



JFE

JFE Group

**Financial Results for Fiscal Year 2023
ending March 31, 2024**

JFE Holdings, Inc.

May 7, 2024

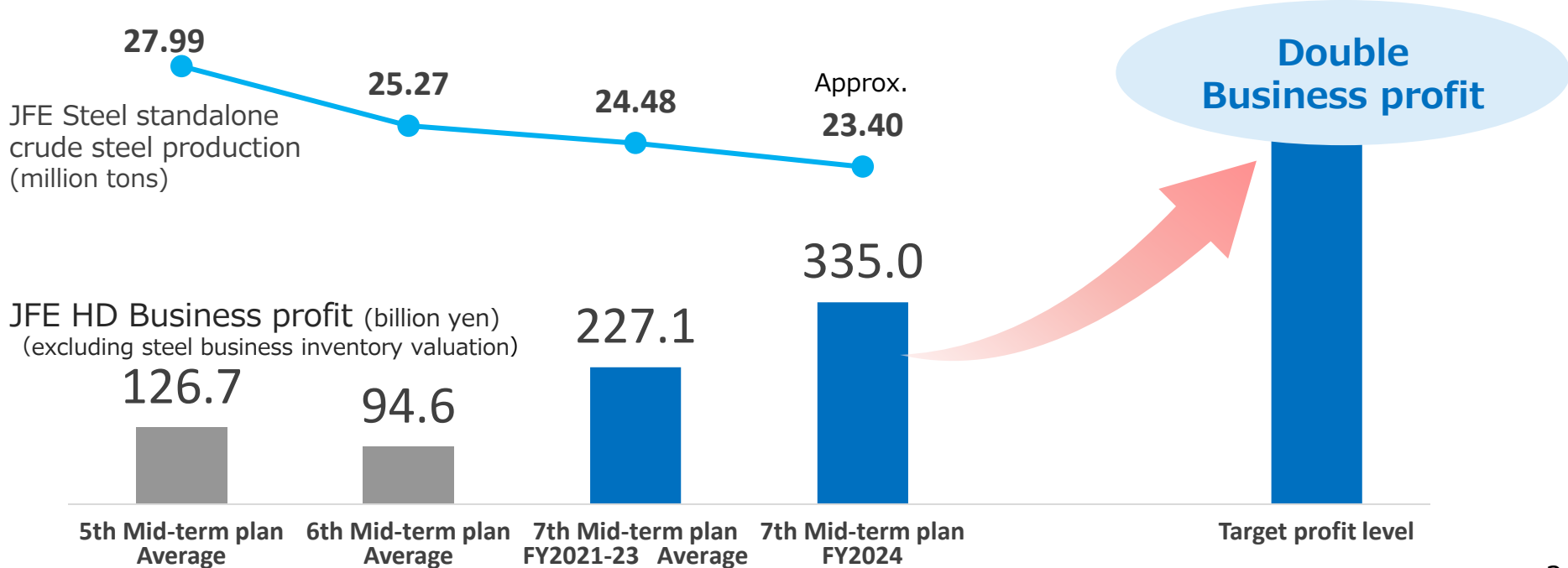


Aspirations as new CEO (Vision)

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- 7th Mid-term plan : **Establish profit base that is resilient to external environment** through “Structural reform” and “Shifting from quantity to quality”
 ⇒ Business profit* is expected to reach 335 billion yen in FY2024. *excluding inventory valuation
- ⟨**Vision : Create a solid profit base for overcoming the era of Carbon Neutrality**⟩
- **Aiming to double group business profits**, promote aggressive investment based on stable profits and **improve corporate value**.
- Complete the development of ultra innovative technologies to achieve CN in the mid-2030s

“Long-term Vision” and “8th Mid-term plan” to be released at the end of FY2024



Aspirations as new CEO (Key Challenges)

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- ① Make Keihin district land utilization the fourth pillar of future earnings

**Steel·Engineering·Trading
Businesses**

+

**Land Reuse in Keihin district
~Leads Japan's Carbon Neutrality~**

- ② 4 perspectives to improve Corporate Value

Double Profitability

- Accelerating the shifting from quantity to quality
- Aggressive investment in growth fields and regions

GX Strategy

- Developing ultra innovative technologies and reducing GHG emissions during the transition period (investing twice as many human resources as before)
- Providing products and services to realize a CN society

DX Strategy

- Improving productivity through AI utilization, automation, robotization, and remoteization
- Building a platform for new business creation

HR Strategy

- Promotion of human capital management
- Securing and developing human resources that will be the driving force for growth
- Creating a new corporate culture
- Proactive investment in human capital



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This presentation material is for the purpose of publicizing the status of our company's financial results for FY2023. It is not a disclosure material under the Financial Instruments and Exchange Act and does not guarantee the accuracy or completeness of the information. It does not constitute a solicitation to invest in securities in Japan, the United States or any other countries. The forecasts presented are based on information received at the time of the briefing and include uncertainties. Therefore, please refrain from making investment decisions based solely on this document. Our company shall not be liable for any damages arising as a result of the use of this document.



Financial Highlights

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- FY2023: Amid the challenging business environment, **the business profit* increased sharply by 133.4 billion yen from the previous fiscal year** due to improvements in domestic sales prices and structural reforms that reduced fixed costs.
- FY2024: **The business profit* is expected to increase by 38.8 billion yen from the previous year to 335.0 billion yen** due to the increase in the ratio of high value-added products, etc., and **annual dividend is expected to be 110 yen.**

*Excluding Inventory Valuation etc.

Results for FY2023

Business Profit **¥298.2bn.** (Increased by ¥62.4bn. year-on-year, Increased by ¥8.2bn. from previous forecast)
 [Excluding Inventory Valuation etc.] **¥296.2bn.** (Increased by ¥133.4bn. year-on-year, Increased by ¥1.2bn. from previous forecast)
Dividend **100yen (As previous announced)**

Forecast for FY2024

Business Profit **¥300.0bn.** (Increased by ¥1.8bn. year-on-year)
 [Excluding Inventory Valuation etc.] **¥335.0bn.** (Increased by ¥38.8bn. year-on-year)
 Excluding Inventory Valuation etc.
Steel Business Profit per ton **11,000yen/t**
Crude Steel Production (Standalone) : approx. 23.40Mt
Dividend **110yen (Increased by 10yen from previous year)**

7th Mid-term plan
 • Business profit: ¥320.0bn.
 • Steel business profit per ton: 10,000yen/t

Profitability Targets and Main Performance

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		The 7 th mid-term business plan FY2024	FY2021 Actual	FY2022 Actual	FY2023 Actual	FY2024 Forecast	
Consolidated	Business Profit [Excluding Inventory Valuation etc.]	¥320.0bn.	¥416.4bn. [¥222.4bn.]	¥235.8bn. [¥162.8bn.]	¥298.2bn. [¥296.2bn.]	¥300.0bn. [¥335.0bn.]	
	Profit attributable to owners of the parent	¥220.0bn.	¥288.0bn.	¥162.6bn.	¥197.4bn.	¥220.0bn.	
	ROE	10%	15.7%	7.9%	8.6%	8.7%	
Operating companies	Steel Business	Profit per ton* [Excluding Inventory Valuation etc.] Segment profit [Excluding Inventory Valuation etc.]	10,000 yen/t	14,000yen/t [6,000yen/t]	7,000yen/t [3,000yen/t]	10,000yen/t [10,000yen/t]	10,000yen/t [11,000yen/t]
		¥230.0bn.	¥323.7bn. [¥129.7bn.]	¥146.8bn. [¥73.8bn.]	¥202.7bn. [¥200.7bn.]	¥205.0bn. [¥240.0bn.]	
	Engineering Business	Segment profit	¥35.0bn.	¥26.0bn.	¥13.4bn.	¥24.3bn.	¥20.0bn.
	Trading Business	Segment profit	¥40.0bn.	¥55.9bn.	¥65.1bn.	¥48.9bn.	¥50.0bn.

* Steel business profit per ton
(consolidated segment profit / non-consolidated sales volume)

Progress of the 7th Medium-Term Business Plan (Economic Sustainability)

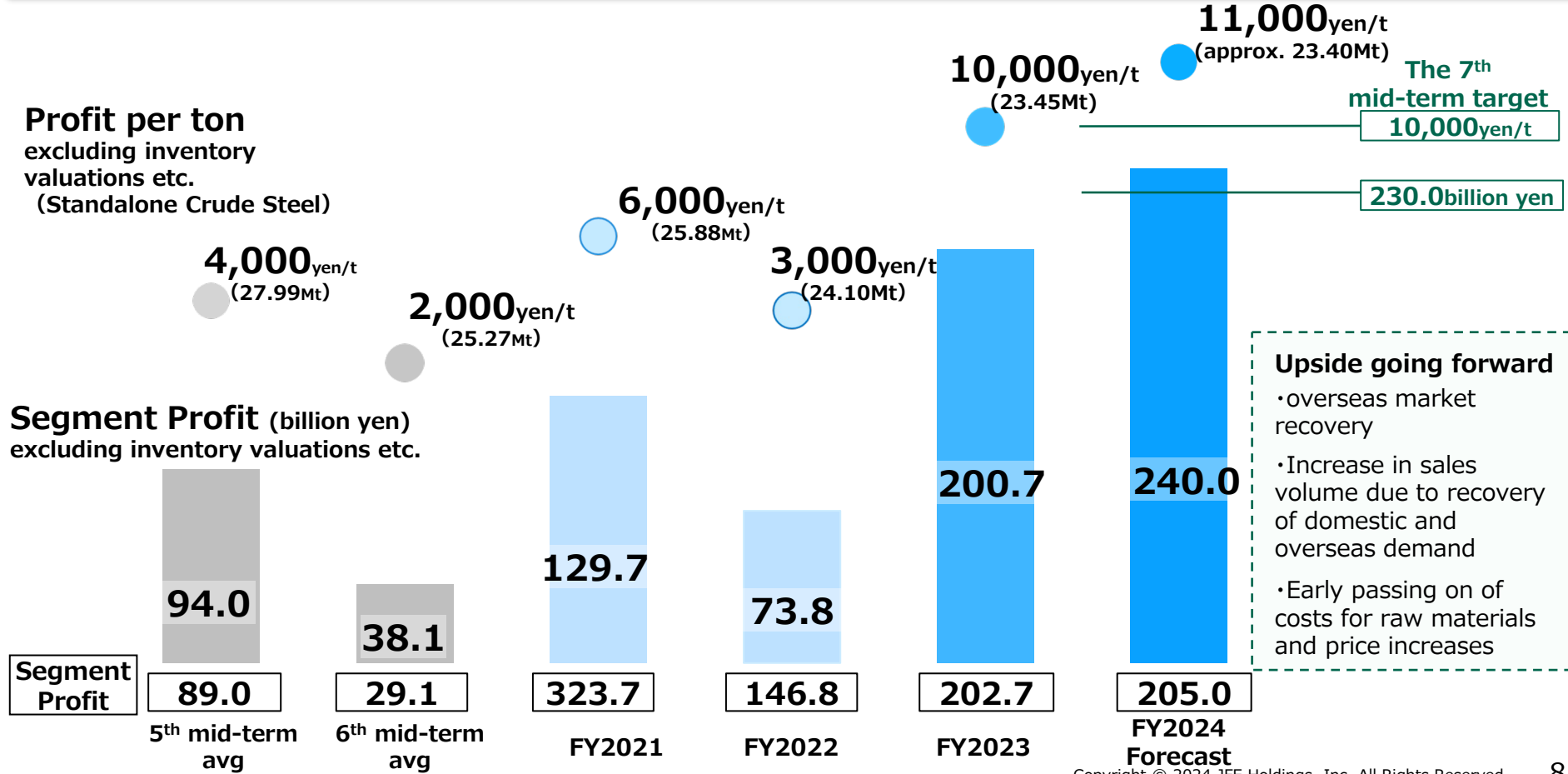


Trends in steel business earnings

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- We have established a management system that can secure profits even when crude steel production and export markets are weak.
- Segment profit * for fiscal 2024 is expected to exceed the 7th mid-term target of 230 billion yen. (Earnings per ton * are expected to exceed the 7th mid-term target of 10,000 yen/t.)

* Excluding inventory valuation etc.





[Main initiatives of Steel Business]

Improving of sales price and Product-mix enhancements

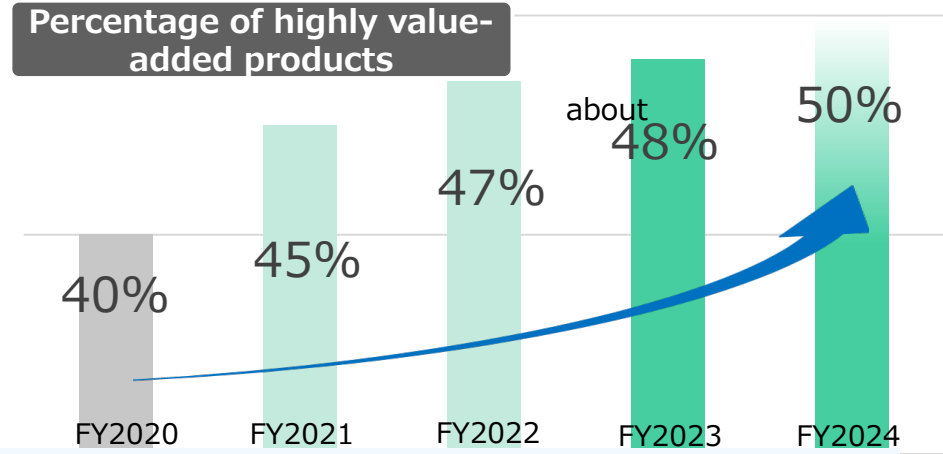
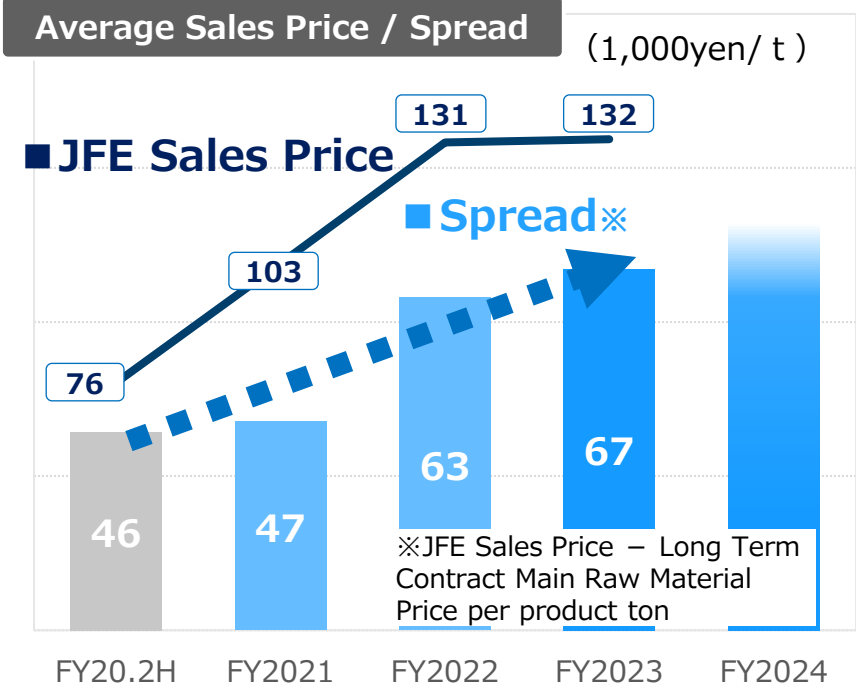
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- FY2023: The spread including prices * **improved significantly to + 5,000 yen/t** (main raw material spread + 4,000 yen/t), despite weak overseas market conditions.
- FY2024: **Promote measures to increase costs such as logistics and labor costs.** The spread * including prices is expected to **increase by 200 yen/t from the previous year.**

- FY2023: The ratio of high value-added products * was **about 48% due to expansion of sales of steel sheets for automobiles.**
- FY2024: Expanded sales of top-grade non-oriented electrical steel sheets for main motor of electric vehicles and heavy, extra-thick steel plate for offshore wind-power are expected **to achieve the medium-term target of 50%.**

*Spread including metals, energy, materials, logistics, labor costs, foreign exchange impact, etc.

*Products that offer technological advantages, are recognized by customers for their value added and have greater earnings power than commodity products.



- #### Initiatives to increase the ratio of high-value-added products
- Shut down of upstream facilities and hot rolling facilities in Keihin(Sep.2023)
 - Reinforce extra-thick steel plate production line for offshore wind-power application in Kurashiki(FY2023.2H)
 - Reinforce Non-oriented Electrical Steel Sheet Production Line(FY2024.1H,FY2026)
 - Sales expansion of automotive ultra-high strength steel sheet compatible with EV and CN



[Main initiatives of Steel Business]

Structural reforms, cost reductions, etc.

