/english/releases/1207993_15581.html

Engineering

Maximize earnings through environmental soltions

(1) Expanding the MIDREX® business

(2) Demonstrating the collective strengths of the Group through collaboration among the steel business, the electric power business, and Kobelco Eco-Solutions Co., Ltd.

For details, please see Initiatives toward Carbon Neutrality in the Ironmaking Process on pp. 50–51.

Energy conversion Response to growing markets

Efforts toward carbon neutrality, including the utilization of hydrogen

For details, please see pp.27 and 52.

TOPICS

Building a Stable Earnings Structure in the Construction Machinery Business

Our excavator business, which is operated globally, has been dependent on strong demand in China, but price competition with emerging Chinese manufacturers has been intensifying over the past several years. As demand is expected to shrink in the future, we anticipate price competition will further intensify.

We will continue to strive to build a stable earnings structure under the three medium- to long-term goals of (1) Departure from dependence on the Chinese market, (2) Turning profits from new value creation business to provide solutions for innovations such as work style reforms in the construction industry, and (3) Commercialization of peripheral businesses related to construction machinery. We will stably achieve a ROIC of 5% or more at an early stage and aim for a higher level.

Medium- to Long-Term Goals

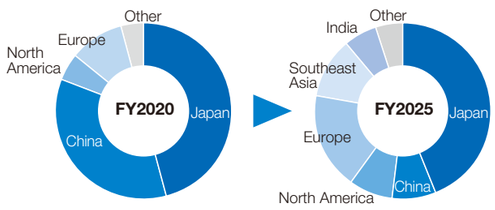
1. **Departure from dependence on the Chinese market**
2. **Turning profits from new value creation businesses to provide solutions for innovations such as work style reforms in the construction industry**
3. **Commercialization of peripheral businesses* to provide know-how on the installation of new systems, etc.**

* Sale of BIM software, overseas business related to recycling of scrapped automobiles, etc.

Building a Stable Earnings Structure

Stably achieve a ROIC of 5% or more at an early stage and aim for a higher level

Area Strategy



Our business in China is expected to shrink from 35% (FY2020) to 8% (FY2025) in total earnings.

We have positioned Europe, North America, and India, where we have room to increase our market share in the future, as "areas for offense" while we have positioned Japan and Southeast Asia, where we already have a large market share, and China, which we are reducing our dependence on, as "areas for defense." Under this area strategy, we will develop products and distribution measures that match the characteristics of each area.

In North America, we believe that the global production system would be more optimal if we have a sales base for imported machinery rather than maintaining our own plant. In order to support export sales to North America, we will increase the production capacity at the Ogaki Plant of Kobelco Construction Machinery Co., Ltd., thereby creating a complementary production system with the Itsukaichi Plant in Hiroshima, Japan. Going forward, we will continue to strive to build a flexible and agile global supply system in response to the rapidly changing market environment.

Europe
- Strengthen head office functions and strengthen sales/service capabilities
- Increase marketability (high-performance models/custom-made)
- Expand environmental recycling machinery

China
- Introduce area strategy models
- Strengthen the parts and maintenance business and reorganize distribution

Consolidation (optimization) of production sites

- Restructuring of Global Production System
  https://www.kobelcocm-global.com/news/2022/220624.html

North America
- Increase marketability of suspended models and resume sales
- Cooperate with distributors and take measures to expand sales channels

Plant transfer & starting the sale of imported machinery from Japan, etc.

- Transfer of the North American Hydraulic Excavator Plant
  https://www.kobelcocm-global.com/news/2022/220225.html

India
- Introduce area strategy models
- Boost profitability by increasing exports

Enhance production capacity → Become a global supply base of fabricated products

- Restructuring of Global Production System
  https://www.kobelcocm-global.com/news/2022/220624.html

Japan
- Make a full-scale entry into the solutions/peripheral businesses

Bolster production capacity at the Ogaki Plant → Build a complementary production system with the Itsukaichi Plant

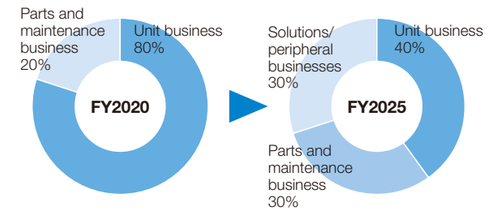
Southeast Asia
- Introduce area strategy models
- Strengthen the parts and maintenance business and distribution network

- Production Capacity Expansion of the Ogaki Plant: Efforts toward Global Strategy Enhancement
  https://www.kobelcocm-global.com/news/2022/220428.html

Changes in Business Model

- We will strengthen our ability to respond to changes in the market environment by building a well-balanced earnings structure in the three areas of the unit business, parts and maintenance business, and solutions/peripheral businesses.
- Specifically, we plan to increase the portion of the parts and maintenance business and the solutions/peripheral businesses to 60% by 2025. We will launch service of the K-DIVE CONCEPT remote operation technology from this fiscal year in stages.

For more information, please visit our website below:
Restructuring of Global Production System
https://www.kobelcocm-global.com/news/2022/220624.html



Profitability (ROIC)

Basic Policy

We have positioned the period of the Medium-Term Management Plan (FY2021–2023) 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.

In fiscal 2021, our ROIC stood at 4.7%. Although the outlook for fiscal 2022 remains uncertain due to the conflict in Ukraine and other factors, we expect to achieve a ROIC of 4.0% (as of August 9, 2022) due to improvements in metal spreads of steel products and the electric power business's contributions to earnings.

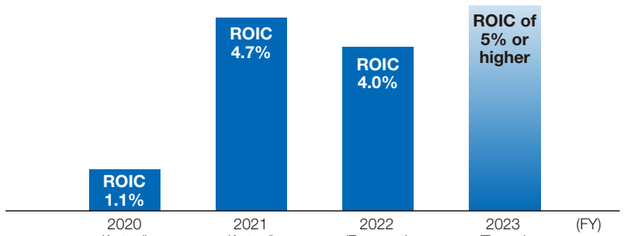
Targets Set Forth in the Medium-Term Management Plan

Vision of KOBELCO

Solving social issues and creating economic value through business activities

Toward KOBELCO that stably achieves a ROIC of 8% or higher and grows sustainably

Targets to Achieve Under the Medium-Term Management Plan
ROIC of 5% or higher ➡ Establishing a stable earnings base



(As of August 9, 2022)

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 investments, 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 monitoring systems and study and prepare backup measures.

In terms of fiscal 2021 actual results, we achieved a D/E ratio (excluding early procurement of borrowings) of 0.68 times at the end of fiscal 2021, due to an upturn in business results and a decline in capital investment payments. This means that we achieved our target D/E ratio of 0.7 times or less under the Medium-Term Management Plan two years ahead of schedule. Despite the outlook being unpredictable due to the ongoing conflict in Ukraine and other factors, we will continue to strengthen our financial structure, which is one of our key measures, and continue our financial management with a focus on reducing cost of capital.

Cumulative Cash Flow Plan as of May 2021
(Excluding project financing) (Billions of yen)

(FY)	2021–2023
Operating cash flow	420
Investing cash flow	(320)
Free cash flow	100
D/E ratio	0.7 times or less

Progress of Cash Flow Plan as of May 2022
(Excluding project financing) (Billions of yen)

(FY)	2021	2022	2023
Operating cash flow	Approx. 332	79%	
Investing cash flow	Approx. (215)	67%	
Free cash flow	Approx. 117	117%	
D/E ratio	0.68 times*	Approx. 0.65 times	

Progress rate over the last two years

* Excluding early procurement of borrowings

Capital Investments, Other Investments, and Loans

Basic Policy

During 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 our IT strategy-related investment to about 15 billion yen a year.

Capital investments for fiscal 2021 totaled 98.9 billion yen (on a decision basis), which was within depreciation. In fiscal 2022, we plan to increase capital investments temporarily, mainly in maintenance/renewal-related investments, in order to rebuild our stable production system.