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- **Due to shutdown of upstream facilities and hot rolling facilities in Keihin in September 2023**, the structural reform in the current mid-term has completed. **Achieved a reduction in fixed costs (45 billion yen)** and significantly lowered the break-even point.
⇒ Expect to achieve a total cost reduction of 120 billion yen in the 7th mid-term.
- **The solution business aims to contribute 10 billion yen in profit for FY2024** .
(3 times the FY2020 level)

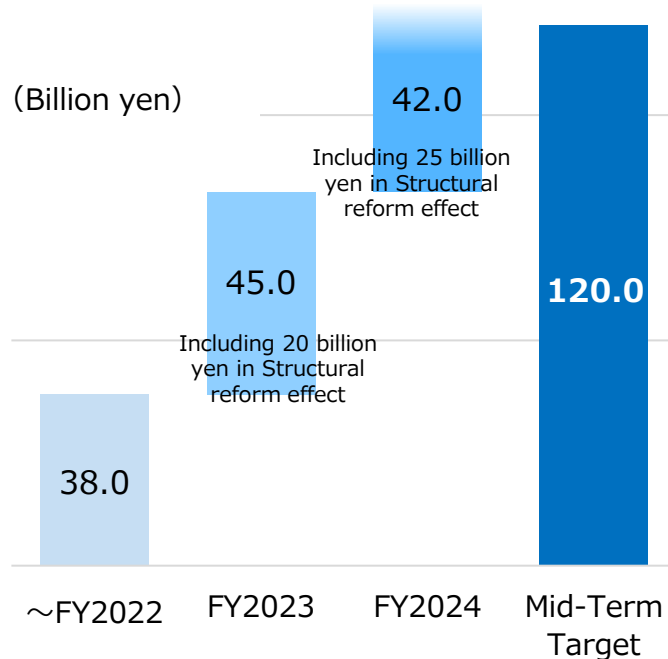
Structural reforms

- Steady implementation of structural reforms.
- After shut down of upstream facilities and hot rolling facilities in Keihin, we have seven blast furnaces and have established an optimal production system.

Main initiatives

FY2021	• Kurashiki Refit No.4 BF
FY2022	• Shutdown of Tin Mills in Chiba Consolidation in Fukuyama • Refit No.6 BF in Chiba
FY2023	• Shut down of upstream facilities and hot rolling facilities in Keihin

Cost reduction progress (Action and Structural Reform)



Solution business

- **Offers solution technology outside the company** that makes use of know-how accumulated in the operation and operation of steel mills.
- Aim to contribute 3 times more profit in FY2024 than in FY2020.

Topics

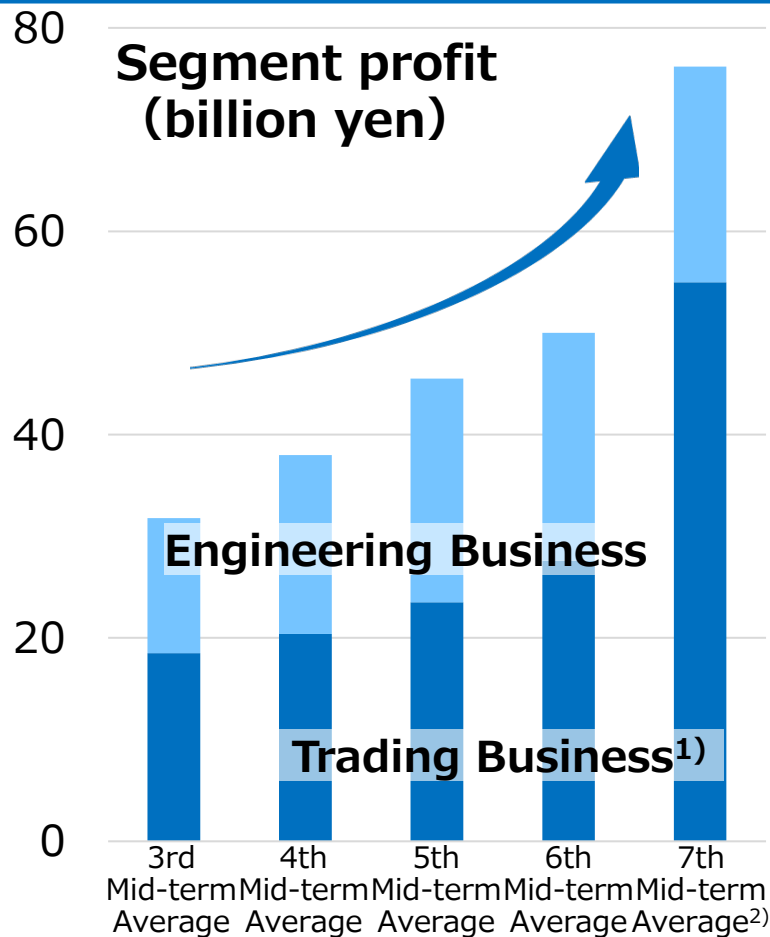
- The brand name of the solution business was decided to be **"JFE Resolus™"**.
(Released on May. 7th, 2024)



- **Started providing solutions for the steel industry** in collaboration with Hitachi, Ltd.
(Released on March. 26th, 2024)

Profit Trends in Engineering and Trading Businesses

As the profitability of Engineering business and Trading business improved, **we expect to achieve segment profit of 70 billion yen/year level steadily in the 7th mid-term business plan.**



■ Engineering Businesses

- Through the expansion of priority fields, mainly in WtR³⁾/CN, **the ratio of operation businesses increased** contributing to profit stabilization.
 - WtR : Increase orders for waste-to-power generation DBO⁴⁾ project.
 - CN : Expand electric power business through initiatives such as regional new electric power.
- Increase in orders for overseas projects: Launch of waste-to-power generation business (Viet Nam), large chemical plant (Singapore), etc. ⇒ laying the groundwork for future profit growth.

3) Waste to Resource
4) Design Build Operate

■ Trading business

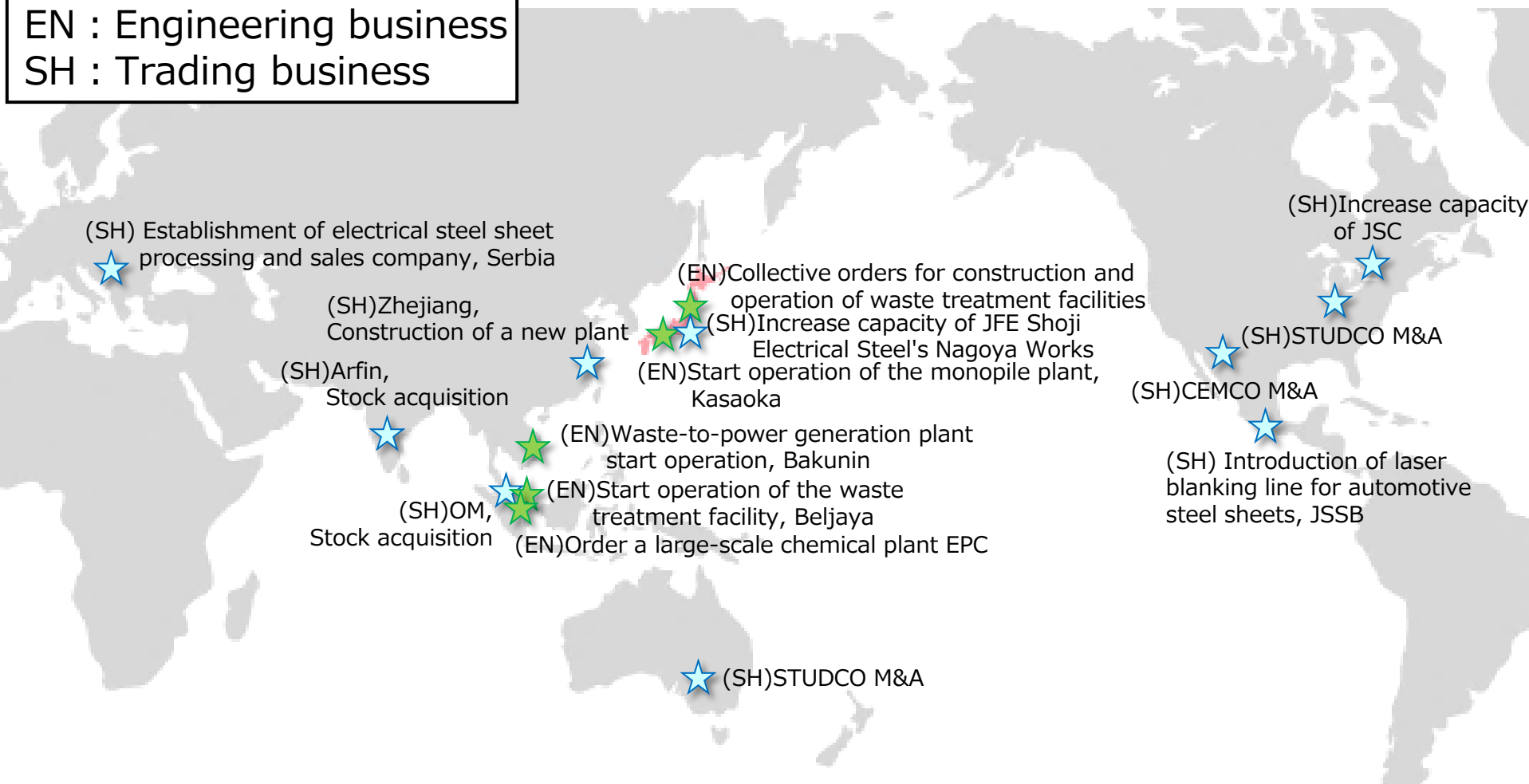
- Increase in business investment profit** mainly in priority fields (electrical steel, construction materials, automotive steel, etc.) due to M & A, etc.
- Acquisition of CEMCO, a major U.S. building materials processing company (FY2022).
 - **JSS, the electrical steel sheet processing and sales company, is established in Serbia.** Capture the growing demand for motor cores in Europe. (Released on Mar. 27th, 2024)
 - Strengthening the earnings base of the construction materials business through the **acquisition of STUDCO (U.S. and Australian construction materials processing companies).** (Released on May. 7th, 2024)

(Reference) Main initiatives on Engineering and Trading Businesses in 7th mid-term business plan



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EN : Engineering business
SH : Trading business



[Engineering business]
 • Operation revenue : 6th Mid-term 43% ⇒ 7th Mid-term 49%*
 • Overseas revenue : 6th Mid-term 8% ⇒ 7th Mid-term 14%*

[Trading business]
 • Business investment profit : 6th Mid-term 32% ⇒ 7th Mid-term 44%*
 • Overseas profit : 6th Mid-term 40% ⇒ 7th Mid-term 54%*

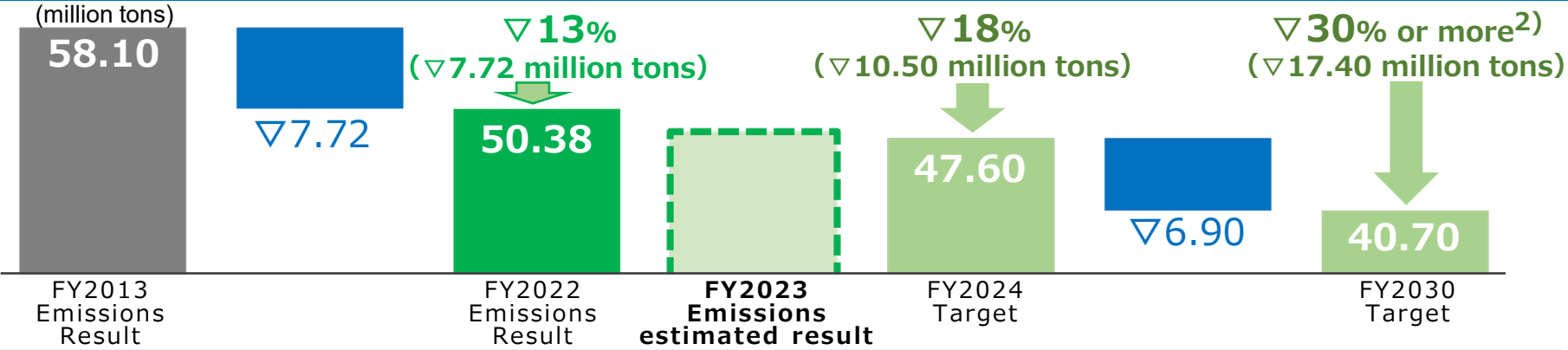
* Change from the 6th medium-term average to the 7th medium-term average. The 7th medium-term average is the average of the results for fiscal 2021 to 2023 and the forecast for fiscal 2024.

**Progress of the 7th Medium-Term
Business Plan
(Environmental & Social
Sustainability)**

CO₂ Emissions-reduction in JFE Steel



- **CO₂ emissions-reduction is progressed in FY2023 as planned¹⁾**, and the FY2024 year-end target expect to be achieved. 1) FY2023 emission result will be reported in JFE Group Report 2024.
- **Capital investment to achieve the FY2024 year-end target was approved 100%**. For the FY2030 target, we will promote the approval of capital investment and implementation.



Aiming for 18% reduction by the end of FY2024 (KPI³⁾ progress up to FY2023)

- **Capital investment** *CO₂ reduction through energy savings and technological development: 3.00 million tons
Completed approval for 100% of total CO₂ reduction in the investment plan against the CO₂ reduction target* through energy savings and technological development→**Achieved**
- **Emissions reduction**
Achieve 75% of the CO₂ reduction target* through energy savings and technological development
→**Expected to be achieved** (Result will be reported in JFE Group Report published in September.)
- **Construction of green steel supply system**
→**Achieved** (supply at a premium price for shipbuilding and constructions, etc.)

Aiming for 30% or more reduction by FY2030

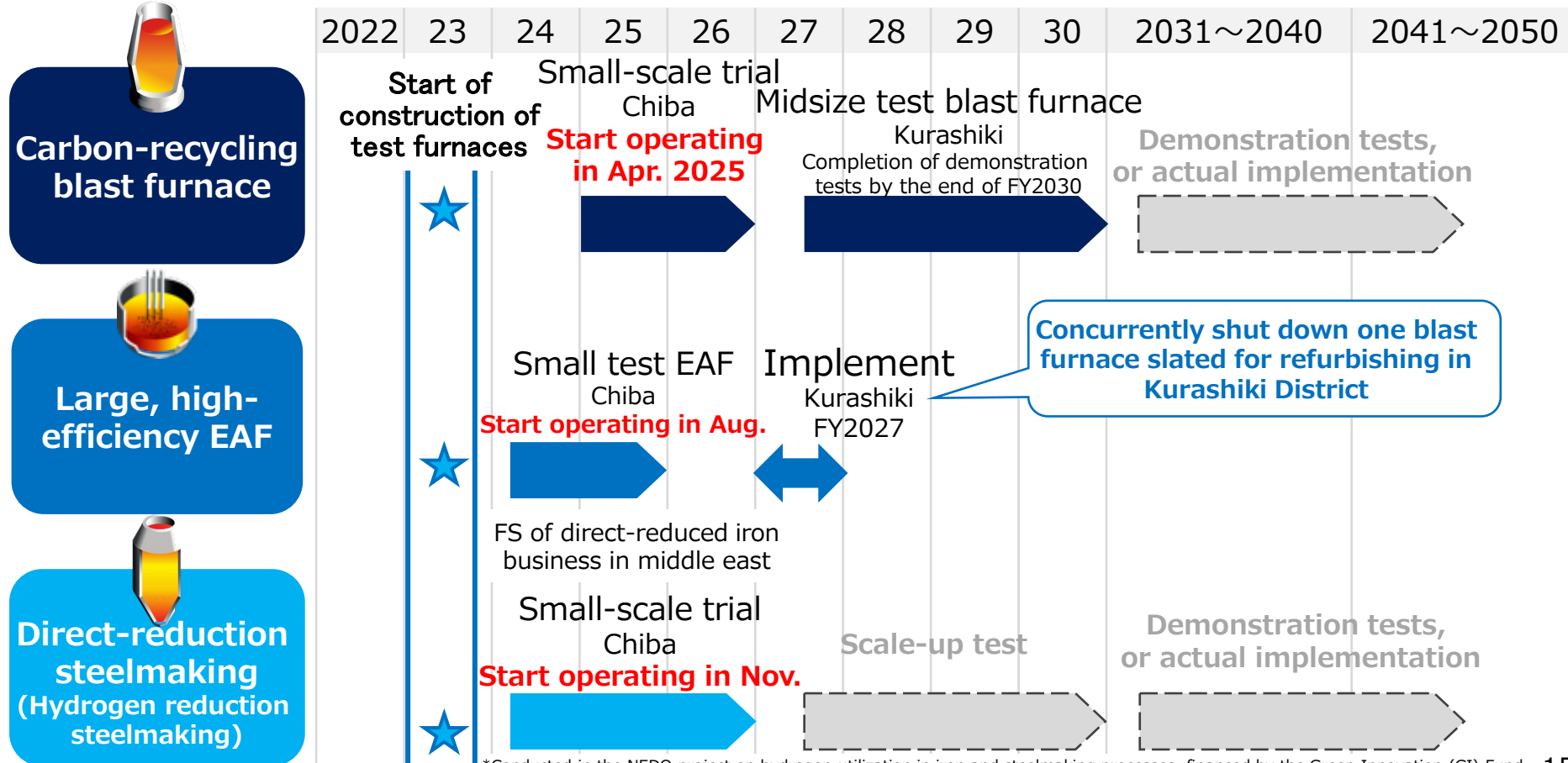
- Energy savings and high efficiency**
 - Upgrade to high-efficiency coke ovens in Fukuyama(▼16)
 - Improve efficiency of power demand facilities
 - Leverage AI & DS
 - Low-carbon feedstock & fuel**
 - Expand the use of scrap in converters(▼150)
 - Use reduced iron in blast furnaces and converters(▼200)
 - Utilizing EAFs**
 - Sendai: Upgrade existing EAF(▼10)
 - Chiba: Introduce EAF for SUS(▼45)
 - Kurashiki: Large, high-efficiency EAF(▼260)
- *The projects in blue bold font are already approved. Numbers in parentheses indicate the amount of reduction (10,000 tons/year).