Capital Investment Plan as of May 2021 (Billions of yen)

(FY)		2021	2022	2023
Capital investment	Decision basis	110.0	100.0	100.0
	Accrual basis	140.0	110.0	110.0
Of which, IT strategy-related		Approx. 15.0/year		
Depreciation		105.0	115.0	125.0
R&D expenses		Approx. 30.0/year		

Capital Investment as of May 2022 (Billions of yen)

(FY)		2021 (Actual)	2022 (Plan)
Capital investment	Decision basis	98.9	126.0
	Accrual basis	108.1	115.0
Of which, IT strategy-related		9.1	16.0
Depreciation		105.1	120.0
R&D expenses		33.2	38.0

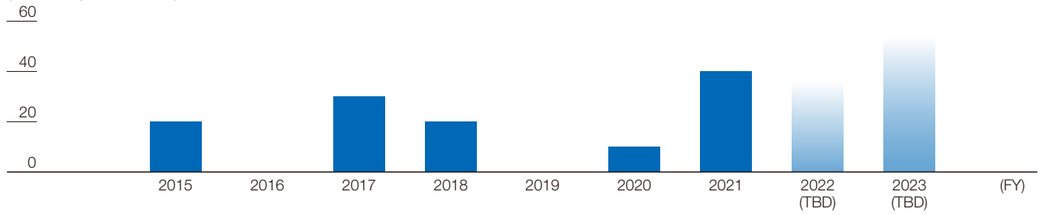
Returns to Shareholders

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.

The dividend payout ratio for fiscal 2021 was 25.0%. For the time being, the target dividend payout ratio will continue to be 15–25% of consolidated net income attributable to owners of the parent. From fiscal 2023 and beyond, we will review the ratio, including the possibility of raising it.

(Dividends per share: Yen)



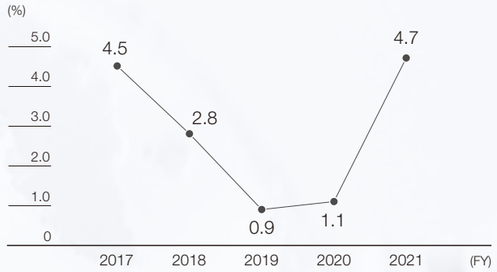
(FY)	2015	2016	2017	2018	2019	2020	2021	2022	2023
Dividends per share (Yen)	20	0	30	20	0	10	40	TBD	TBD
Dividend payout ratio (%)	—	—	17.2	20.2	—	15.6	25.0	15–25	To be reviewed including a raise

Message from the CFO

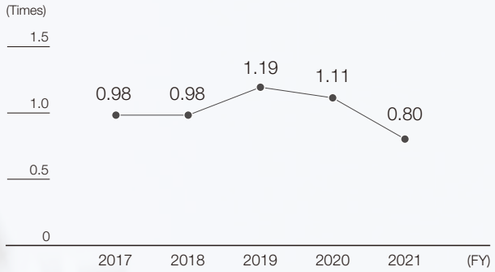
To establish a stable earnings base, we will turn social changes into business opportunities and take bold challenges.

Yoshihiko Katsukawa
Director, Executive Officer

ROIC



D/E ratio (Excluding project financing)



Looking Back over Fiscal 2021

In fiscal 2021, a variety of external factors influenced the earnings of the KOBELCO Group.

Supply chain risks

The Asian region accounts for the largest part of our Group's overseas net sales, and in particular we have many production sites in China, which is the country that has the largest demand for our products. Operations at some of these sites were suspended by the lockdowns in urban areas due to the spread of COVID-19, and this affected the supply of products to customers.

At the same time, since the Group supplies many products to automotive manufacturers, it has also been affected by the decline in automobile production due to the global semiconductor shortage that has continued from fiscal 2020. We will continue to closely monitor trends in automobile production and develop a structure that can respond flexibly to changes in demand.

Soaring prices of raw materials, etc.

Soaring prices of raw materials and energy, combined with the weaker yen, resulted in a significant increase in procurement costs.

I believe it is essential from the perspective of our Group's business continuity to make steady efforts to pass on increased costs to selling prices while seeking understanding from customers, along with internal cost-cutting efforts.

War in Ukraine

The war in Ukraine has affected the Group's sales and procurement deals related to Russia. In terms of sales, although there will be an impact on the direct reduced iron (DRI)-related business in the engineering business, the impact is not expected to be significant as the Group's Russia-related transactions accounted for less than 0.5% of the Group's consolidated net sales in fiscal 2021. In terms of procurement, we have Russia-related transactions mainly in the procurement of coking coal for steel and thermal coal for power generation, but we are promoting alternative procurement from non-Russian sources to avoid any impact on our production. We anticipate a certain degree of direct impact on our business performance in the future, but we consider the impact will be minor at this point. Nevertheless, there is a possibility that the macroeconomic environment will deteriorate further than expected due to changes in the situation in Ukraine. We will continue to closely monitor the impact on our business performance.

Summary

Despite this challenging business environment, we were able to secure higher sales and profits in fiscal 2021 compared to fiscal 2020. Although the main factors for the increase in earnings were the recovery in unit sales and improvements in inventory valuation, we believe it is also significant that we are beginning to see the positive effects of our steady cost reduction efforts, including the efforts to strengthen our financial structure during the COVID-19 pandemic, and efforts to improve earnings of unprofitable businesses. Many of our Group's businesses are susceptible to the influence of the external environment, but I feel that we are steadily strengthening our resilience and ability to withstand market fluctuations as we work to establish a stable earnings base.

Improving the Business Portfolio to Enhance Companywide Profitability

Business portfolio management policy

With the aim of establishing a stable earnings base, we continue to work on reforming our business portfolio. In the KOBELCO Group Medium-Term Management Plan (FY2021–2023), we set a goal of achieving a return on invested capital (ROIC) of 5% or higher by fiscal 2023. In an effort to attain the goal, we have classified our business units into four quadrants along the axes of ROIC and market growth potential. According to this, we are examining measures tailored to each quadrant and implementing them. For businesses that fall short of the target but are expected to see a certain degree of market growth, such as the excavator and aluminum-related businesses, we will implement measures for improving profitability at an early stage. For example, in the excavator business, which has been heavily dependent on the Chinese market, we will work to stabilize earnings and reduce production cost by reviewing our supply system for optimization from a global perspective, in light of changes in the market environment, such as the fall in selling prices due to the recent decline in demand and intensified competition. At the same time, we will also work to transform our earnings structure by developing new businesses utilizing DX, including the K-DIVE CONCEPT. In the aluminum-related business, we will strive to improve profitability by improving sales prices and strengthening our monozukuri capabilities through DX and other measures.

For businesses that are expected to achieve a ROIC of 5%, which is the target under the Medium-term Management Plan, such as steel products, non-standard compressors, cranes, etc., we will strive to maintain and improve profitability by continuing to strengthen their financial structures. In addition, since the standard compressor business and the business of Kobelco Eco-Solutions Co., Ltd. are expected to continue to be profitable and grow in the future, we aim to further enhance profitability by demonstrating early effects of the capital and business alliance with Miura Co., Ltd., and of Kobelco Eco-Solutions that has turned into a wholly owned subsidiary of Kobe Steel.

Business portfolio management structure

The business portfolio management is conducted by the Business Portfolio Management Committee, which is an auxiliary body to the Executive Council. From the perspective of asset efficiency and cost of capital, the committee 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.

The meetings of the Business Portfolio Management

Committee and its subcommittees are held once every three months to continuously monitor key performance indicators (KPIs) and trends in performance of each business unit. The committee decides whether or not to continue the business through multifaceted discussions considering ROIC and other evaluation indicators. These discussions became the basis for the Company's decision to sell the copper tube business in 2021.

Additionally, the Company has established an Investment and Loan Committee as a body to strengthen screening functions when making decisions on important new investment projects and monitor/evaluate approved projects. The committee, an auxiliary body to the Executive Council, collaborates with the Business Portfolio Management Committee, the DX Strategy Committee, etc., and acts as a bridge to deepen discussions at the Executive Council.