2)The JFE Group regularly reviews the CO₂ emissions-reduction target for further reduction. In FY2023, we reviewed and verified the progress of technological development and determined that the current reduction target was appropriate.
 3)The JFE Group has set key performance indicators (KPIs) for its initiatives to address priority issues and worked toward achieving its targets (CO₂ emissions-reduction is identified as one of the key management issues).

Progress in Development of Ultra-innovative Technologies



- Regarding CR blast furnace, **a large amount of methane blowing test was carried out in the actual blast furnace (Keihin blast furnace before the shutdown)**, and it was confirmed that the in-furnace reaction was as expected*. Based on this knowledge, construction of a test blast furnace (150m³) was started. **After the start of operation in April 2025, we will promote technological development for implementation***.
- The small-scale electric furnace and the small-scale direct reduction furnace are scheduled to start operation in August 2024 and in November 2024, respectively***.



*Conducted in the NEDO project on hydrogen utilization in iron and steelmaking processes, financed by the Green Innovation (GI) Fund. 15

Other Topics on Carbon Neutrality

Initiatives for Green Steel

- Sales of JGreeX™, a green steel applying the mass balance method, started in FY2023. **Sold at a premium price with additional CO₂ reduction value** for shipbuilding, construction, and transformers, etc.
- In FY2024, **we aim to expand sales of JGreeX™ to all varieties and all fields.**

Initiatives for CCUS¹⁾

CCUS is essential to achieve carbon neutrality.

⇒ Focus on cooperation with domestic and overseas related companies.

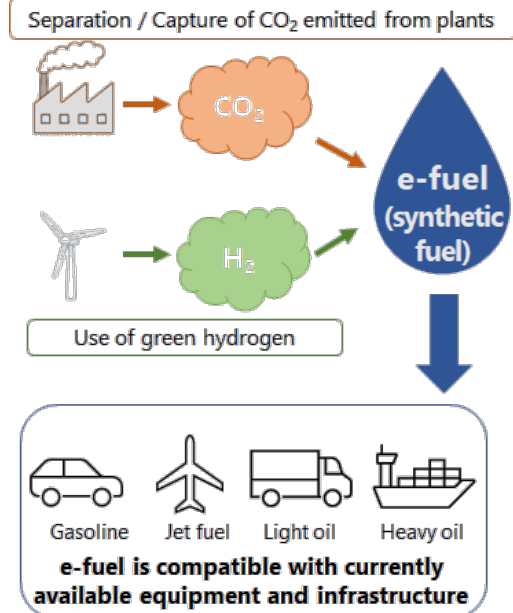
- **CCS**
- **Malaysia CCS**

In addition to JAPEX, JGC HD, Kawasaki Kisen, and JFE Steel, **Chugoku Electric Power and Japan Gas Line have joined** the effort to **build a value chain based on Japan** for CO₂ injection projects in Malaysian sea area. (Released on Feb. 26th, 2024)

- **Setouchi / Shikoku CO₂ Hub Concept** (Japan→Australia)
Reducing costs of CCS by **collecting CO₂ from emitters scattered in multiple areas in Setouchi and Shikoku regions**, and storing those emissions temporarily before the CO₂ is transported to Australia. (Sumitomo, JFE Steel, Sumitomo Osaka Cement, Kawasaki Kisen and Woodside Energy jointly conduct a business feasibility study.)

- **CCU**
- **Establishing Supply Chain for Synthetic Fuel (e-fuel)** (Japan→Australia)
To build a supply chain for e-fuel, four Japanese and Australian companies* agreed to jointly conduct a wide-ranging feasibility study covering on CO₂ capture in Japan, shipping the CO₂ to Australia, production and storage of e-fuel in Australia, etc. (*ITOCHU, HIF, JFE Steel, MOL. Released on Feb. 27th, 2024)

■ Conceptual diagram of e-fuel production



1) CCUS : Carbon dioxide Capture, Utilization and Storage

JFE steel's contribution to CO₂ reduction - Eco Product



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■ Top grade electrical steel sheets

Kurashiki NO #1

* Doubling capacity for producing top-grade NO(Non-oriented electrical steel sheet).

CAPEX	Approx. 49.0 billion yen
Start production	1H of FY2024

Kurashiki NO #2

* Tripling capacity for producing top-grade NO(Non-oriented electrical steel sheet).

CAPEX	Approx. 46.0 billion yen
Start production	By the end of FY2026

JSW GO JV

CAPEX	Approx. 670 million US dollars
Start production	Full production in FY2027

*GO: Grain-Oriented electrical steel sheet

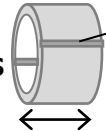
■ Steel plates for offshore wind power

Production of **Large and heavy steel plate "J-TerraPlate™"** has been started.

Produce one of the largest steel plates in Asia.

- FY2021: Kurashiki No. 7 continuous caster start operation.
- FY2023: Upgraded facilities in the plate mill in Kurashiki.

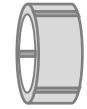
A tube for monopiles made with large-size plates



Less welds

Longer tube length

A tube made with conventional-size plates



- Multiple welds
- Shorter tube length

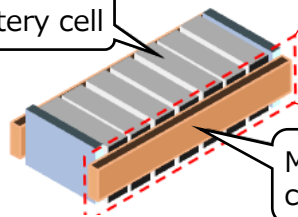
■ Ultra-high strength automotive steel sheets

• For the first time in the steel industry, our ultra-high strength steel (980MPaGA) is applied to a frame part for fixing an in-vehicle battery that requires high strength and high formability.

(Released on Mar. 14th, 2024)

• Continue to promote the expansion of the application of ultra-high strength steels to the components around battery. (Battery protection member, etc.)

battery cell



Module constraint frame



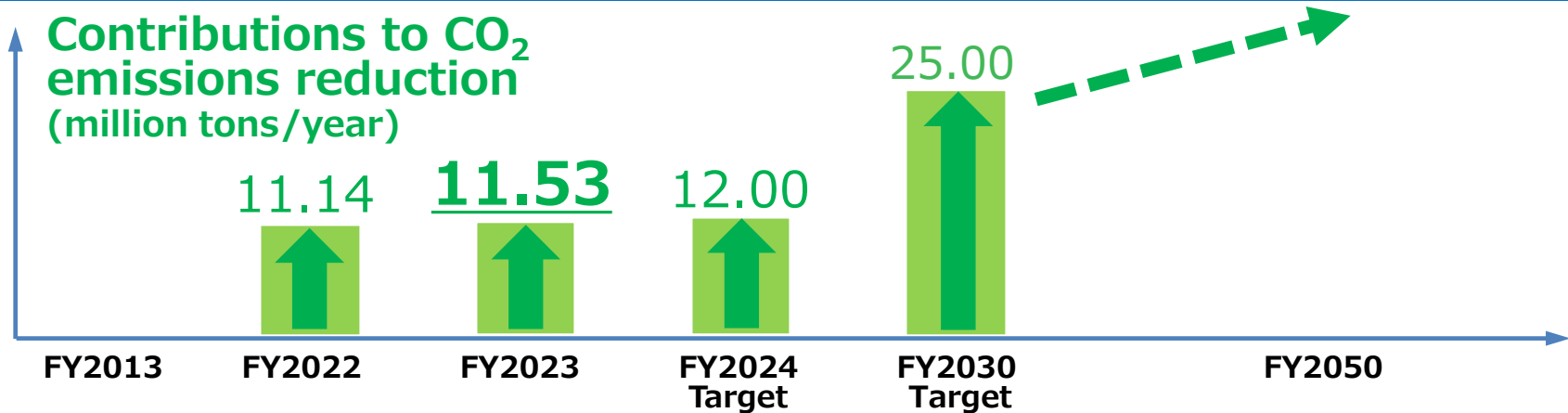
[Structure of battery module]

980MPaGA of JEFORMA (the highly formable, high-strength steel sheet series) has been firstly applied to the frame of the battery module.

JFE Engineering's contribution to CO₂ reduction

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- Contributions to CO₂ emissions reduction in FY2023 was 11.53million tons (Target: 11.50million tons)



■ Operation of renewable energy power plant (FY2023)

Start operation of renewable energy power generation facilities such as the Onikobe geothermal power plant and the Nyuzen wind power plant.



■ Operation of Kasaoka monopile plant

Start operation in April 2024.
Production capacity is 100,000ton/year.

*Completion ceremony of Kasaoka monopile plant (March 19th, 2024)



Consolidated Results for Fiscal Year 2023

Financial Results for Fiscal Year 2023



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➤ **Business profit in FY2023 was ¥298.2bn.**

(increased by ¥8.2bn. from previous forecast, increased by ¥62.4bn. year-on-year)

➤ Profit attributable to owners of parent in FY2023 was ¥197.4bn.

(billion yen)	FY2022 Actual	FY2023 Forecast	FY2023 Actual			Change FY2022→ FY2023	Change Forecast →Actual
	Full year	Full year	1H	2H	Full year	Full Year	Full Year
Revenue	5,268.7	5,230.0	2,576.5	2,598.0	5,174.6	(94.1)	(55.4)
Business Profit [Excluding Inventory Valuation etc.]	235.8 [162.8]	290.0 [295.0]	164.3 [165.3]	133.8 [130.8]	298.2 [296.2]	62.4 [133.4]	8.2 [1.2]
Finance Income/Costs	(14.8)	(20.0)	(8.9)	(9.6)	(18.6)	(3.8)	1.4
Segment Profit	221.0	270.0	155.3	124.2	279.6	58.6	9.6
Exceptional Items	(10.7)	(4.3)	–	(11.2)	(11.2)	(0.5)	(6.9)
Profit before Tax	210.2	265.7	155.3	113.0	268.3	58.1	2.6
Tax Expense and Profit (Loss) Attributable to Non-Controlling Interests	(47.6)	(75.7)	(45.2)	(25.6)	(70.9)	(23.3)	4.8
Profit Attributable to Owners of Parent	162.6	190.0	110.0	87.3	197.4	34.8	7.4

Business profit is profit before tax excluding financial income and one-time items of a materially significant value.

Inventory Valuation etc. is inventory valuation, carry over and foreign exchange valuation in steel business.

Segment profit is profit including financial income in business profit.



Financial Results for Fiscal Year 2023

(by Segment)

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(billion yen)		FY2022 Actual	FY2023 Forecast	FY2023 Actual			Change FY2022→ FY2023	Change Forecast →Actual
				1H	2H	Full Year		
		Full Year	Full Year				Full Year	Full Year
Steel Business	3,881.1	3,760.0	1,865.8	1,850.2	3,716.0	(165.1)	(44.0)	
Engineering Business	512.5	550.0	248.4	291.5	539.9	27.4	(10.1)	
Trading Business	1,514.1	1,500.0	742.0	734.3	1,476.4	(37.7)	(23.6)	
Adjustments	(638.9)	(580.0)	(279.7)	(278.0)	(557.8)	81.1	22.2	
Revenue	5,268.7	5,230.0	2,576.5	2,598.0	5,174.6	(94.1)	(55.4)	
Business Profit (A)	235.8	290.0	164.3	133.8	298.2	62.4	8.2	
Finance Income/Costs (B)	(14.8)	(20.0)	(8.9)	(9.6)	(18.6)	(3.8)	1.4	
Steel Business	146.8	200.0	122.8	79.8	202.7	55.9	2.7	
Engineering Business	13.4	25.0	8.7	15.6	24.3	10.9	(0.7)	
Trading Business	65.1	48.0	26.8	22.0	48.9	(16.2)	0.9	
Adjustments	(4.3)	(3.0)	(3.1)	6.6	3.5	7.8	6.5	
Segment Profit (A+B)	221.0	270.0	155.3	124.2	279.6	58.6	9.6	

Business profit is profit before tax excluding financial income and one-time items of a materially significant value.

Segment profit is profit including financial income in business profit.

JFE Steel Financial Results for Fiscal Year 2023

Financial Results for Fiscal Year 2023

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	Unit	FY2022	FY2023					FY2023 Previous Forecast
		Full Year	1H			2H	Full Year	
				3Q	4Q			
Revenue	billion yen	3,881.1	1,865.8	915.6	934.6	1,850.2	3,716.0	3,760.0
Segment Profit	billion yen	146.8	122.8	48.2	31.7	79.8	202.7	200.0
Excluding Inventory Valuation etc.*	billion yen	73.8	123.8	49.2	27.7	76.8	200.7	205.0
Crude Steel (Standalone)	Mt	24.10	12.16	5.62	5.67	11.29	23.45	Approx. 23.80
Crude Steel (Consolidated)	Mt	25.48	12.85	5.95	6.01	11.95	24.80	Approx. 25.10
Shipment (Standalone)	Mt	21.74	10.65	5.08	5.04	10.12	20.77	Approx. 21.10
Export Ratio on Value Basis (Standalone)	%	44.5	44.2	41.6	41.3	41.5	42.9	Approx. 43
Average Sales Price (Standalone)	000 yen/ t	130.8	129.3	132.5	135.2	133.8	131.5	Approx. 131
Exchange Rate	¥/\$	135.1	139.9	148.7	146.7	147.7	143.8	Approx. 143
Exchange Rate (End of Term)	¥/\$	133.5	149.6	141.8	151.4	151.4	151.4	Approx. 145

* Excluding inventory valuation, carry over, one-time structural reform costs and foreign exchange valuation from segment profit

¥2.7bn. Increase in JFE Steel's Segment Profit (FY2023 (Forecast) vs. FY2023(Actual))

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JFE Steel	FY2023 Forecast	FY2023 actual	(billion yen) Change
Segment Profit	200.0	202.7	2.7
Excluding Inventory Valuation etc.	205.0	200.7	(4.3)

1. Cost**±0.0****2. Volume
and Mix****(6.0)**

- Crude Steel Production approx. 23.80Mt⇒23.45Mt

**3. Sales and
Raw materials****+8.0**

- Improved spreads due continued sales price improvement efforts

**4. Inventory
valuation****+7.0**

- Inventory valuation +3.0 (+2.0→+5.0)
- Carry over -1.0 (+3.0→+2.0)
- Foreign exchange valuation +5.0 (+10.0→+15.0)
- One-time structural reform costs +0.0(-20.0→-20.0)

5. Others**(6.3)**

- Group companies-2.0
- Foreign exchange effects on trade -1.0

¥55.9bn. Increase in JFE Steel's Segment Profit (FY2022 (Actual) vs. FY2023 (Actual))

JFE

JFE Steel	FY2022 Actual	FY2023 Actual	(billion yen) Change
Segment Profit	146.8	202.7	55.9
Excluding Inventory Valuation etc.	73.8	200.7	126.9

1. Cost**+68.0**

- Structural reforms effect +20.0
- Operational improvement +25.0
- Disappearance of blast furnace refurbishment impact +13.0
- Disappearance of production reduction impact +10.0

**2. Volume
and Mix****(4.0)**

- Crude Steel Production 24.10Mt⇒23.45Mt

**3. Sales and
Raw materials****+128.0**

- Improved spreads due continued sales price improvement efforts

**4. Inventory
valuation****(71.0)**

- Inventory valuation -74.0 (+79.0→+5.0)
- Carry over +25.0 (-23.0→+2.0)
- Foreign exchange valuation -2.0 (+17.0→+15.0)
- One-time structural reform costs -20.0(+0.0→-20.0)

5. Others**(65.1)**

- Foreign exchange effects on trade -21.0
- Depreciation cost -10.0 etc.

**JFE Engineering
JFE Shoji
Financial Results
for Fiscal Year 2023**

Financial Results for Fiscal Year 2023


JFE

- JFE Engineering: **Revenues reached a record high for the second straight of ¥539.9bn.**
(up ¥27.4bn. from FY2022)
Segment profit was ¥24.3bn., in line with the previous forecast.
- JFE Shoji: **Segment profit was ¥48.9bn.**, increased by ¥0.9bn. from the previous forecast.
(down ¥16.2bn. from FY2022)

Engineering Business

(billion yen)	FY2022 (Actual) (A)	FY2023 (Forecast) (B)	FY2023 (Actual) (C)	Change (From Previous Year) (C)-(A)	Change (From Previous Forecast) (C)-(B)
Orders	564.9	580.0	563.0	(1.9)	(17.0)
Revenue	512.5	550.0	539.9	27.4	(10.1)
Segment Profit	13.4	25.0	24.3	10.9	(0.7)

Trading Business

(billion yen)	FY2022 (Actual) (A)	FY2023 (Forecast) (B)	FY2023 (Actual) (C)	Change (From Previous Year) (C)-(A)	Change (From Previous Forecast) (C)-(B)
Revenue	1,514.1	1,500.0	1,476.4	(37.7)	(23.6)
Segment Profit	65.1	48.0	48.9	(16.2)	0.9

Financial Forecast for Fiscal Year 2024

Current Business Environment (Steel Business)

JFE

Sales environment

- Domestic: In the automotive sector, activity levels remained steady despite the impact of certification issues and disasters. On the other hand, the postponement of demand continued due to the labor shortage and the surge in materials mainly in the civil engineering and construction fields. **Demand for steel products in FY2024 is expected to be around FY2023.**
- Overseas: **The deterioration of the supply-demand balance and the stagnation of market conditions continue** due to an increase in exports from China and other countries where the real estate sector is in a slump. China's economic stimulus and crude steel control measures should be closely monitored, but the current environment is expected to continue to some extent.

Raw material market

- Iron ore: Prices are expected **to remain at current levels** as demand for Chinese steel continues to slump.
- Coking coal: Prices are currently falling due to sluggish production by suppliers and falling demand for steel products, but we expect to **rise to a certain level** due to demand in India and other countries.

Forecast for FY 2024

- Standalone crude steel production is expected to be **approx. 23.4Mt, unchanged from the previous year**. In view of the challenging business environment in which **the current weak export spreads in overseas markets will continue to some extent**, we have formulated forecast for fiscal 2024.



Financial Forecast for FY2024 (Steel Business)

JFE

Crude Steel Production (JFE Steel standalone) for FY2024

approx. 23.4Mt

Exchange Rate

150 yen/\$

(billion yen)	FY2023 Actual (A)	FY2024 Forecast (B)	Change (B)-(A)	Mid-Term FY2024 (C)	Change (B)-(C)
Segment Profit	202.7	205.0	2.3		
Excluding Inventory Valuation etc.	200.7	240.0 [※]	39.3	230.0	10.0

Change (B-A)**1. Cost****+42.0**

- Structural reforms effect +25.0
- Operational improvement +17.0

2. Volume and Mix**+10.0**

- Expanding sales of high-value-added products

3. Spreads***+5.0**

- Continued sales price improvement activities

4. Inventory valuation**(37.0)**

- Inventory valuation -17.0 (+5.0→-12.0)
- Carry over -25.0 (+2.0→-23.0)
- Foreign exchange valuation -15.0 (+15.0→+0.0)
- One-time structural reform costs +20.0(-20.0→+0)

5. Others**(17.7)**

- Group companies -4.0
- Depreciation cost -4.0

※The difference from FY2024 target of 260 billion yen (2024/2 announced) is the assumed difference in export spreads.
(Previous) Recovery to FY2023 level
(This time) Current low spread continues

*Spreads including various prices (metals, energy, materials, logistics, labor costs, foreign exchange effects, etc.)



Financial Forecast for FY2024 (Engineering Business)

JFE

(billion yen)	FY2023 (Actual) (A)	FY2024 (Forecast) (B)	Change (B)-(A)	7 th Mid-term (C)	Change (B)-(C)
Orders	563.0	600.0	37.0		
Revenue	539.9	580.0	40.1	650.0	(70.0)
Segment Profit	24.3	20.0	(4.3)	35.0	(15.0)

Comparison with the previous fiscal year

- Orders : Expect to increase orders in “Waste to Resource” and “Core infrastructure”
- Segment profit : Delay in ordering of offshore wind power foundation (monopile): ¥5.0bn., etc.

Comparison with the 7th mid-term business plan

- Segment profit : Delay in ordering of offshore wind power foundation (monopile): ¥5.0bn.
Decrease in sales revenue (delay in ordering of WtR, etc.),
Impact of surge in materials and equipment (overseas) , etc. : ¥10.0bn.

From FY2025 onward, segment profit is expected to increase due to an increase in the utilization rate of monopile plant, mainly for domestic offshore wind power projects, and an increase in orders for WtR and CN projects.



Financial Forecast for FY2024 (Trading Business)

JFE

(billion yen)	FY2023 (Actual) (A)	FY2024 (Forecast) (B)	Change (B)-(A)	7 th Mid-term (C)	Change (B)-(C)
Segment Profit	48.9	50.0	1.1	40.0	10.0

Comparison with the previous fiscal year

- Segment profit is expected to increase by ¥1.1bn. from FY2023.

Comparison with the 7th mid-term business plan

- Segment profit is expected to increase by ¥10.0bn. over the current medium-term business plan due to rising steel and raw material prices and the effects of various initiatives since the previous medium-term business plan.



Financial Forecast for FY2024

JFE

(billion yen)	FY2023 Actual(A)	FY2024 Forecast(B)	Change (B-A)
Revenue	5,174.6	5,390.0	215.4
Business Profit [Excluding Inventory Valuation etc.]	298.2 [296.2]	300.0 [335.0]	1.8 [38.8]
Steel Business	202.7	205.0	2.3
Engineering Business	24.3	20.0	(4.3)
Trading Business	48.9	50.0	1.1
Segment Profit (Including Adjustments)	279.6	280.0	0.4
Exceptional Items	(11.2)	30.0*1	41.2
Profit before Tax	268.3	310.0	41.7
Profit Attributable to Owners of Parent	197.4	220.0	22.6

*1 A profit of about ¥45bn. from sales of lands, and a loss of about ¥15bn. from the share transfer of GECOSS Corporation (including a loss on transfer of about ¥5bn. and about ¥10bn. from the remeasurement of the residual interest). We plan to apply the equity method to GECOSS Corporation after the share transfer.

Business profit is profit before tax excluding financial income and one-time items of a materially significant value.
Inventory Valuation etc. is inventory valuation, carry over and foreign exchange valuation in steel business.
Segment profit is profit including financial income in business profit.

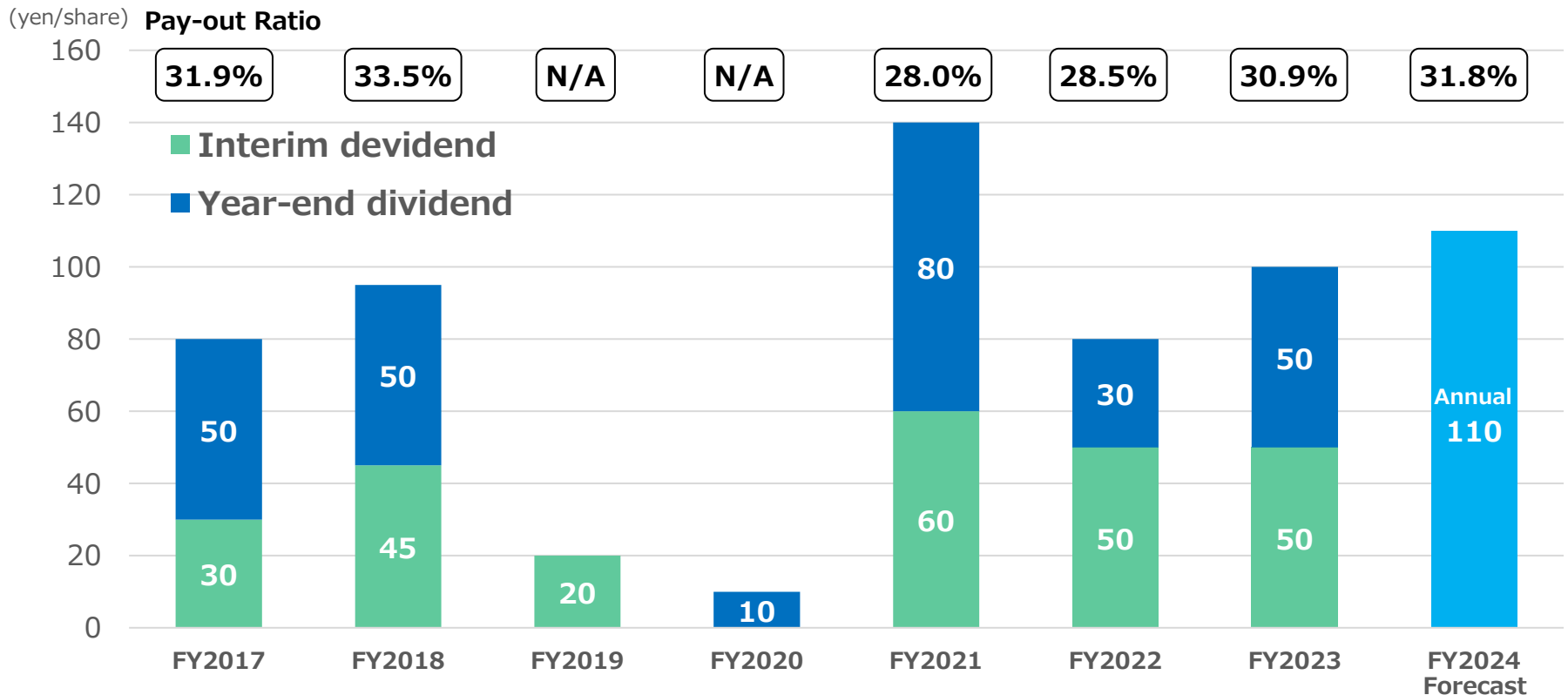
Dividends



Dividends

JFE

- JFE Holdings has decided to propose at its general meeting of shareholders **a year-end dividend of 50 yen per share**, as previously announced. (annual dividend: 100 yen)
- The annual dividend for FY2024 is expected to be **110 yen per share**, based on our payout ratio policy of approximately 30%.



Appendix(1) Profit/Loss Analysis



Main Financial Data

JFE
JAAP

[IFRS]

	FY15	FY16	FY17	FY18		FY18	FY19	FY20	FY21	FY22	FY23
(bn. Yen, times)					(bn. Yen, times)						
Ordinary Income	64.2	84.7	216.3	221.1	Business profit	232.0	37.8	-12.9	416.4	235.8	298.2
EBITDA	254.4	279.9	388.8	405.9	EBITDA * 1	428.2	269.4	223.4	668.7	505.4	572.3
ROS	1.9%	2.6%	5.9%	5.6%	ROS * 2	6.0%	1.0%	-0.4%	9.5%	4.5%	5.8%
ROE	1.8%	3.7%	7.6%	8.3%	ROE * 3	8.6%	-11.1%	-1.3%	15.7%	7.9%	8.6%
ROA	1.7%	2.3%	5.2%	5.1%	ROA * 4	5.0%	0.8%	-0.3%	8.4%	4.4%	5.3%
Debt Outstanding	1,379	1,375	1,331	1,450	Interest-bearing debt outstanding	1,524	1,814	1,806	1,849	1,863	1,830
Debt/EBITDA Ratio	x5.4	x4.9	x3.4	x3.6	Debt/EBITDA multiple * 5	x3.6	x6.7	x8.1	x2.8	x3.7	x3.2
D/E Ratio	56.9%	51.4%	58.1%	62.0%	D/E Ratio * 6	68.2%	96.4%	93.2%	80.8%	67.8%	58.0%
Profit attributable to owners of parent (yen/share)	58	118	251	285	Profit attributable to owners of parent (yen/share)	284	-343	-38	500	281	323
Dividend (yen/share)	30	30	80	95	Dividend (yen/share)	95	20	10	140	80	100
Pay-out Ratio	51.4%	25.5%	31.9%	33.3%	Pay-out Ratio	33.5%	-	-	28.0%	28.5%	30.9%

Notes
[IFRS]

* 1 EBITDA = Business profit + Depreciation and Amortization

* 2 ROS = Business profit / Revenue

* 3 ROE = Profit attributable to owners of parent company / Equity

* 4 ROA = Business profit / Total assets

* 5 Debt/EBITDA ratio = Interest-bearing debt outstanding / EBITDA

* 6 D/E ratio = Interest-bearing debt outstanding / Equity attributable to owners of parent

For debt having a capital component, a portion of its issue price is deemed to be capital, as assessed by rating agencies.

Cash Flow Improvements, Debt/EBITDA Ratio

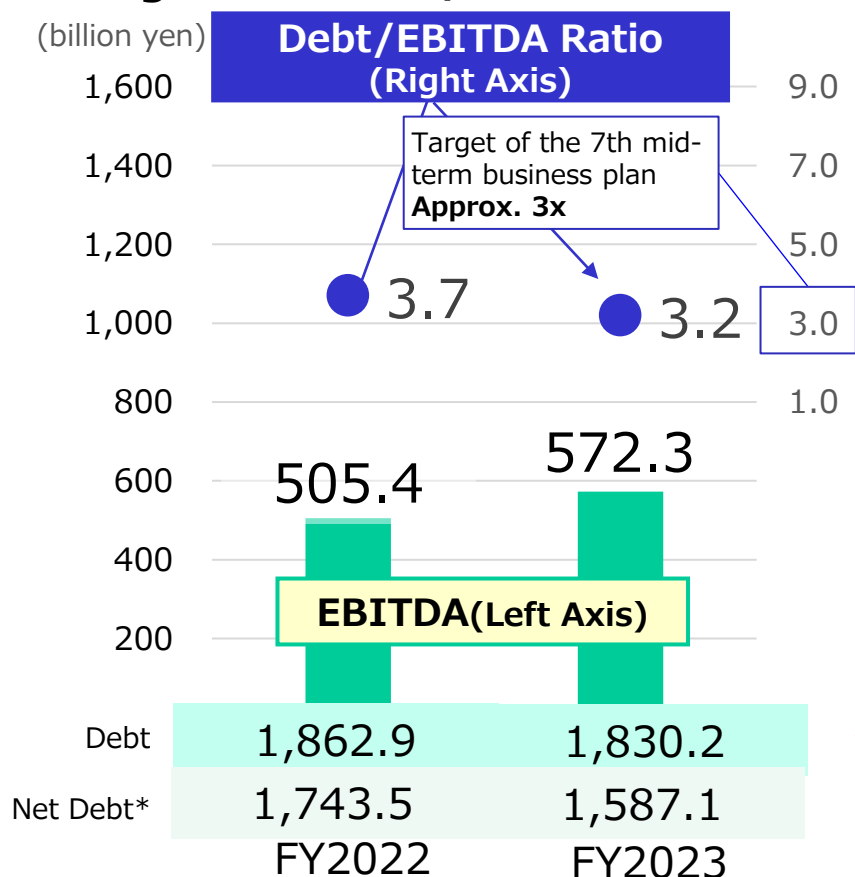
- **Net debt*** was decreased to **¥1,587.1bn.** by **¥156.4bn.** from **FY2022** due to increase in cash and deposits by the capital increase.
- **Debt/EBITDA ratio was improved to x3.2.** *Net Debt = Debt - Cash and cash equivalents.