Instilling ROIC throughout the Group

We believe that it is not enough for management alone to be aware of ROIC. It is also important to instill the ROIC concept into each and every employee in each business division. To this end, we are conducting stratified training for employees. We have also begun initiatives to strengthen *monozukuri* activities and thereby enhance ROIC through KOBELCO Total Quality Management (TQM) activities that we are promoting internally. It will take time for the ROIC concept to be fully instilled in each employee and become part of the culture of the organization, but I believe that if each individual can properly understand the ROIC concept, set their own action targets, and manage their own operation, it will eventually lead to enhanced profitability for the entire Company.

Turning Social Changes into Business Opportunities

With carbon neutrality initiatives accelerating, the Group, which has steel business and thermal power generation business, has been negatively seen as a corporate group that generates high CO_2 emissions. This has been a factor in the stock discount. However, such a view does not accurately reflect the future vision envisioned by the KOBELCO Group.

With regard to CO_2 emissions in the production processes of the KOBELCO Group, we have drawn up a roadmap for achieving carbon neutrality and are steadily working on it. We see carbon neutrality initiatives as business opportunities for our Group, and we are moving forward with our efforts. One of these efforts has resulted in the launch of Kobenable Steel, a low-CO_2 blast furnace steel product that utilizes the Group's CO_2 reduction solution for blast furnace ironmaking. Kobenable Steel is a product to which CO_2 reduction effects are applied. By overcoming various production issues, we realized the product, which contributes to creating new value and new markets. While specific policies for the utilization of hydrogen have not yet been fully established in Japan, the KOBELCO Group has promptly begun plans for a demonstration test of the hybrid-type hydrogen gas supply system at its Takasago Works. As exemplified by this, our Group is examining new businesses focused not only on selling products, but also on future business development of the entire system. In this way, the KOBELCO Group is laying a foundation for providing solutions to the needs of society. It may be a small bud now, but I believe that it will eventually grow into a big tree that will become a game changer. Of course, in order to realize these efforts, continuous research and development and a large amount of funding are required. Since we expect specific funding demand to emerge during the period of the next Medium-Term Management Plan or later, we are working to strengthen our financial base so that we can respond flexibly to future investments. At the same time, we are examining a variety of funding methods, including the issuance of sustainability bonds and green bonds, in preparation for the time when we will need to make investments for growth.

Lowering the Cost of Capital and Widening the Equity Spread

As we believe that it is important not only to improve profitability based on ROIC but also to reduce the cost of capital at the same time, we are working to enhance corporate value by pursuing both of these goals and widening the equity spread.

Specifically, in order to increase profitability, we will strive to improve ROIC through improving the business portfolio as explained above. In addition, to reduce the cost of capital, we are working on (a) establishing a stable earnings base, (b) strengthening our financial base, and (c) proactively disclosing information to the market.

In order to establish a stable earnings base, we are working on the following five key measures: (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, and (5) Stabilizing earnings in the machinery businesses and responding to growing markets. In implementing these five key measures, some items require the understanding of customers with regard to price improvements, but we are making steady progress on those that can be addressed internally, and we are in the process of establishing a structure to ensure stable earnings.

In terms of strengthening the financial base, the target set in the current Medium-Term Management Plan is to achieve a D/E ratio of 0.7 times or less by the end of fiscal 2023 by carefully selecting capital investments, other investments and loans, and keeping investing cash flow within the range of operating cash flow. In the financial results at the end of fiscal 2021, we achieved a D/E ratio of 0.68 times (excluding early procurement of borrowings), thus hitting the target ahead of schedule. We will continue to strengthen our financial structure and implement financial management with a focus on reducing cost of capital.

With regard to proactive disclosure of information to the market, we recognize that it is important to eliminate the asymmetry of information through enhanced dialogue with investors and analysts in order to close the gap between our view and the stock market's evaluation. As the Group has a variety of businesses, it is often viewed as being subject to a conglomerate discount, but we believe that these diverse businesses will drive the development and launch of products that are unique to our Group aimed at new growth markets, as exemplified by carbon neutrality and DX. For this reason, we strive to proactively and carefully disclose information on business portfolio management, the status of each business unit, and new businesses and products. For non-financial information as well, we will clearly present our Group's initiatives and its future vision.

Maximizing the Group's Value and Mapping Out Our Growth Strategy

Our Group operates its business with the support of many stakeholders. Recognizing that returning profits to our shareholders is one of our most important themes, we will strive to improve our share price and foster a sense of trust. Currently, we are maintaining a dividend payout ratio of 15–25%, but from fiscal 2023 onward, once we have established a stable earnings base, we will review the ratio, including the possibility of raising it.

The KOBELCO Group has a wide variety of technologies, products, and services that have been developed over its long history, as well as the diverse human resources that have supported them. I am confident that leveraging the collective strengths that integrate all of these will lead to significant growth in the future. It is my sincere hope that our stakeholders will come to understand the true value of the Group.

At the same time, it will be necessary for our Group to ensure the implementation of the plan-do-check-act (PDCA) cycle in each unit and to select the best solution as an organization by bringing together various wisdom and have exhaustive discussions, without being stuck in self-righteous thinking.

In order to provide solutions to the needs of society, by making the best use of the talents of our employees and our technologies, as stated in KOBELCO's Mission, we will establish a stable earnings base and boldly take on challenges to turn social changes into business opportunities.

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 116 years, the human resources and intellectual property that have supported and developed them, and the relationships of trust that we have nurtured with our stakeholders. We have set out the initiatives being undertaken by the Group to enhance corporate value below. Going forward, we will continue to work to maintain and enhance the corporate value of our Group.

Profitability (ROIC) ↑ > **Weighted average cost of capital (WACC) ↓** — **Growth rate ↑**

Maintaining and enhancing corporate value

Profitability (ROIC) ↑	Maximizing ROIC	Business portfolio management	Please see p. 43.
		Business management based on ROIC tree	Please see p. 44.
		Management of capital investments, and investments and loans	Please see p. 45.
		Business overview by operating segment	Please see pp. 56-65.
Weighted average cost of capital (WACC) ↓	Reducing volatility Ensuring financial soundness Communication with stakeholders Managing and disclosing non-financial information	Establishing a stable earnings base	Please see pp. 32-37.
		Communication with stakeholders	Please see p. 72.
Growth rate ↑	Medium- to long-term growth and value creation	Materiality	Please see pp. 16-17.
		Taking on the challenge of realizing carbon neutrality	Please see pp. 46-53.
		DX strategy	Please see pp. 70-71.

Profitability (ROIC)

In the Medium-Term Management Plan, we have set a ROIC target of 5%. To achieve this, it is essential that we not only improve the profitability of each business but also work on the optimization of our business portfolio and select investments carefully. These issues are explained on page 43 and the following pages.

Weighted average cost of capital (WACC)

In the WACC, the primarily important factor is the optimal capital structure. In the Medium-Term Management Plan, we emphasized financial soundness and set a target of a D/E ratio of 0.7 times or less by the end of fiscal 2023. From fiscal 2024 onward, we believe it is necessary to seriously consider investments for carbon neutrality and review the optimal capital structure. Although there are many issues to be discussed, such as the amount of funds that can be raised, target credit ratings, and trade-offs between improving financial soundness and reducing the WACC, we will proceed with our discussion and make decisions on these matters while flexibly responding to changes in the situation. As a matter of course, the funds raised should be allocated to working capital and investments, and we will continue to work on reducing non-business assets.

On the other hand, reducing the cost of equity is also an important factor. We recognize that our Group's cost of equity is at a relatively high level due to high volatility of our business results. Therefore, we are working to establish a stable earnings base under the Medium-Term Management Plan.