Consolidated Cash Flow in FY2023

(billion yen)

Cash-in	Cash-out
Net Profit 197.4	CAPEX & Investments 349.8
Depreciation and Amortization 274.1	Dividend Payment 49.2
Asset Compression 33.0	Working Capital etc. 63.6
Capital Increase 114.5	Cash and Deposits Increase 123.7
	Decrease in Debt 32.7

Progress of Debt/EBITDA Ratio



■ EBITDA = Business profit + Depreciation and Amortization
 ■ Debt/EBITDA Ratio = Interest-bearing debt outstanding / EBITDA
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Financial Results for Fiscal Year 2023

JFE

	Unit	FY2021					FY2022					FY2023				
		1Q	2Q	3Q	4Q	Full Year	1Q	2Q	3Q	4Q	Full Year	1Q	2Q	3Q	4Q	Full Year
Revenue	billion yen	638.5	771.9	832.8	930.2	3,173.4	932.6	986.3	986.9	975.3	3,881.1	917.2	948.6	915.6	934.6	3,716.0
Segment Profit	billion yen	69.7	88.8	93.5	71.7	323.7	93.0	55.2	21.8	(23.2)	146.8	68.1	54.7	48.2	31.7	202.7
Excluding Inventory Valuation etc.*	billion yen	25.7	42.8	(3.5)	64.7	129.7	(23.0)	55.2	22.8	18.8	73.8	59.1	64.7	49.2	27.7	200.7

Crude Steel (Standalone)	Mt	6.25	6.45	6.49	6.69	25.88	6.43	6.21	5.48	5.97	24.10	6.05	6.11	5.62	5.67	23.45
Crude Steel (Consolidated)	Mt	6.59	6.80	6.85	7.02	27.26	6.77	6.59	5.81	6.29	25.48	6.38	6.47	5.95	6.01	24.80
Shipment (Standalone)	Mt	5.26	5.56	5.63	5.92	22.38	5.54	5.32	5.25	5.64	21.74	5.23	5.42	5.08	5.04	20.77
Export Ratio on Value Basis (Standalone)	%	43.2	49.3	45.9	43.6	45.5	48.5	45.0	41.0	43.6	44.5	44.2	44.2	41.6	41.3	42.9
Average Sales Price (Standalone)	000 yen/t	87.6	101.0	107.6	116.7	103.7	126.7	136.7	136.3	124.0	130.8	128.5	130.1	132.5	135.2	131.5
Exchange Rate	¥/\$	109.8	110.0	113.1	115.3	112.1	126.5	136.6	144.0	133.2	135.1	135.8	144.1	148.7	146.7	143.8
Exchange Rate (End of Term)	¥/\$	110.6	111.9	115.0	122.4	122.4	136.7	144.8	132.7	133.5	133.5	145.0	149.6	141.8	151.4	151.4

* Excluding inventory valuation, carry over and foreign exchange valuation from segment profit

¥43.0bn. Decrease in JFE Steel's Segment Profit (FY2023.1H vs. FY2023.2H)

JFE

JFE Steel	FY2023 Actual			Change (1H→2H)
	1H	2H	Full Year	
Segment Profit	122.8	79.8	202.7	(43.0)
Excluding Inventory Valuation etc.	123.8	76.8	200.7	(47.0)

(billion yen)

- | | | |
|-----------------------------------|---------------|---|
| 1. Cost | +28.0 | <ul style="list-style-type: none"> • Structural reforms effect +20.0 • Operational improvement +8.0 |
| 2. Volume and Mix | (9.0) | <ul style="list-style-type: none"> • Crude Steel Production 12.16Mt⇒ 11.29Mt |
| 3. Sales and Raw materials | (42.0) | <ul style="list-style-type: none"> • Deterioration due to the slowdown in overseas market conditions |
| 4. Inventory valuation | +4.0 | <ul style="list-style-type: none"> • Inventory valuation +3.0 (+1.0→+4.0) • Carry over +36.0 (-17.0→+19.0) • Foreign exchange valuation -15.0 (+15.0→+0.0) • One-time structural reform costs -20.0(+0.0→-20.0) |
| 5. Others | (24.0) | <ul style="list-style-type: none"> • Foreign exchange effects on trade -9.0 etc. |

¥16.5bn. Decrease in JFE Steel's Segment Profit (FY2023.3Q vs. FY2023.4Q)



(billion yen)

JFE Steel	FY2023(Actual)					Change (3Q→4Q)
	1Q	2Q	3Q	4Q	Full Year	
Segment Profit	68.1	54.7	48.2	31.7	202.7	▲16.5
Excluding Inventory Valuation etc.	59.1	64.7	49.2	27.7	200.7	▲21.5

- 1. Cost **±0.0**
- 2. Volume and Mix **+4.0**
 - Crude Steel Production 5.62Mt→ 5.67Mt
- 3. Sales and Raw materials **+3.0**
- 4. Inventory valuation **+5.0**
 - Inventory valuation +2.0 (+1.0→+3.0)
 - Carry over -9.0 (+14.0→+5.0)
 - Foreign exchange valuation +12.0 (-6.0→+6.0)
 - One-time structural reform costs +0(-10.0→-10.0)
- 5. Others **(28.5)**
 - Expenses, disposal of fixed assets, etc.

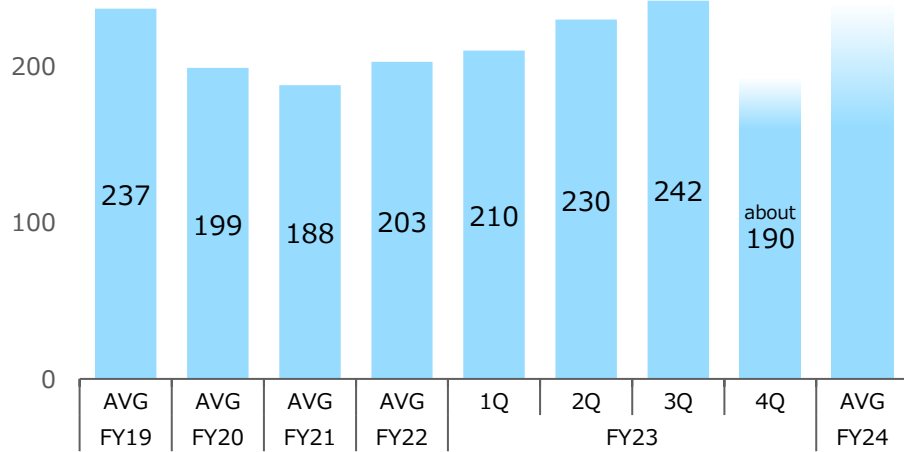
Appendix(2) Business Environmental Indicators, etc.

Current Business Environment (Domestic)

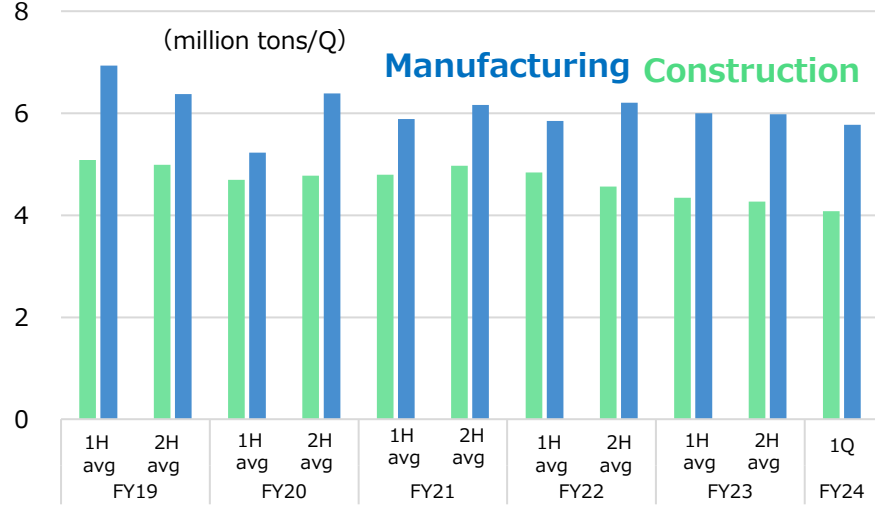


【Outlook for Domestic Auto Production】

10,000 units.



【Outlook for Domestic Ordinary Steel Consumption】



Source: Ministry of Economy, Trade and Industry, "Outlook for Steel Consumption" 11 April 2024. (FY2023.1H and after is estimated results)

【Trends by sector】

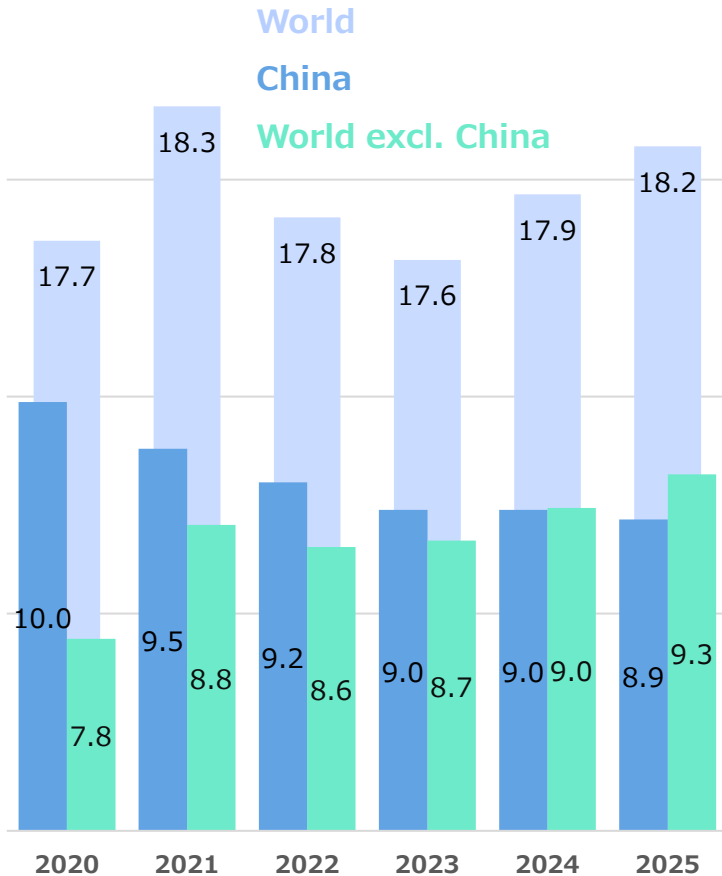
Auto-mobile	<ul style="list-style-type: none"> Despite the impact of certification issues and other factors, each company is facing backorders, production motivation is high, and activity levels are expected to remain steady.
Ship-building	<ul style="list-style-type: none"> Despite the effects of soaring materials prices and labor shortages, the company has secured a two-year backlog of orders, which is the standard for stable workload. The current level is expected to remain stable over the next two to three years.
Other manufacturing	<ul style="list-style-type: none"> Construction equipment: High resource prices supports demand for mines, but weak sales to Europe and Asia are also seen. Watch out future trends. Industrial machinery: Increasingly cautious about making investments, feeling uncertainty about the future of the economy due to rising interest rates and continuing inflation. Watch out future trends.
Construction	<ul style="list-style-type: none"> In the non-housing sector, demand for large-scale projects, which had been relatively strong, has been postponed due to rising material prices and labor shortages. The number of new housing starts has stagnated, and the number of small and medium-sized projects has continued to decline. We are closely monitoring the impact of the construction industry's fiscal 24 problems, which have entered their effective period.
Civil engineering	<ul style="list-style-type: none"> Although budget measures continue to be implemented at a high level, it is expected to be affected by rising costs of materials and labor shortages.

Current Business Environment (Overseas)



【World Steel Demand Forecasts(CY)】

Unit : 100 million tons



Source : World Steel Association (2024/4 announced)

【 Real GDP Growth Forecast in 2024 】

	World	US	China	India	ASEAN-5
2023 Actual	3.2%	2.5%	5.2%	7.8%	4.2%
Jan.2024 Forecast	3.1%	2.1%	4.6%	6.5%	4.7%
Apr.2024 Forecast	3.2%	2.7%	4.6%	6.8%	-

Source: IMF World Economic Outlook Update January 2024, April 2024

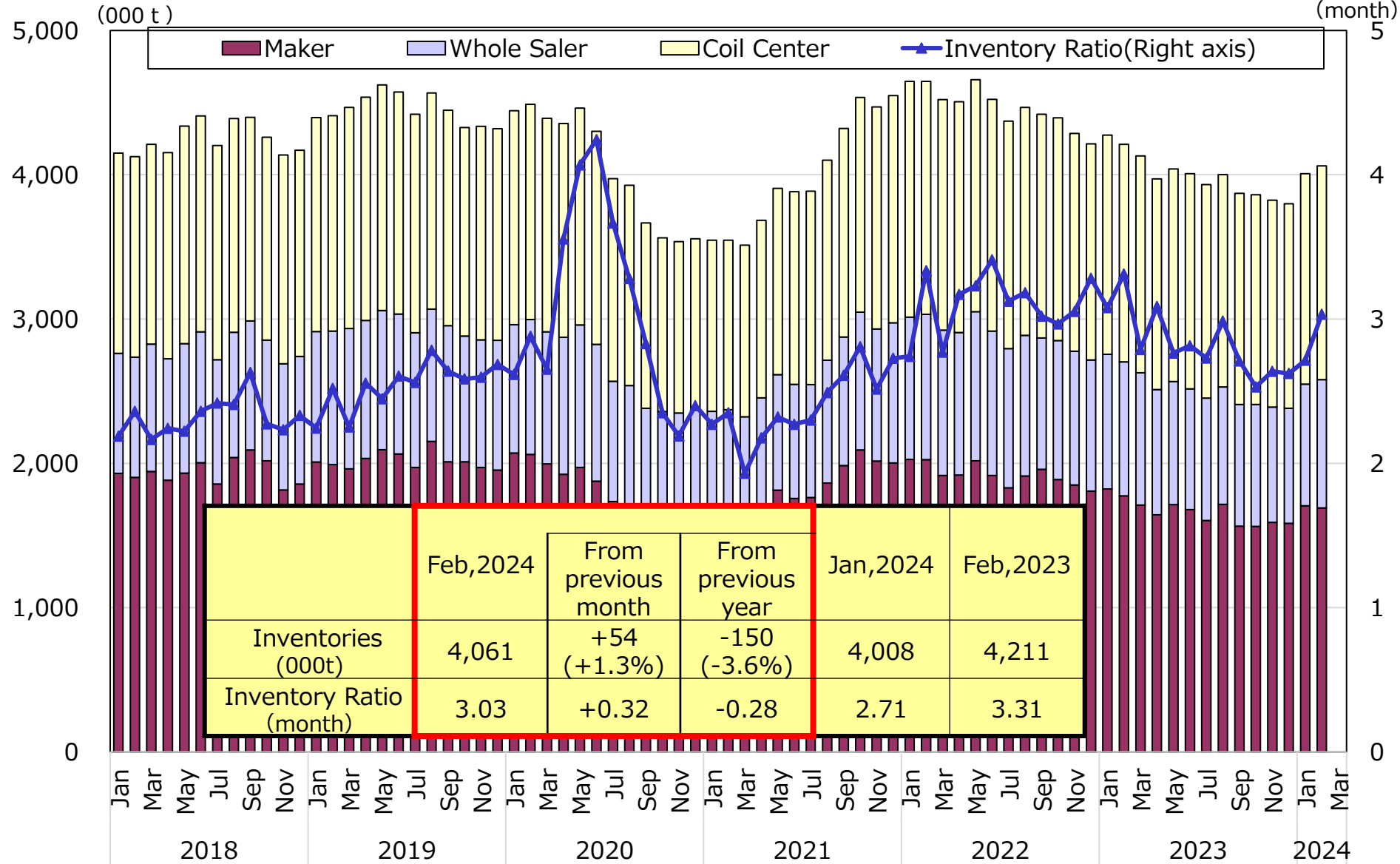
*ASEAN5 : Thailand, Malaysia, Indonesia, Philippine, and Singapore

【 Trend by Sector 】

Thin Sheet	<ul style="list-style-type: none"> •In China, domestic demand continued to slump due to a slump in the real estate sector. •In Southeast Asia, slack in steel supply and demand and stagnant market conditions continue due to an increase in imported materials from China and a decline in external demand.
Auto mobile	<ul style="list-style-type: none"> •Demand is firm and production levels are expected to recover gradually. •However, the recovery is expected to be moderate due to the effects of stricter loan screening in ASEAN and slower growth in China.
Ship Building	<ul style="list-style-type: none"> •China and South Korea shipbuilders are increasing orders for new construction and securing stable contracts. •Despite the impact of the labor shortage, it is expected to be firm as the labor shortage is gradually being resolved.
Energy	<ul style="list-style-type: none"> •While oil and gas prices has fallen temporarily due to fears of a slowdown in the economy, investment in projects to develop oil and natural gas plants is expected to remain strong.