We believe the trend toward sustainability and other factors are also pushing up the cost of capital. Through enhanced information disclosure and dialogue with stakeholders, our Group strives to gain their understanding about its policies and initiatives, and to ensure that the opinions of stakeholders are reflected in management. To this end, we will promote two-way communication between the stakeholders and management and conduct management in a fair, transparent, and effective manner.

Growth rate

To maintain and enhance corporate value, it is essential to carry out research and development and capital investment for medium- to long-term growth and value creation. Although investing in these areas temporarily reduces profitability (ROIC), we will not hesitate to do so if it is deemed necessary to enhance the corporate value of the Group over the long term.

Business Portfolio Management

In the Medium-Term Management Plan, we have identified the issues such as insufficient focus on asset efficiency and cost of capital, and inadequate monitoring of the status of each business unit. To improve the situation, our Group is working to make efficient use of cost of capital and management resources and strengthen the business foundation by utilizing ROIC in the management and evaluation of our business units.

Development of Business Portfolio Strategy

From the perspective of asset efficiency and cost of capital, we formulate Companywide business portfolio strategies and optimal capital structure policies that are consistent with the strategies.

- Formulate policies for optimal capital structure and cash allocation based on financial planning
- Develop Companywide business portfolio strategies
- Discuss the positioning of each business unit (in the four quadrants) in the Companywide business portfolio strategy
- Examine investment quotas and prioritization by business unit and division

Monitoring of Business Units

We conduct performance monitoring and KPI management of each business unit.

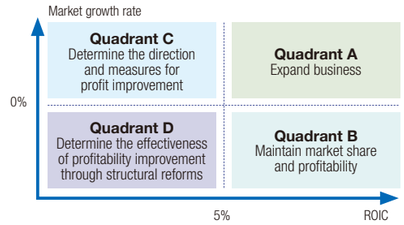
- Carry out ROIC and cash flow management by business unit and Group company
- Direct and monitor the development of improvement plans for unprofitable businesses
- Examine the plan for unprofitable businesses and individual businesses
- Discuss the direction of management resource allocation for new businesses

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.

In the business portfolio (forecast for fiscal 2023) updated in May 2022, the steel business, which was located in quadrant D in May 2021, has moved to quadrant B as a result of margin improvements achieved in fiscal 2021. 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 caused by soaring raw material and logistics costs, as well as by the intensified price competition from Chinese manufacturers that are increasing their presence.

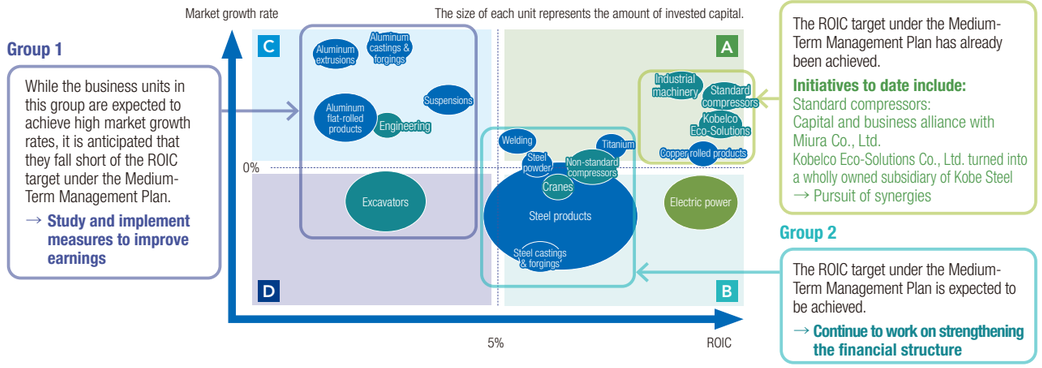
Business Portfolio Management Policy



Future Initiatives

Group 1: We conduct verifications of the status of the study and implementation of measures to improve profitability and determine future direction of the business.
Group 2: We continue to monitor the status of measures to strengthen the financial structure aimed at achieving ROIC that consistently exceeds the cost of capital.
Group 3: We plan to study and draw up measures aimed at generating synergies. The measures will be evaluated by the Business Portfolio Management Committee.

Business Portfolio (Based on fiscal 2023 assumptions)



Group 1

While the business units in this group are expected to achieve high market growth rates, it is anticipated that they fall short of the ROIC target under the Medium-Term Management Plan.

→ **Study and implement measures to improve earnings**

Group 3

The ROIC target under the Medium-Term Management Plan has already been achieved.

Initiatives to date include:
Standard compressors:
Capital and business alliance with Miura Co., Ltd.
Kobelco Eco-Solutions Co., Ltd. turned into a wholly owned subsidiary of Kobe Steel
→ Pursuit of synergies

Group 2

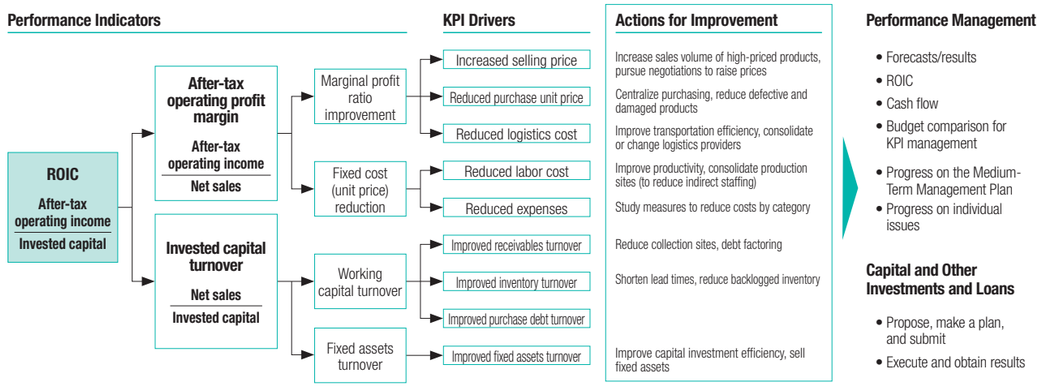
The ROIC target under the Medium-Term Management Plan is expected to be achieved.

→ **Continue to work on strengthening the financial structure**

Business Management Based on ROIC Tree

In each business unit, major KPIs are set using the ROIC tree, and performance management is conducted based on the KPIs. The Business Portfolio Management Committee conducts monitoring on a quarterly basis.

ROIC Tree (The following is a generalized ROIC tree for explanatory purposes only.)



* Net operating profit after tax (NOPAT) = operating income + dividend income + equity method investment income – tax expenses

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

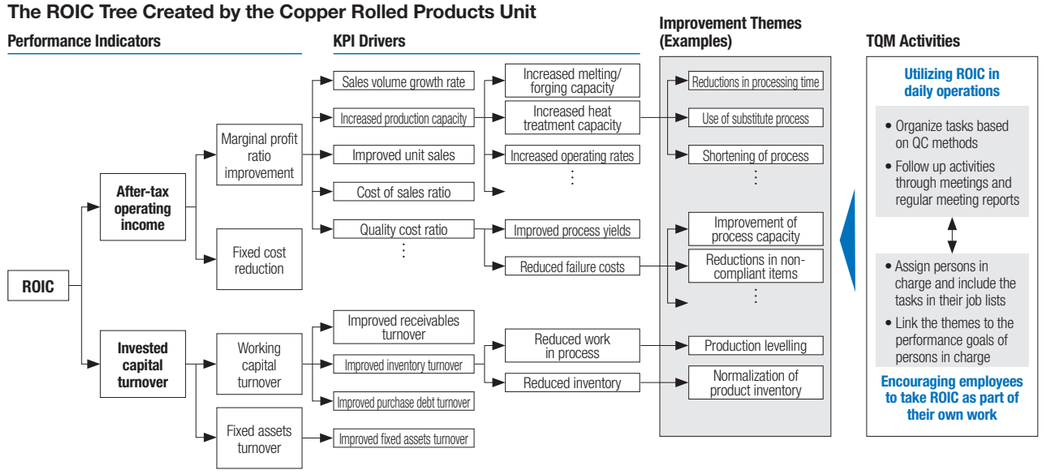
The KOBELCO Group is working on KOBELCO Total Quality Management (TQM) activities* and has introduced the ROIC tree in the management of KOBELCO TQM.