Domestic Market Environment

Combined Inventories of HR, CR and Coated Steel Sheet

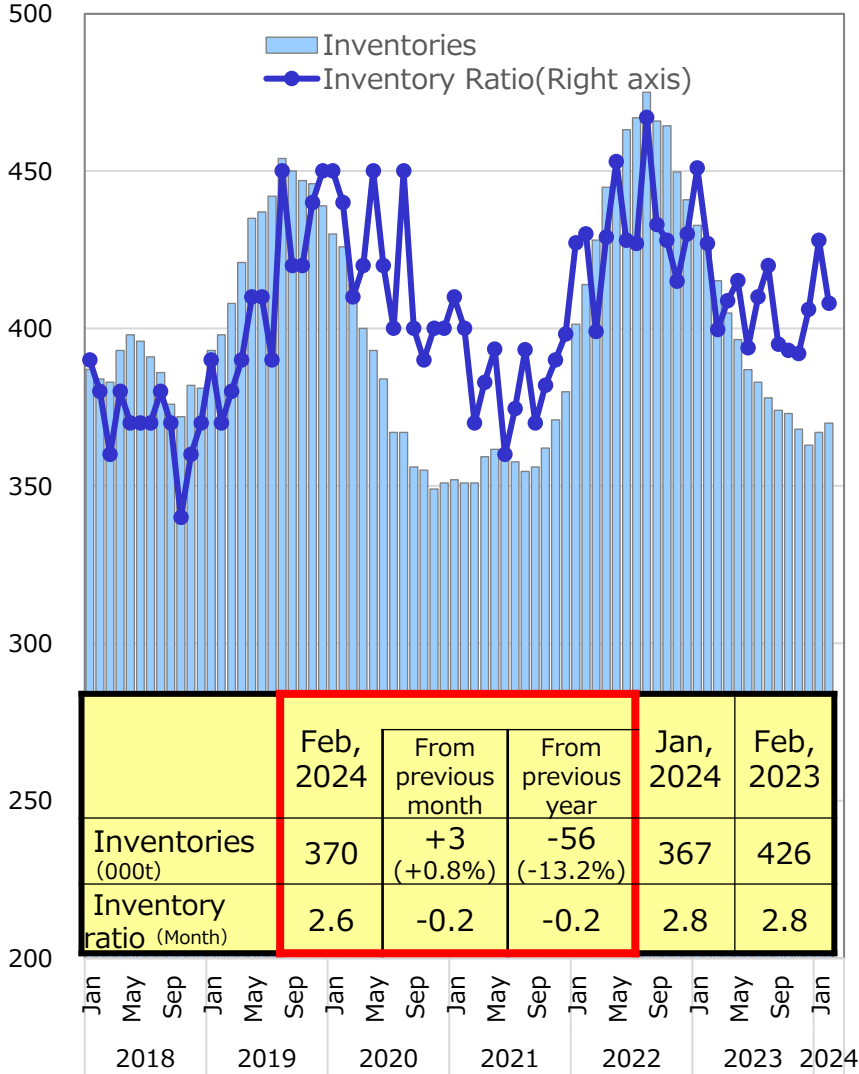


Domestic Market Environment

Inventories of Plate (Plate Shear) and Wide Flange Shapes

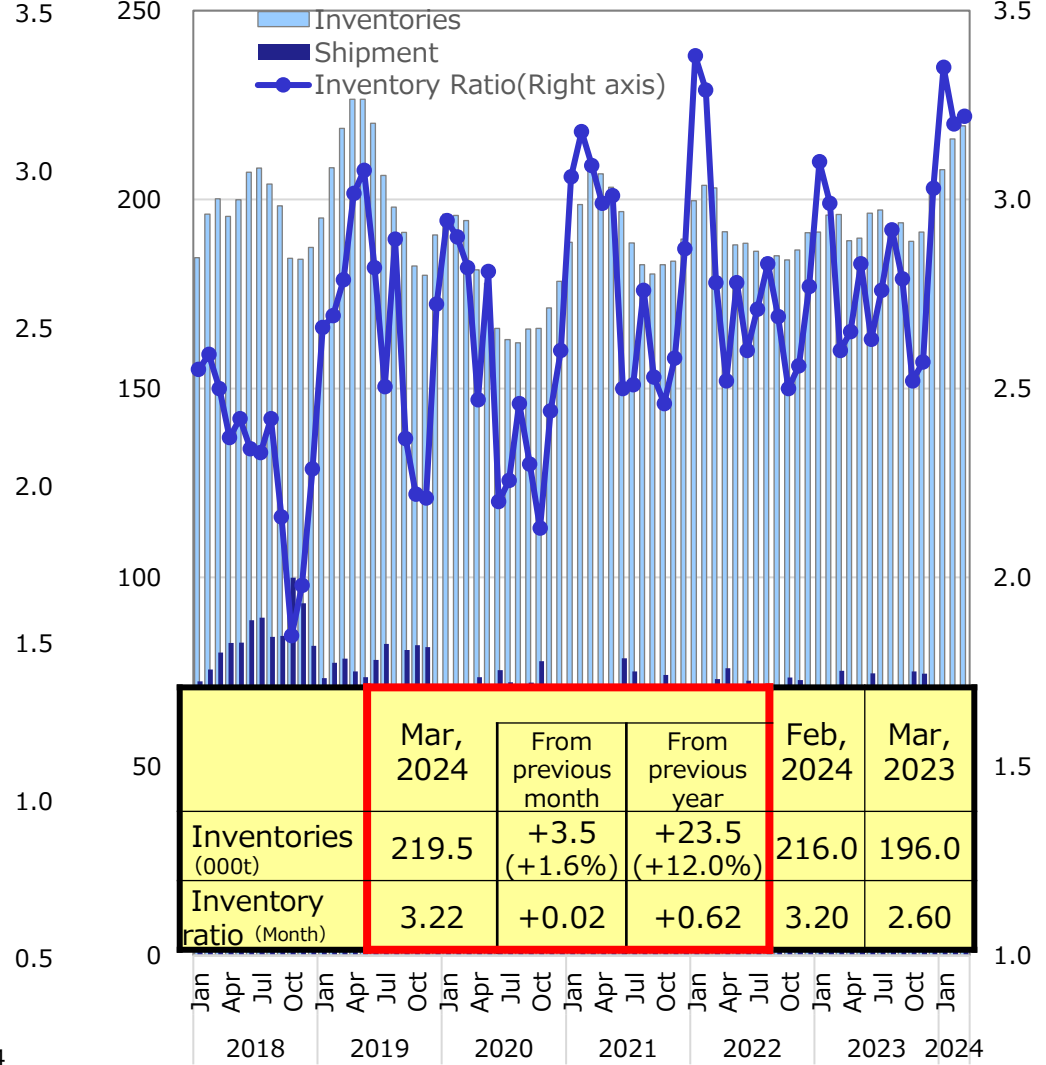


(000 t) Inventories of Plate (Plate Shear)x (month)



Inventories of Wide Flange Shapes

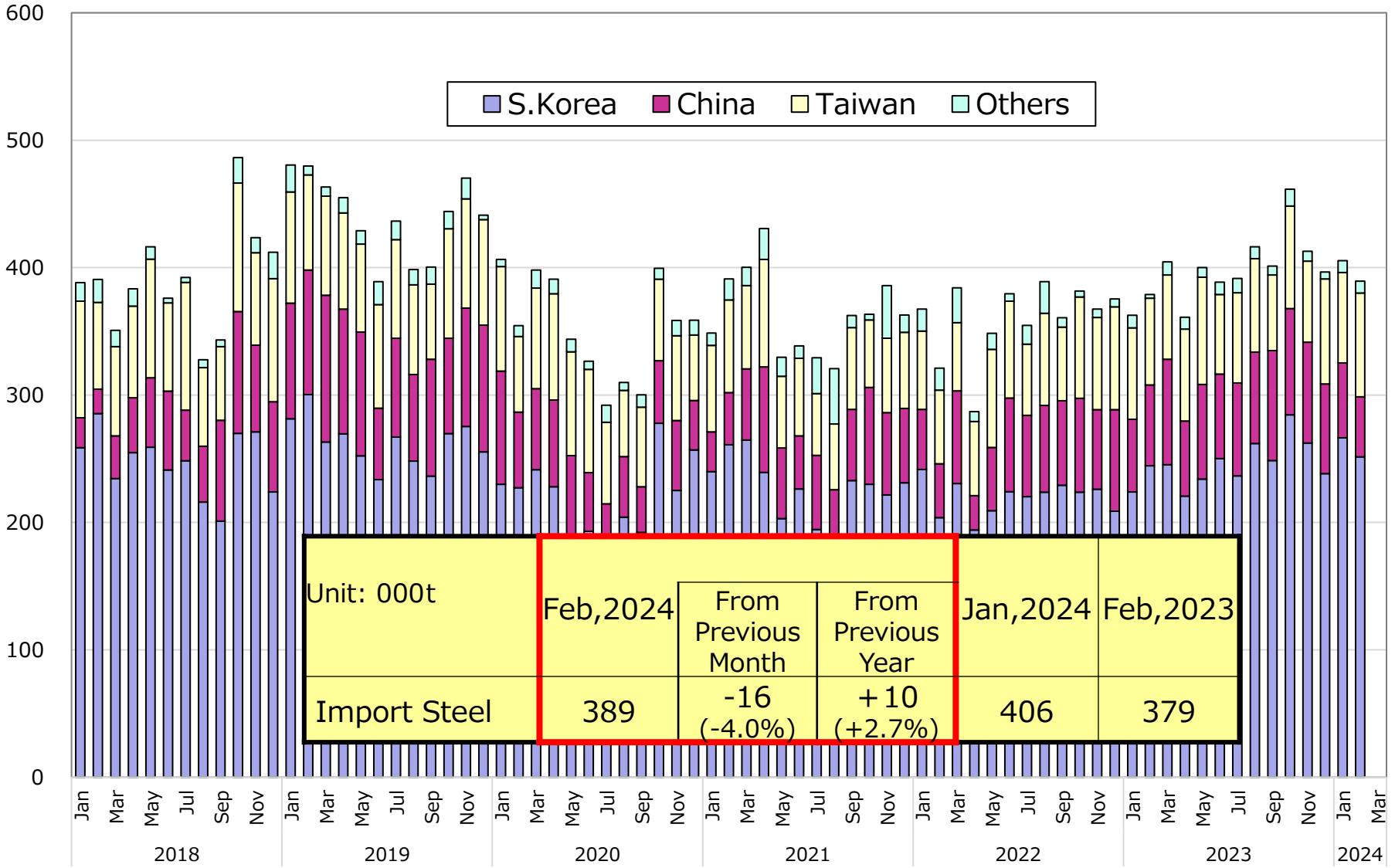
(000 t) (month)



Domestic Market Environment

Trend of Import Steel (Ordinary Steel)

JFE
(000 t)



Unit: 000t	Feb,2024	From Previous Month	From Previous Year	Jan,2024	Feb,2023
Import Steel	389	-16 (-4.0%)	+10 (+2.7%)	406	379

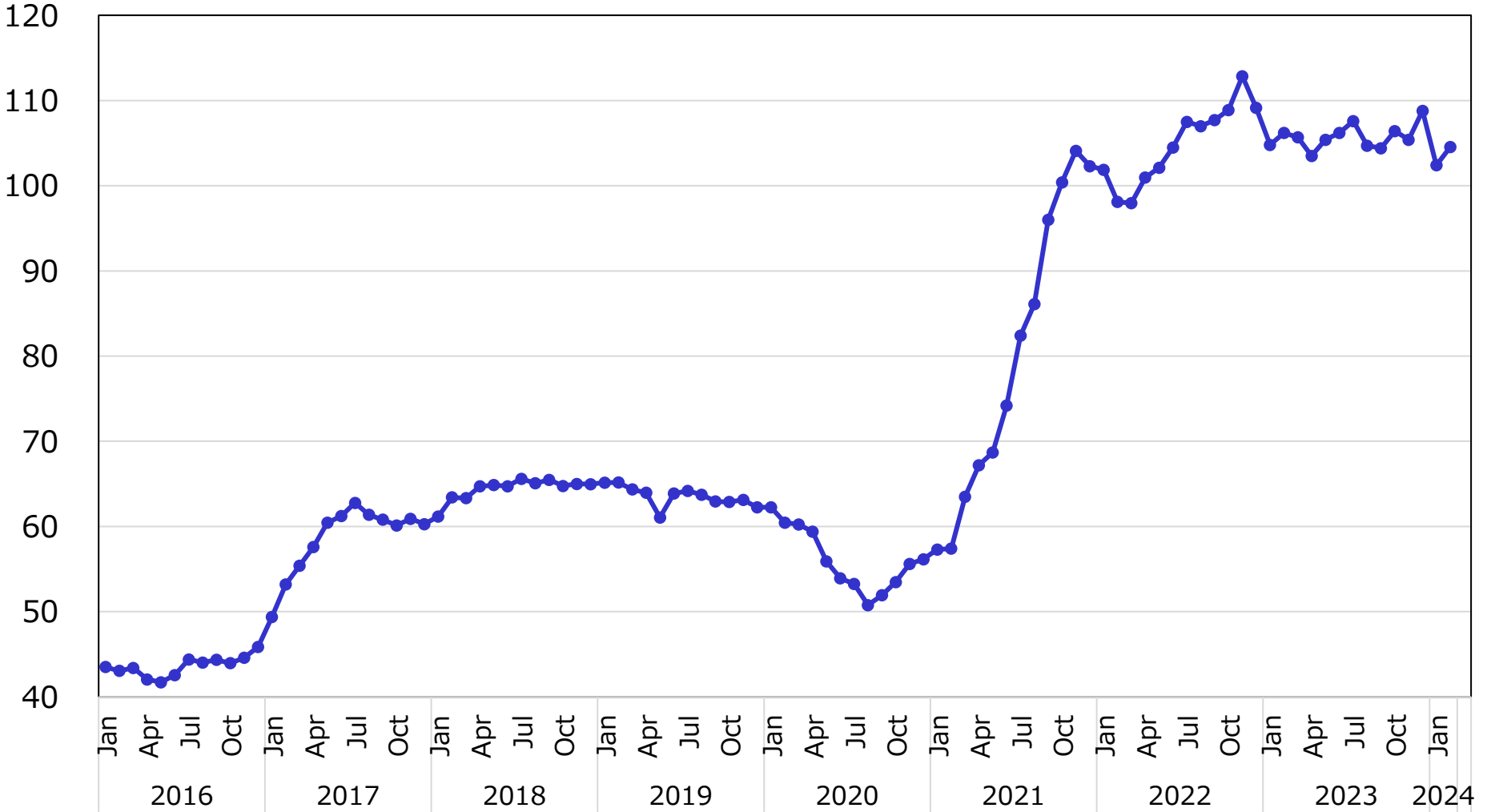


Domestic Market Environment

Price Trend of Import Steel

JFE

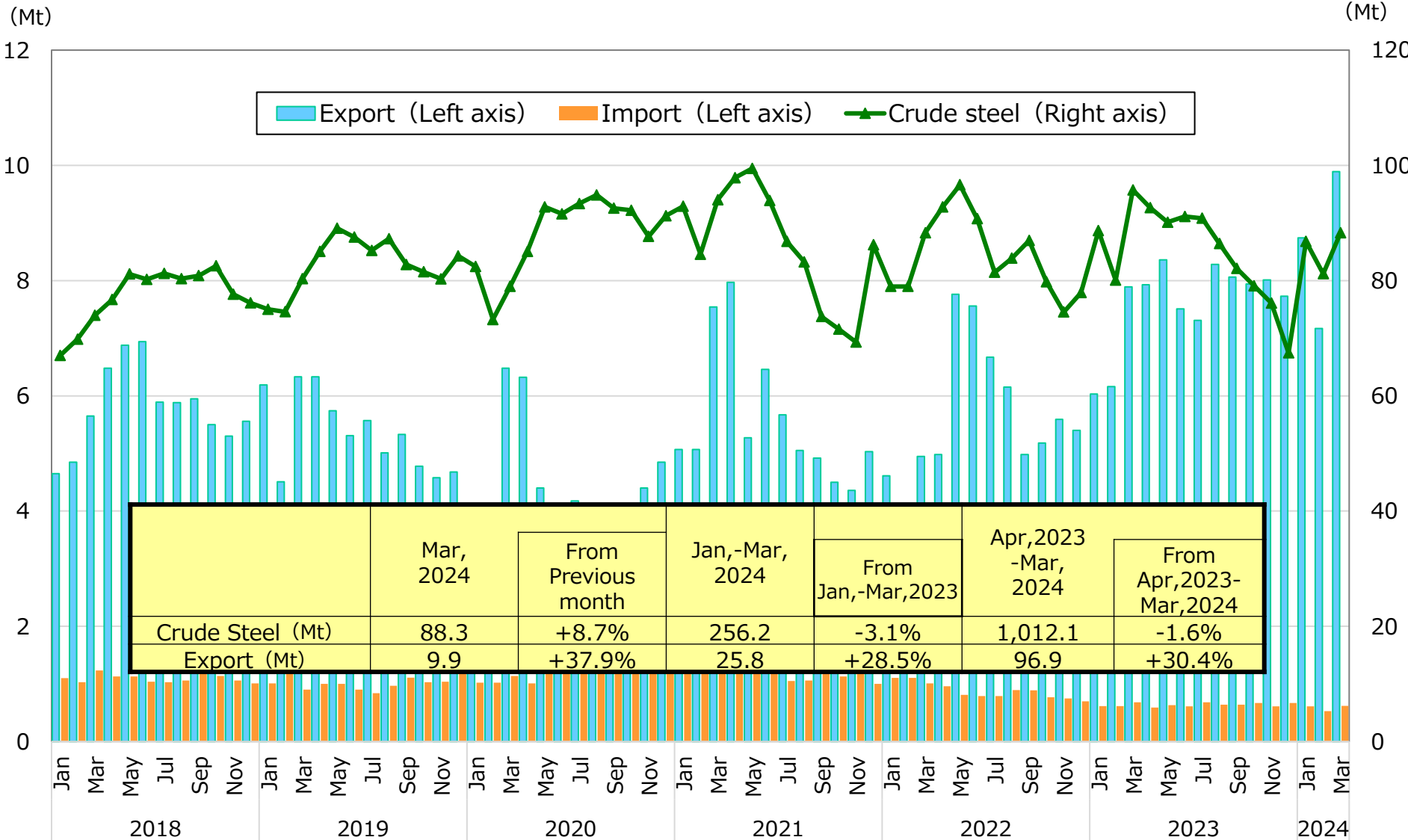
(000yen/ t)