In order to utilize ROIC in daily operations, the advanced material business has set improvement themes corresponding to KPI drivers in the ROIC tree. Based on the improvement themes, tasks are organized using quality control (QC) methods. We regularly follow up the progress of each theme through department 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 department 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.

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 risks 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. In addition, regarding the follow-up of investment projects that have already been decided, the committee will report 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.

Preliminary Deliberations

The committee confirms that important investment projects are consistent with the business portfolio strategy and conducts preliminary deliberations that include risk analysis of investment projects and the assessment of the target projects for which investment is being considered.

Main Items to Be Checked

- Consistency between the positioning of the business units in the business portfolio and the investments to be implemented
- 3C analysis and SWOT analysis of the relevant investment and business unit
- Risk analysis of investment project*
- Identification of follow-up items

Follow-Up of Investment Projects

For important investment projects, the committee reviews their progress after the investment has been made.

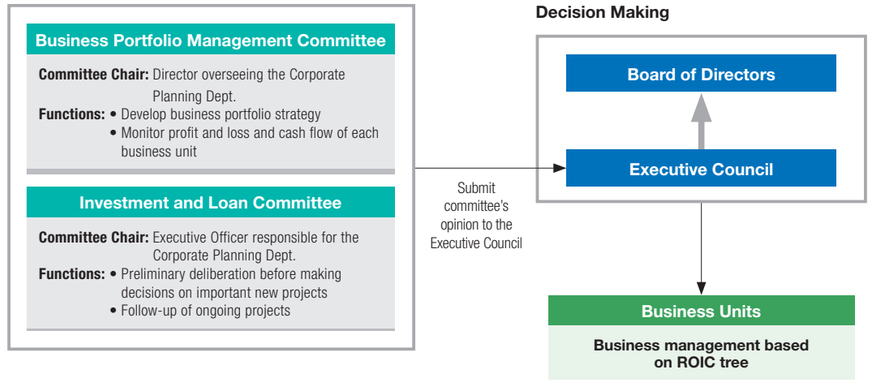
- Review the progress of important investment projects
- For projects that have not yet achieved their targets, conduct focused monitoring and, in some cases, reconsider the project plans
- Accumulate knowledge and know-how through the centralized management of investment projects to strengthen the PDCA cycle

* 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.

Investment Policy

As we are focusing on rebuilding our financial base during the period of the Medium-Term Management Plan, we have adopted a policy of keeping capital investment within the range of operating cash flow. On a decision basis, we plan to spend approximately 100 billion yen a year for capital investment. Basically, we will control expenditures, but we have increased IT strategy-related investment to roughly 15 billion yen a year.

Management Structure (Business portfolio management, capital investment, and investments and loans)



Taking on the Challenge of Realizing Carbon Neutrality

Purpose and Background

The KOBELCO Group has set targets for 2030 and a vision for 2050 from two angles: (1) reducing CO_2 emissions in the Group's production processes, and (2) contributing to reduction of CO_2 emissions through the Group's distinctive technologies, products, and services.

	2030 Targets	2050 Vision
Reduction of CO_2 emissions in production processes	**30–40%** **(compared with fiscal 2013)*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 45 million tons or more through 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 CO_2 emissions in various areas of society through its distinctive technologies, products, and services.

*3 Reviewed calculation formula announced in September 2020

In order to achieve carbon neutrality by 2050, the KOBELCO Group will make bold efforts to reduce CO_2 emissions in production processes by promoting the development of its distinctive technology and utilizing external innovative technology. The Group will also contribute to reduction of CO_2 emissions through a variety of technologies, products, and services, such as the MIDREX® Process in the machinery businesses and materials for automotive weight reduction and electrification in the materials businesses. Leveraging our Group's strengths that integrate diverse technologies and products, we will strive to seize business opportunities created by growing demand along with the progress of carbon neutrality efforts.

	Internal environment	External environment	Our Group's actions
Risks (Negative factors)	**Weaknesses** • Owns blast furnaces and coal-fired power plants with high CO_2 emissions	**Threats** • Increasing cost of measures to reduce CO_2 emissions of the Group • Trend toward divestment by investors and other stakeholders	**To minimize risks** • 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** • Numerous options for contributing to reductions of CO_2 emissions • Capability to integrate various businesses and technologies	**Opportunities** • Increase in demand for options that contribute to reductions in CO_2 emissions	**To maximize opportunities** • Technology development and promotion of commercialization of options that contribute to reductions of CO_2 emissions

MIDREX® Process

Moving toward carbon neutrality in 2050, the steel industry is rapidly changing and showing increasing interest in DRI as a way of attaining the goal. The MIDREX® Process is a reliable way to achieve carbon neutrality.

Masahiro Motoyuki
Executive Officer
Responsible for the Iron Unit Center in the Engineering Business

Driven by the rising need to reduce CO_2 emissions in ironmaking processes, direct reduced iron (DRI) is attracting increased attention globally. The MIDREX® Process, a distinctive technology of the KOBELCO Group, is a direct reduction ironmaking method that utilizes natural gas. It can reduce CO_2 emissions in the ironmaking process by 20–40% compared to the blast furnace method (comparison between the electric arc furnace (EAF) route that uses DRI and the blast furnace-basic oxygen furnace (BF-BOF) route). The MIDREX® Process accounts for approximately 60% of global DRI production (approximately 80% on a natural gas basis).

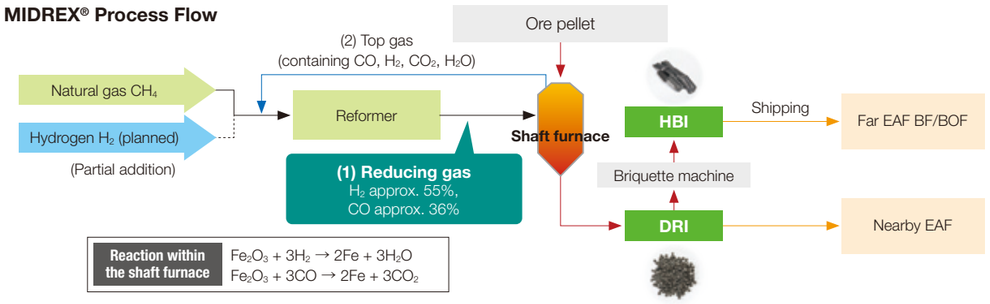
Inquiries about the MIDREX® Process are currently very active. This shows that, while steelmakers around the world are now seriously studying ways to decarbonize, DRI (manufactured using a direct reduction ironmaking method) is positioned as an important part of their transition plans to carbon neutrality.

The main components of the MIDREX® Process are the shaft furnace and reformer, both of which are proprietary technologies of Midrex Technologies, Inc. Midrex Technologies has the expertise to design and supply these components, which are internally designed and continuously improved, like many other pieces of equipment in the plant. The strength of the MIDREX® Process is operational stability, backed by state-of-the-art technology, which has been proven over many years. As a result of such stable operation, the MIDREX® plants often exceed the annual rated production capacity.

Another distinctive feature of the MIDREX® Process is its ability to handle various grades of iron ore and different energy sources (natural gas, hydrogen, and coke oven gas) and simultaneously produce at the same plant both hot DRI for feeding the adjacent melting furnace and hot briquetted iron (HBI) for export. While the market environments are rapidly changing, the MIDREX® Process offers many options in terms of the manufacture of product.