Data: The Japan Iron and Steel Federation Import Steel from S. Korea

Overseas Market Environment

Crude Steel & Im/Export, China

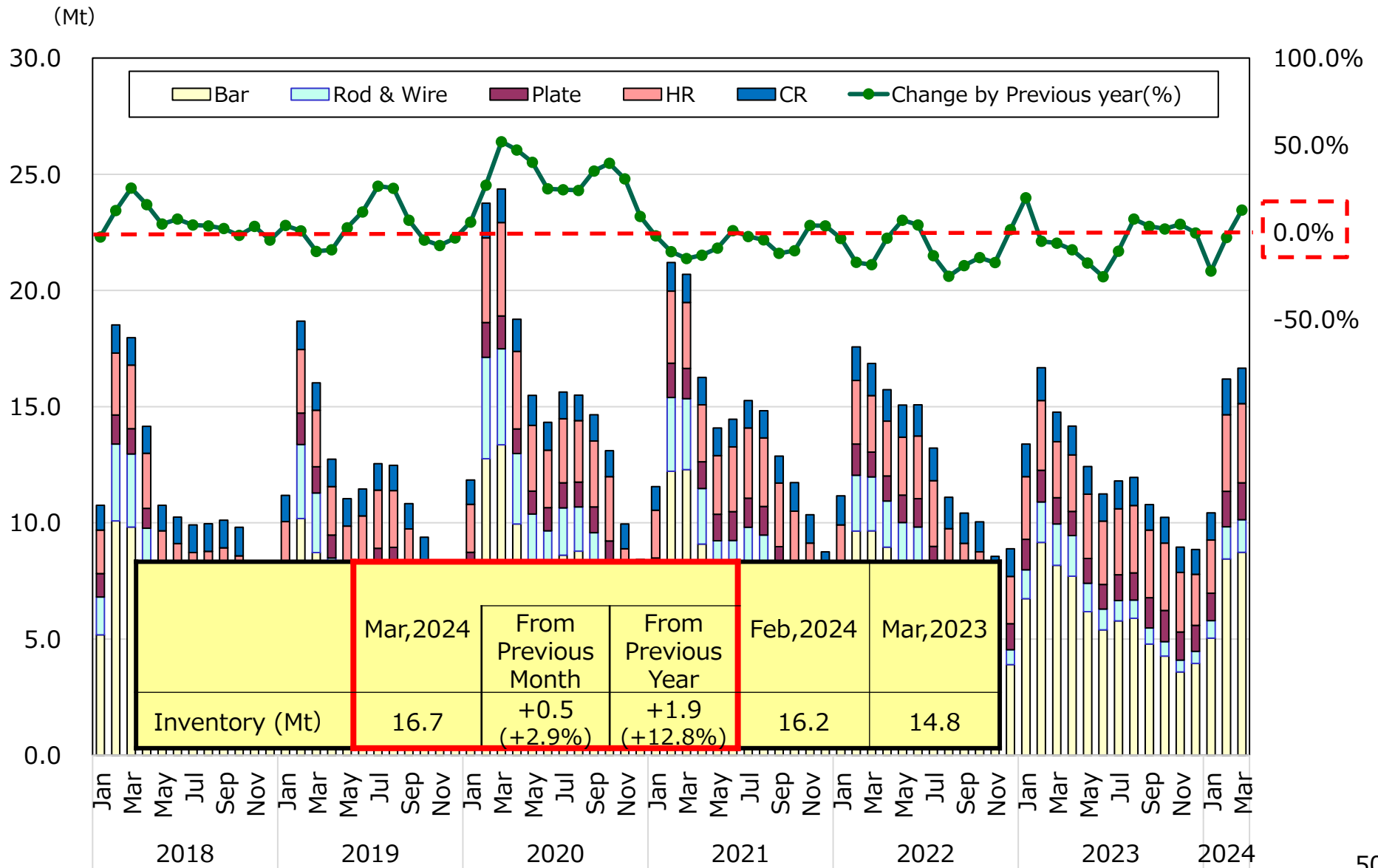




Overseas Market Environment

Inventories in China by Product

JFE

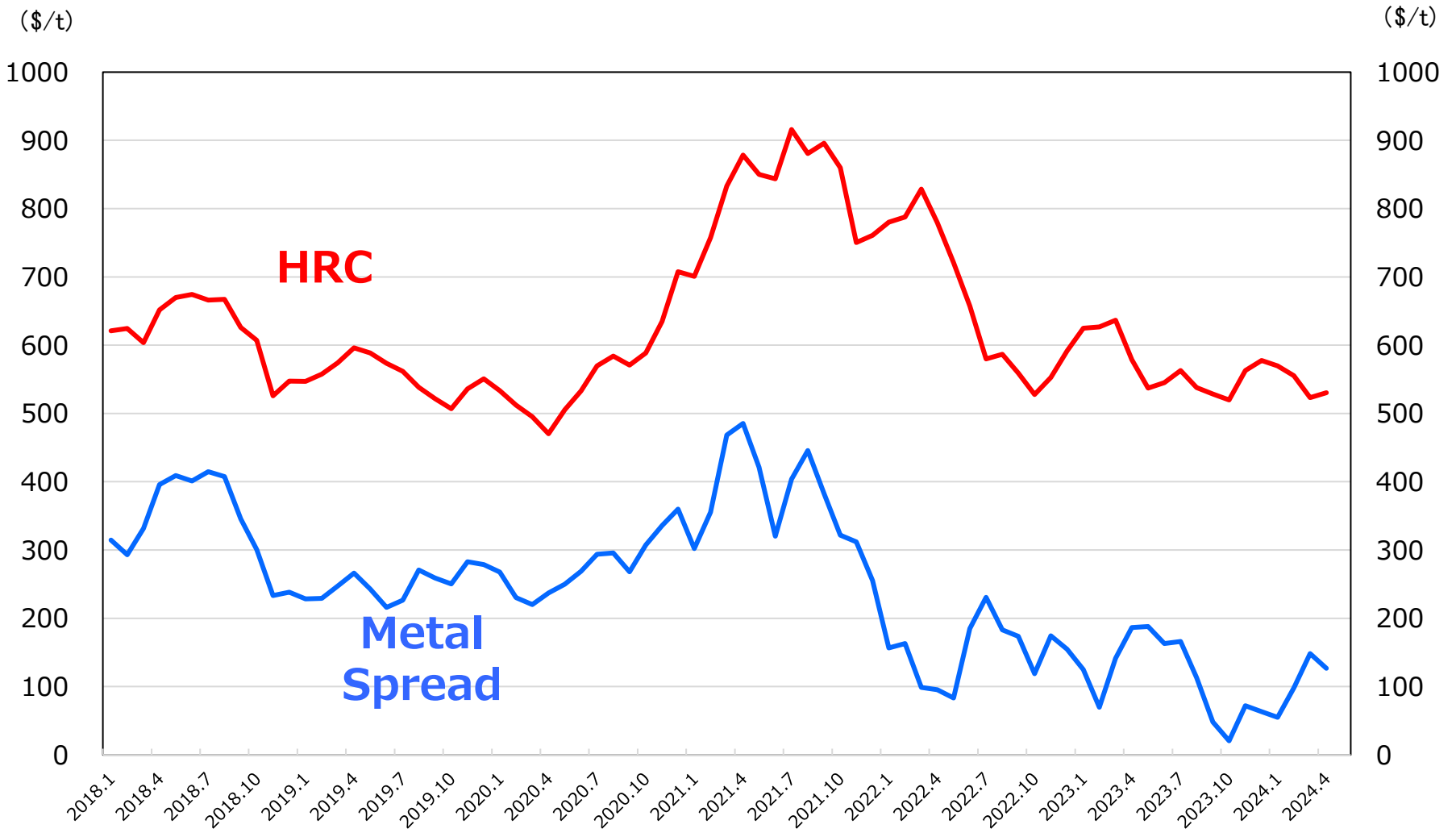




Overseas Market Environment

Metal Spread Trend (Chinese Spot Basis)

JFE



Metal Spread = HRC Price – Raw Materials Cost

*HRC Price : Chinese Spot basis

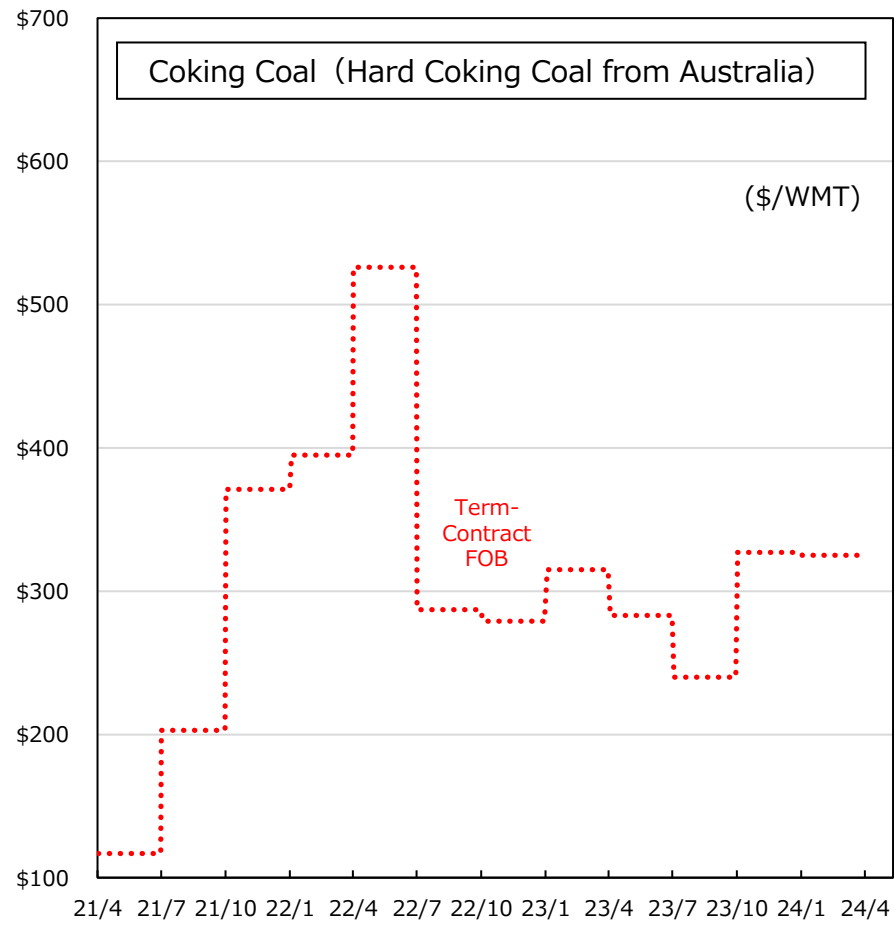
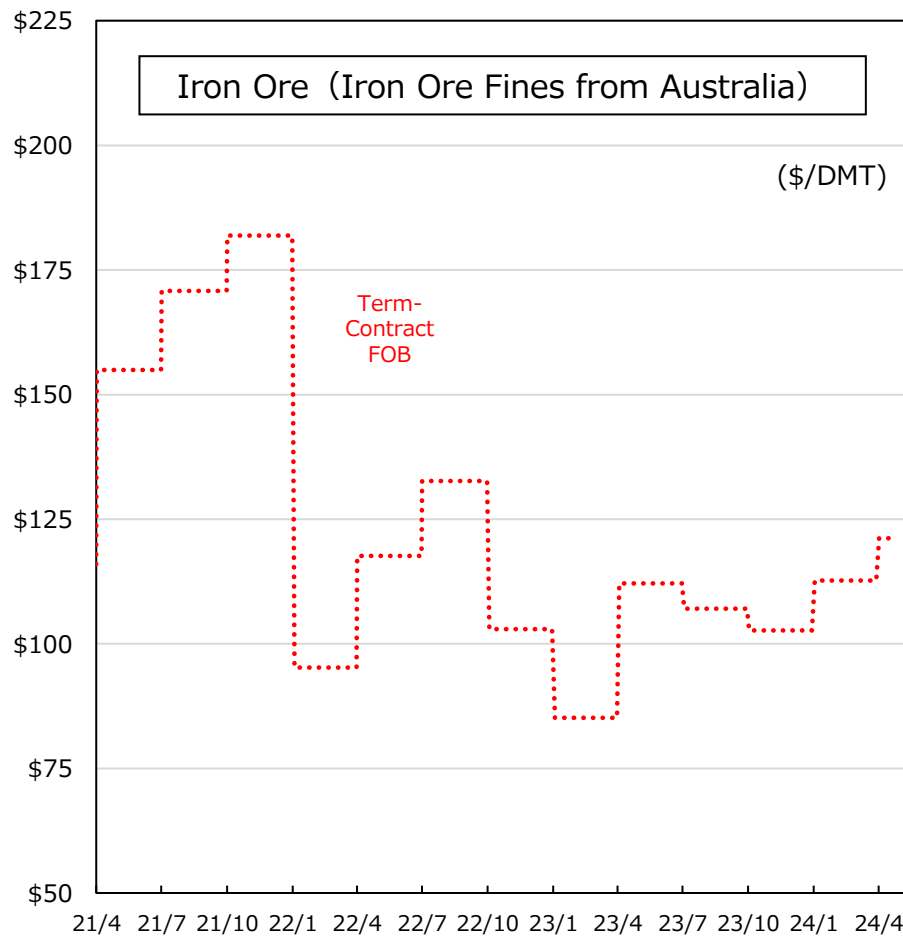
Raw Materials Cost : Calculated from market price of Iron Ore and Hard Coking Coal



Raw Materials

Raw materials market trends

JFE



Term-Contract FOB	FY2022		FY2023				FY2024
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
\$/DMT	103	85	112	107	103	113	121

Term-Contract FOB	FY2022		FY2023				FY2024
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
\$/WMT	279	315	283	240	327	325	-

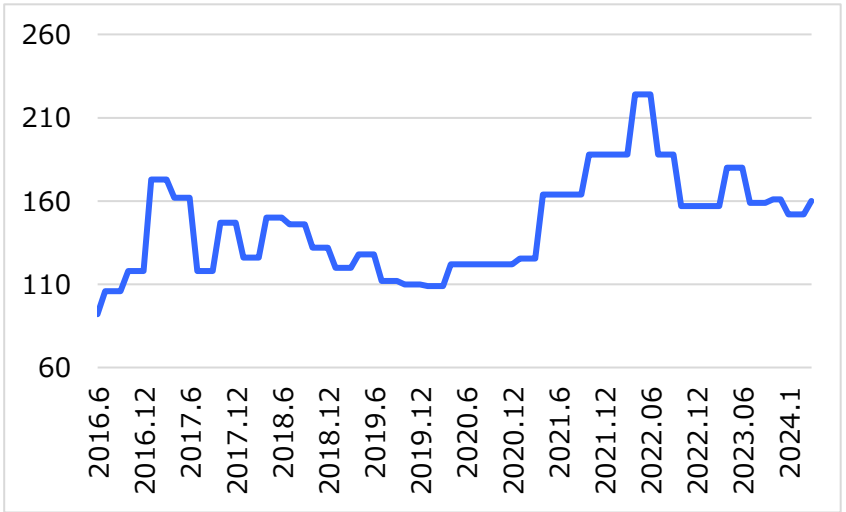


Raw Materials

Trend of Sub Material's Market Price

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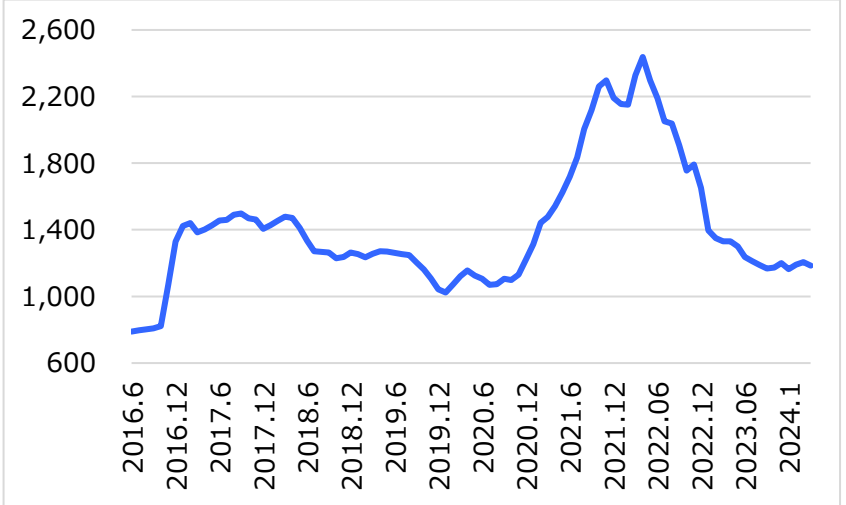
(¢/lb) FeCr