We believe that in order to maintain our technological edge, it will be necessary to launch new products and technologies such as HBI for blast furnaces, use of low-grade iron ore, and MIDREX-H_2™, which is a 100% hydrogen-based direct reduction process. Some MIDREX® plants have already used low-grade iron ore, and we expect this trend to increase in the future. The MIDREX® Process has the flexibility to use a variety of grades of iron ore, and this is one of its strengths over the competitors. With regard to hydrogen production, the MIDREX® Process has a track record of using reducing gas containing approximately 75% hydrogen in commercial production over many years. Raising the hydrogen ratio from 75% to 100% is not a huge leap, and we believe it is feasible based on our experience and test data.

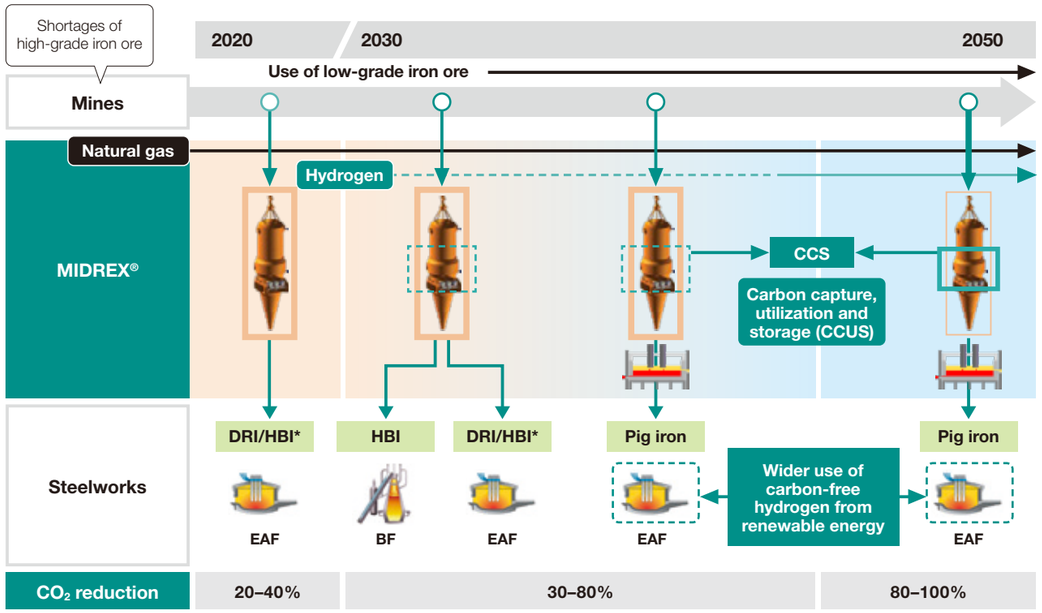
MIDREX® Process Flow



Source: KOBELCO Group's CO_2 Reduction Solution for Blast Furnace Ironmaking (February 16, 2021)
Note: For further details on the MIDREX® Process, please visit the Midrex Technologies website. https://www.midrex.com/

Roadmap for CO_2 Reduction through the Midrex® Process

We are proceeding with initiatives for CO_2 reductions through the MIDREX® Process in accordance with the roadmap announced in the Medium-Term Management Plan. By promoting our Group's distinctive technology MIDREX® Process, we will continue to offer CO_2 reduction solutions, including initiatives to expand demand for electric arc furnaces, CO_2 reduction solutions for blast furnaces, and the efforts to achieve hydrogen reduction ironmaking. Through these, we will strive to increase earnings and contribute to reduction of CO_2 emissions.



* The amount of CO_2 reductions may change depending on specific environmental conditions, such as equipment installed and materials used.
* Direct reduced iron: Clean iron source (Fe –approx. 90%, low impurities), widely used as substitute for high-grade scrap and pig iron in electric arc furnace (EAF), blast furnace (BF), and basic oxygen furnace (BOF)
* Hot briquetted iron: DRI that is compressed, while being hot, into a compact solid (briquette) upon being discharged from the reduction furnace for long-distance transport.

MIDREX H_2™ (100% hydrogen-based direct reduction)

The MIDREX® Process enables the gradual replacement of natural gas with hydrogen in operation to achieve even greater CO_2 reductions. In addition, it has been confirmed that the process can be switched to a hydrogen-based reduction ironmaking method that uses 100% hydrogen gas as reductant without the need for additional large investment.

Midrex Technologies has entered into a joint research agreement with ArcelorMittal, the world's largest steelmaker, to supply the hydrogen-based direct reduction ironmaking technology in the research and development of low-carbon ironmaking using hydrogen, promoted by ArcelorMittal.

As part of the agreement, Midrex Technologies also entered into an agreement to undertake the design of a demonstration plant for the production of DRI using hydrogen, which will be constructed at ArcelorMittal's Hamburg plant in Germany, utilizing technologies of Midrex Technologies.

In this demonstration plant, verification of hydrogen reduction will be conducted by recovering hydrogen contained in the top gas from the existing DRI plant that uses natural gas as reductant. The plant will produce about 100,000 tons of DRI per year, making it the world's largest DRI plant that uses only hydrogen as reductant.


ArcelorMittal's existing DRI plant in Hamburg, Germany

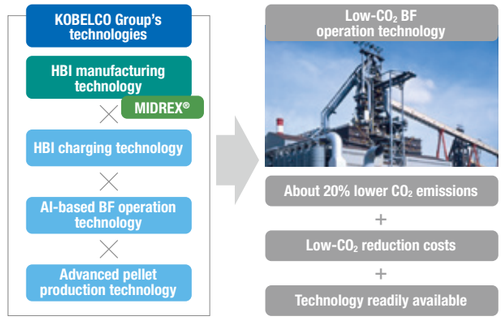
TOPICS

Initiatives for CO_2 Reduction Solution for Blast Furnace Ironmaking

The KOBELCO Group has successfully demonstrated the technology that can reduce a significant amount of CO_2 emissions from blast furnace operations, combining the technologies of the engineering business and the steel business. The quantity of CO_2 emissions from the blast furnace is determined by the reducing agent rate (RAR)*1, namely the quantity of carbon fuel used in blast furnace ironmaking. In the demonstration test, it was verified that RAR could be stably reduced by charging a large amount of HBI produced by the MIDREX® Process. The results indicate that this technology can reduce CO_2 emissions by approximately 20% compared to a conventional method*2.

In addition, the world's lowest level of coke rate has been achieved in the demonstration test of this technology. We see it as a promising solution that could become readily available in the near future at a lower additional cost compared to other CO_2 reduction measures.

These successful results were produced by two key technologies of the KOBELCO Group.



Two Key Technologies

1. HBI manufacturing technology using the MIDREX® Process in the engineering business

2. Blast furnace operation technologies in the iron and steel business, such as HBI charging technology for blast furnaces, AI-based blast furnace operation technology, and our Group's distinctive advanced pellet production technology.

Applying the effects obtained from the CO_2 reduction technology to products, we have launched Kobenable Steel as Japan's first provider of low-CO_2 blast furnace steel products with significantly reduced CO_2 emissions in the blast furnace ironmaking process (according to Kobe Steel's survey as of May 17, 2022). This product uses the mass balance methodology*3 whereby CO_2 reduction effects are allocated to specific steel products.

Kobenable Steel is manufactured in the same process as the conventional blast furnace method and has the following two features.

(1) Available for all types of steel products
Kobenable Steel is available for all types of steel products (steel sheet, steel plate, wire rod and bar products) that are manufactured at Kakogawa Works and the Kobe Wire Rod & Bar Plant of Kobe Steel.

(2) Maintaining the same level of high quality as conventional products
Customers can continue to use blast furnace steel products that require high quality, such as special steel wire rods and ultra-high-tensile strength steel, which are our Group's strengths.

The KOBELCO Group will contribute to the realization of a green society by providing Kobenable Steel low-CO_2 blast furnace steel as a pioneer in the steel industry. Our Group will continue to provide solutions to the needs of society, by making the best use of the talents of its employees and technologies, in order to realize a world in which people, now and in the future, can fulfill their hopes and dreams while enjoying safe, secure and prosperous lives.

Registered trademark
(trademark application pending)

Kobenable Steel

*1 Reducing agent rate (RAR) = coke rate (determined by the quantity of coke used in blast furnace) + pulverized coal rate (determined by the quantity of pulverized coal injected into blast furnace).
Coke is carbon fuel made from coal, and pulverized coal is coal crushed into powder.
*2 The results are compared with fiscal 2013, which is the base year of the CO_2 reduction targets set by the government and the KOBELCO Group.
*3 The mass balance methodology is a method to allocate specific characteristics to a certain portion of products according to the input amount of raw materials with the characteristics when there is a mix of raw materials with and with no such characteristics in the manufacturing process. This approach has been used for products, for which separation of product properties are difficult due to the characteristics of the manufacturing process or the supply chain.

Initiatives toward Carbon Neutrality in the Ironmaking Process

The KOBELCO Group will strive to achieve its CO_2 reduction targets for 2030 and contribute to CO_2 reduction throughout the entire supply chain through the CO_2 reduction solutions for blast furnace ironmaking based on its unique technology.

Kazuhiko Kimoto
Executive Officer
Responsible for the Business Development Department in the Steel & Aluminum Business

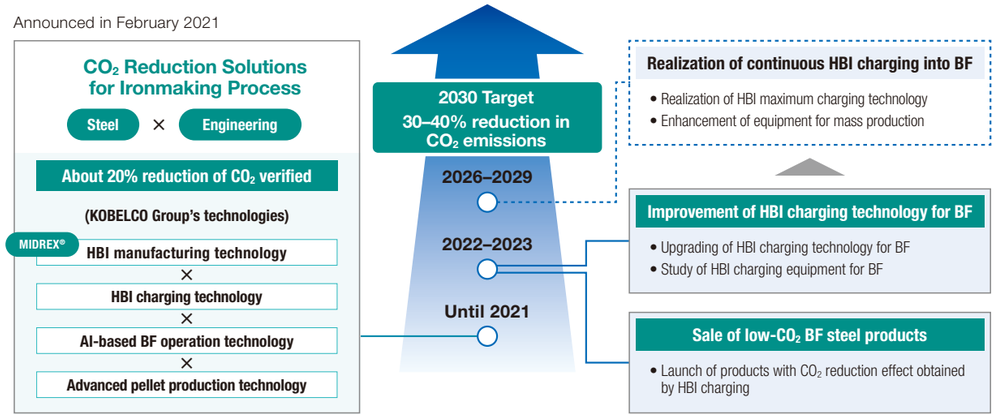
Reducing CO_2 in the ironmaking process is a major issue for Japanese steelmakers. In Japan, initiatives are underway to reduce CO_2 emissions in the ironmaking process under the national government leadership, such as the "Hydrogen Utilization in Iron and Steelmaking Processes," which was adopted by the New Energy and Industrial Technology Development Organization (NEDO) as one of the Green Innovation Fund Projects.

The KOBELCO Group's CO_2 reduction efforts in the steel business are centered on the utilization of HBI, an iron source produced by the MIDREX® Process. We will work to achieve our targets for 2030 by developing technology focused on CO_2 reduction solutions that use HBI in blast furnaces. Since this technology has already been successfully demonstrated, we believe it is a highly reliable initiative.

Going forward, we will further improve the technology by taking measures such as upgrading the technology and studying the equipment for charging HBI into blast furnaces, with the aim of achieving continuous HBI charging.

By steadily achieving our targets for 2030, we will build a foundation for the next challenge, which is achieving carbon neutrality by 2050.

2050 Vision: Taking on the Challenge of Realizing Carbon Neutrality



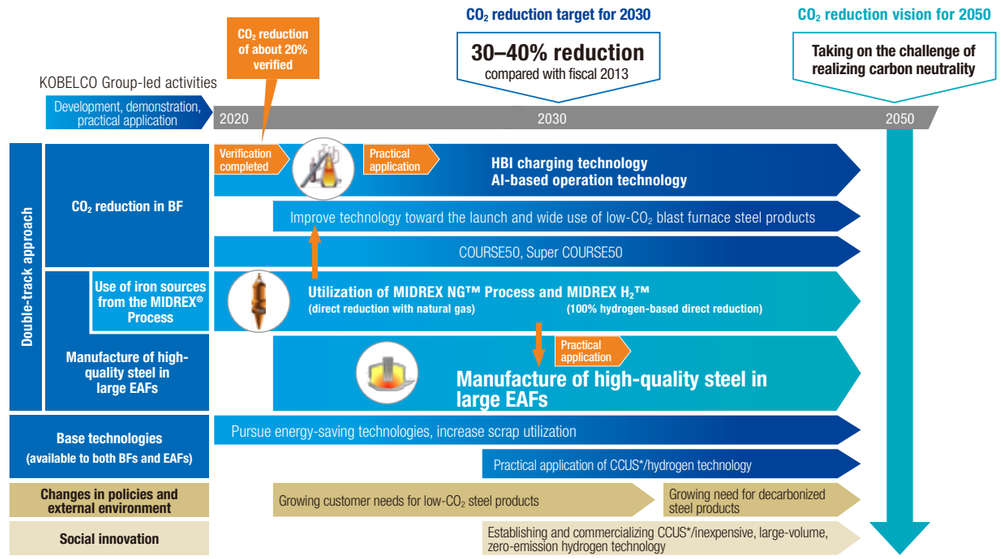
Meanwhile, customers who use our Group's steel products are promoting efforts to reduce CO_2 emissions throughout their supply chain, and demand for products with low CO_2 emissions is increasing. In May 2022, the KOBELCO Group launched its low CO_2 blast furnace steel product called Kobenable Steel, which has attracted an extraordinary level of interest from customers. The first practical application of Kobenable Steel in Japan was in the automotive sector.* Toyota Motor Corporation has adopted Kobenable Premier, a steel sheet product with 100% reduction in CO_2 emissions, for the suspension members of the hydrogen-engine-equipped racing vehicle Corolla. The vehicle that used Kobenable Premier competed in the ENEOS Super Taikyu Series 2022 Powered by Hankook, Round 2 NAPAC Fuji Super TEC 24 Hours Race (Fuji 24 Hours Race) held from June 3 to 5.

* According to Kobe Steel's survey as of June 3, 2022

Roadmap toward Carbon Neutrality in the Ironmaking Process

The roadmap for the ironmaking process was announced in the Medium-Term Management Plan last year, but as the study has progressed over the past year, we have updated the roadmap with more concrete details that reflect our study results.

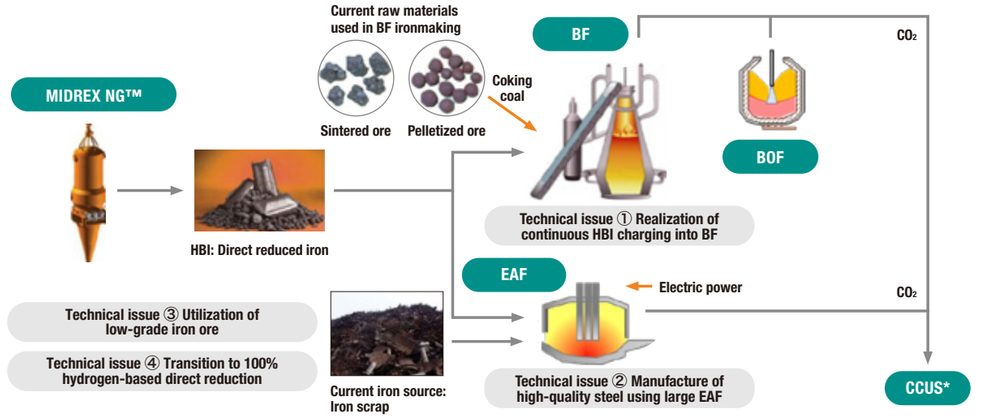
With regard to the carbon neutrality of our Group's ironmaking process, our basic strategy is to use iron sources from the MIDREX® Process, while working on a double-track approach of reducing CO_2 emissions utilizing existing blast furnaces and manufacturing high-grade steel in large electric arc furnaces.



We believe there are four major technical issues that must be addressed in order to achieve the roadmap. Initiatives for technical issues of ① Realization of continuous HBI charging into BF and ② Manufacture of high-quality steel using large EAF are centered on the efforts at Kakogawa Works, while technical issues of ③ Utilization of low-grade iron ore and ④ Transition to 100% hydrogen-based direct reduction are related to the manufacture of DRI.

At Kakogawa Works, we will work on the realization of HBI continuous charging into BF (technical issue ①) and the manufacture of high-quality steel using large EAF (technical issue ②). For the use of iron sources from the MIDREX® Process, we will work on the utilization of low-grade ore (technical issue ③) and the transition to 100% hydrogen-based direct reduction (technical issue ④).

For these initiatives, we aim to achieve our targets by integrating the technologies of the steel business and the engineering business.

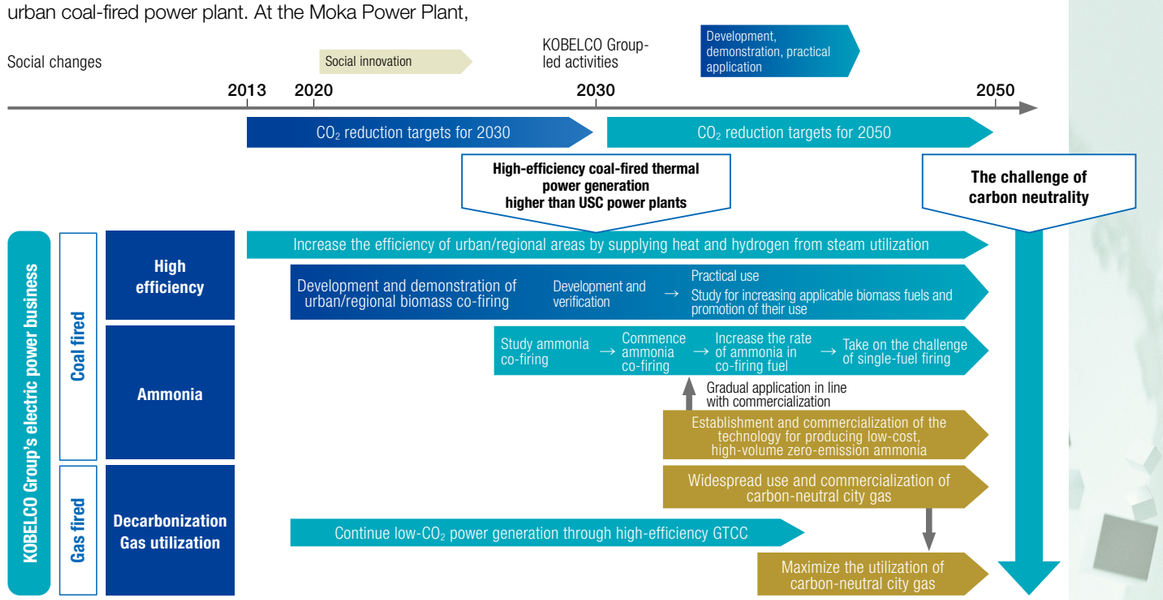


*CCUS (Carbon Capture, Utilization and Storage)

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 CO_2 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-CO_2 power generation using high-efficiency Gas Turbine Combined Cycle (GTCC).

At the Kobe Power Plant, we will increase the rate of co-firing of ammonia, 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.

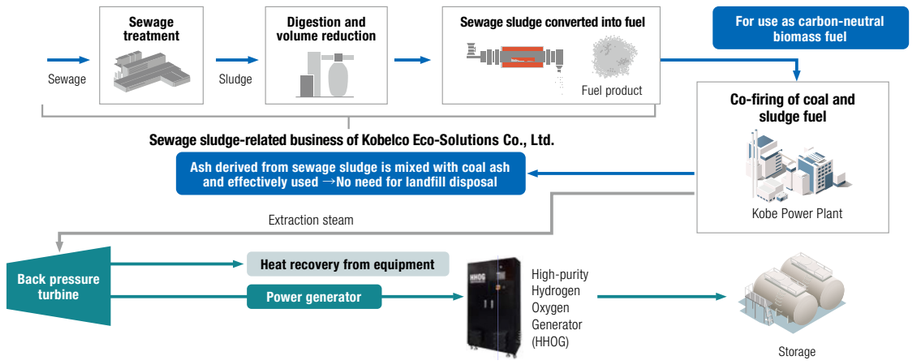


In order to promote initiatives aimed at practical application of ammonia co-firing, including the use of technology under development by NEDO-funded projects, we are moving forward with detailed internal studies, while following up on national policies and trends in technology development promoted by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

In fiscal 2021, Kobelco Eco-Solutions received orders for two projects for converting sewage sludge into 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.

For details on the initiatives by Kobelco Eco-Solutions Co., Ltd., please see p. 62.

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



Initiatives to Reduce CO_2 Emissions

Our products contribute to CO_2 reductions in various ways. While we offer products that contribute directly to CO_2 reductions at the use stage, many of our products and solutions contribute to reductions of CO_2 emissions in customers' products. Here, we introduce some of these products and solutions.

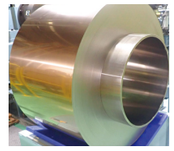
For more details on our contribution to CO_2 reduction, please see p. 69.

Initiatives to Contribute to Vehicle Electrification

Various countries around the world have set targets for vehicle electrification, and automakers are accelerating their efforts toward electrification. The KOBELCO Group has been contributing to reductions of CO_2 emissions through the supply of weight-reducing materials and parts that help improve fuel efficiency. In addition, we have many products that contribute to improving the characteristics of electric vehicles (EVs) and full cell electric vehicles (FCEVs), which will continue to increase in the future.

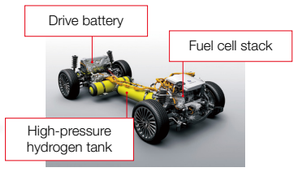
At the 37th Sokeizai Industry Technology Awards, held by the Materials Process Technology Center (SOKEIZAI Center) in 2021, our Group, together with Toyota Motor Corporation, received the METI Minister's Award for the development of nano-carbon composite coat (NC) titanium, which is a rolled titanium material for use in fuel cell separators. The KOBELCO Group and Toyota have jointly achieved the world's first successful mass production of NC titanium, which was developed by our Group's Technical Development Group and Advanced Materials Business division, integrating the equipment technology of the Machinery Business division. With superior corrosion resistance and surface conductivity, the developed NC titanium will contribute to further downsizing and higher performance of fuel cell stacks without the use of expensive precious metals. In addition, by providing surface treated coils with excellent press formability, we will contribute to dramatic improvement of productivity at the customer's separator manufacturing site.

The mass production of NC titanium and its shipment to customers have already started. The mass-produced NC titanium has been adopted by Toyota as a fuel cell separator material for Mirai, a fuel cell electric vehicle, vehicle, which has been on sale since December 2020.



NC titanium coil

Mirai, a fuel cell electric vehicle



Mirai fuel cell stack

Initiatives to Contribute to Carbon Neutrality in the Energy Industry

As efforts toward carbon neutrality progress, the industry is anticipating the practical application of CCUS and the expanded use of renewable energy. The KOBELCO Group will contribute to carbon neutrality in the energy industry not only through the machinery businesses but also through its materials businesses, including the welding business.

Welding Solutions

(1) Liquefied CO_2 Storage Tanks

For liquefied CO_2 storage tanks, the industry plans to use high-tensile strength steel, but the possibility of using cryogenic steel is increasing in the future. Our Group has been developing high-efficiency electroslag welding materials and methods that employ cryogenic steel for fuel tanks of ships. We believe this technology can be applied to liquefied CO_2 storage tanks in the future.

(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 materials 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 materials 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 CO_2 emissions.