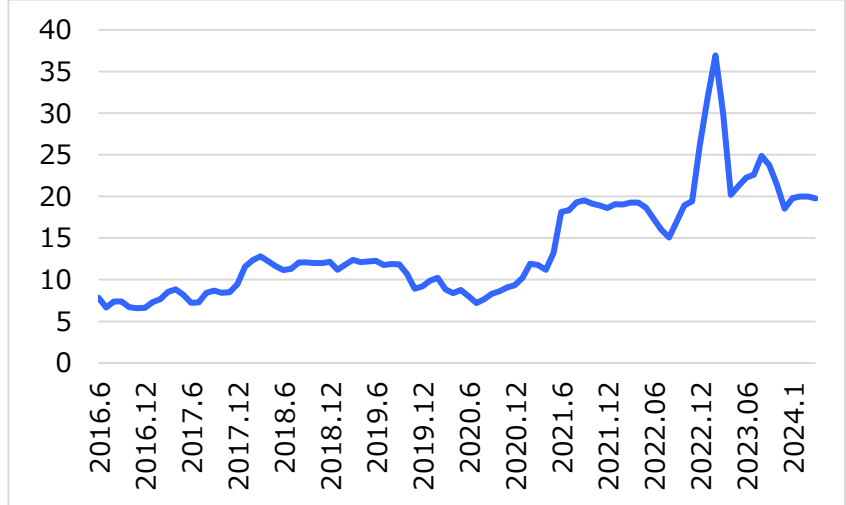
(US\$/t) Zn



(US\$/t) FeMn



(US\$/lb) Mo



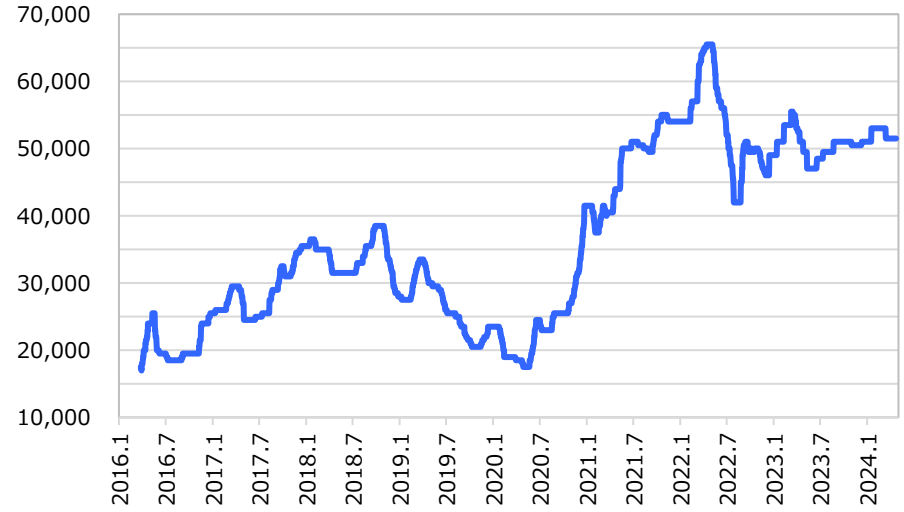


Raw Materials

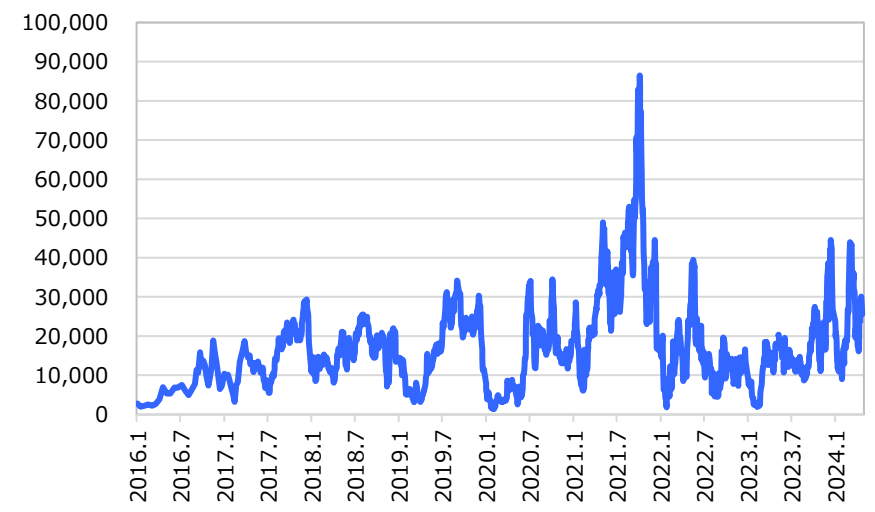
Trend of Sub Material's Market Price

JFE

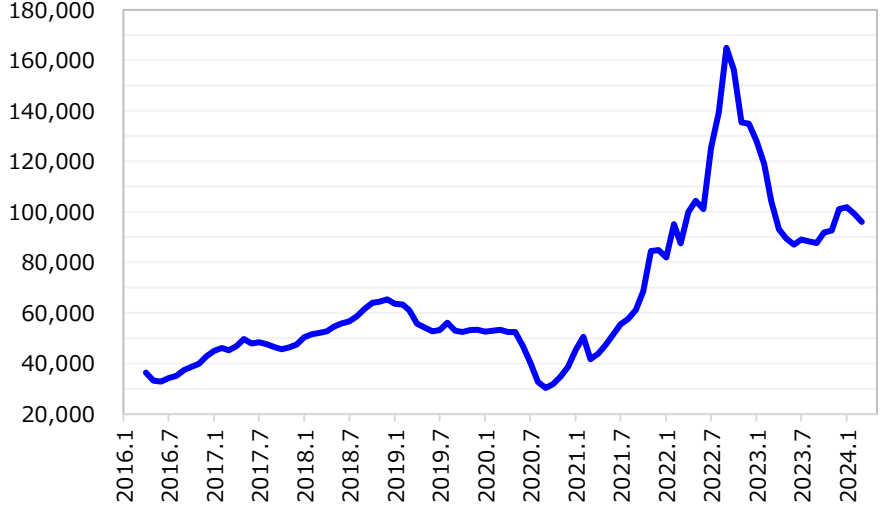
(yen/ t) Scrap



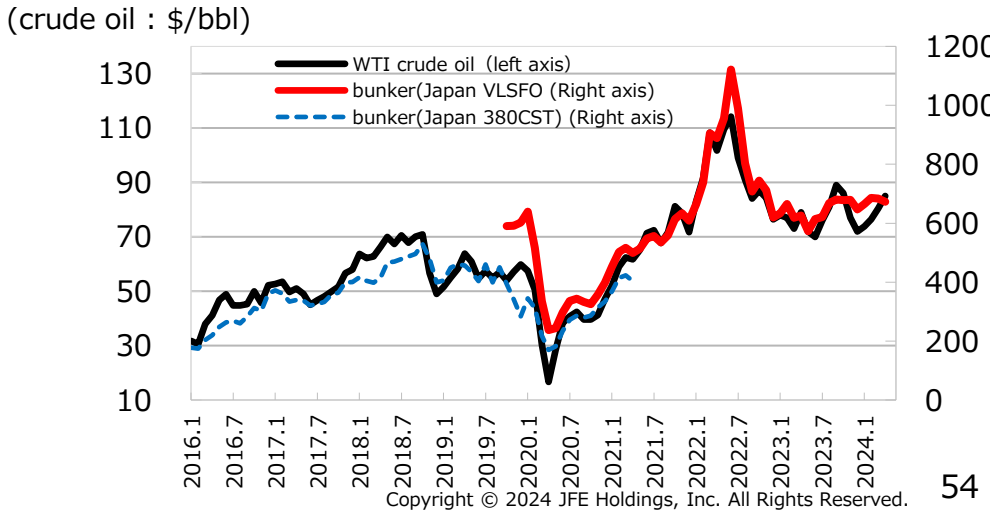
(\$/B) Spot Bulker



(yen/ t) LNG



Crude oil, Bunker oil





Orders by Business Field

JFE

(billion yen)

Business Field	FY2022 Actual	FY2023 Actual	Change	Main orders received in FY2023 ★...New projects received in 4Q of FY2023
Waste to Resource	216.9	243.7	26.8	Construction works of domestic waste treatment facility [Mie, Hokkaido, ★Chiba, ★Fukuoka] Renewal works of domestic waste treatment facility [Saitama] Construction works of overseas waste treatment / power generation facility [★Austria] Renewal works of overseas waste treatment facility [★Germany]
Carbon Neutral	57.6	54.3	(3.3)	
Combined Utility Service	21.1	15.6	(5.5)	
Core Infrastructure	269.3	249.4	(19.9)	Reinforcement work of cable tunnel for domestic telecommunications facilities [Osaka] Construction works of piping for domestic refinery [★Kanagawa] Construction works of bridge ([TOKAI-KANJO Expressway [Gifu], RINKO Expressway [Kagoshima], Kinki Expressway [Wakayama]) Reconstruction works of bridge [Metropolitan Expressway [Tokyo]] Container crane [Oi Pier [Tokyo]] Overseas chemical plant construction work [Southeast Asia]
Orders Total	564.9	563.0	(1.9)	
Order Backlog	615.6	613.8	(1.8)	

Order Trends in Engineering Business

JFE





(billion yen)

	6 th mid-term (Ave.)	7 th mid-term business plan				
		FY2021 Actual	FY2022 Actual	FY2023 Actual	FY2024 Forecast	(Average)
Orders Total	465.6	505.8	564.9	563.0	600.0	558.4
Waste to Resource	193.1	203.9	216.9	243.7	280.0	236.1
Carbon Neutral	37.0	87.4	57.6	54.3	55.0	63.6
Combined Utility Service	10.2	13.4	21.1	15.6	8.0	14.5
Core Infrastructure	225.3	201.1	269.3	249.4	257.0	244.2
Order Backlog ^{*1}	549.0	560.1	615.6	613.8	970.0 ^{*2}	

*1 For 6th med-term plan, the order backlog is presented at the end of FY2020, and the other periods are presented as that at the end of each fiscal year.

*2 Expectation at the end of FY2024. From FY2024, the method of recording orders for long-term O&M contracts for waste treatment facilities, etc. entrusted by local governments, etc. is changed (equivalent sales revenue is recorded every year ⇒ lump-sum recording at the time of contract). By including the estimated future sales revenue of past contracted projects in the backlog of orders, the backlog of orders at the end of FY2024 is expected to increase by about 360 billion yen.

Links to the Reports Published during FY2023

Report	URL	QR code
JFE Group REPORT 2023	https://www.jfe-holdings.co.jp/en/investor/library/group-report/index.html	
Sustainability REPORT 2023	https://www.jfe-holdings.co.jp/en/sustainability/index.html	
Sustainability REPORT 2023 Environmental Data	https://www.jfe-holdings.co.jp/en/sustainability/pdf/2023/2023_08_01.pdf	
DX REPORT 2023	https://www.jfe-holdings.co.jp/en/investor/library/dx-report/index.html	

Appendix(3) The 7th Medium-Term Business Plan



Mid/long-term directions

Biggest transformation in company's history aimed at achieving global success

JFE

JFE's corporate vision

Contributing to society with the world's most innovative technology

JFE's mission

To be essential to society's sustainable development
and to create safe, comfortable lives for people everywhere



**Environmental & Social
sustainability**
(helping to solve critical issues)



Economic sustainability
(stable earnings power)

Ensuring **environmental & social sustainability** and establishing **economic sustainability** will enable to ensure the **resiliency of JFE's operational foundations** and allow the company to achieve **sustainable growth** and **increased value** over the mid/long-term.



Initiatives to achieve environmental and social sustainability (helping to solve critical issues)

E JFE Group Environmental Vision for 2050

- Aim to realize carbon neutral by 2050, taking climate change as an extremely important business concern for JFE
- Accelerate R&D in new technologies and strive to create super-innovative technologies
- Contribute to the reduction of CO₂ emissions in society and use this as a business opportunity to increase corporate value
- Work systematically to combat climate change under TCFD philosophy

S **Solve issues impacting society**

- 1. Safety/health management**
- 2. Facilitate employee participation**
(Diversity & Inclusion, Personnel development, Workstyle reforms)
- 3. Contribute to regional societies through engineering**
- 4. Respect human rights throughout supply chain**
(Conduct human-rights due diligence from FY2021)

G **Enhance corporate governance**

Consider how to apply non-financial metrics in terms of director compensation and investment decisions etc.



JFE Group Environmental Vision for 2050

JFE

Toward Carbon Neutrality by 2050 JFE Group Environmental Vision for 2050

(GX Investment during 7th mid-term business plan : **340 billion yen**)

GX : Green transformation

1. Key environmental initiative under 7th mid-term business plan

- **Steel business** : Reduction of CO₂ emissions by 18% by the end of FY2024 (vs. FY2013)

2. Carbon Neutrality by 2050

① Reduce CO₂ emissions at JFE Steel

- Pursue super-innovative technology for carbon-recycling blast furnaces and CCU
- Develop hydrogen-based ironmaking (direct reduction) technology etc.

② Expand contributions to CO₂ emissions reduction in society

- Engineering business : Expand & develop renewable-energy power generation and carbon-recycling technologies. **Targets to contributions to CO₂ emissions reduction**
- Steel business : Develop & market eco-products and eco-solutions.

FY2024	12 Mt
FY2030	25 Mt
- Trading business : Increase trading in biomass fuels, steel scrap, etc. and strengthen business in SCM for eco products.

SCM : Supply Chain Management

③ Groupwide commercialization of offshore wind-power business



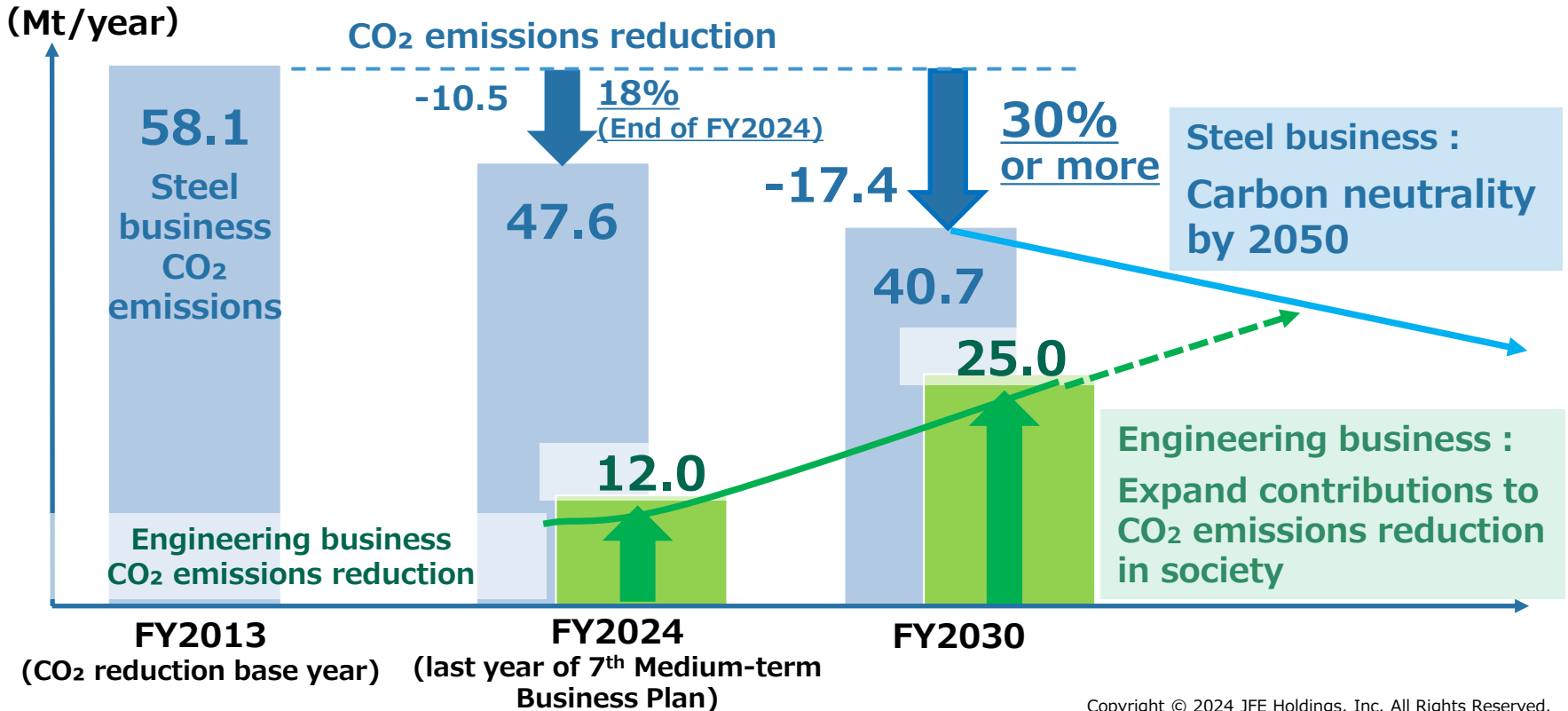
JFE Group's activities for Carbon neutrality

JFE

Steel Business: CO₂ emission reduction by 18% at the end of FY2024 (vs. FY2013)

Through [decarbonization in steel manufacturing processes](#) etc., JFE Group aims to be carbon neutral.

Engineering Business: Contribute to carbon neutrality in society on the whole by [expanding JFE Engineering's contributions to CO₂ emissions reduction resulting from its business](#) such as development of renewable-energy generation and carbon recycling technologies.





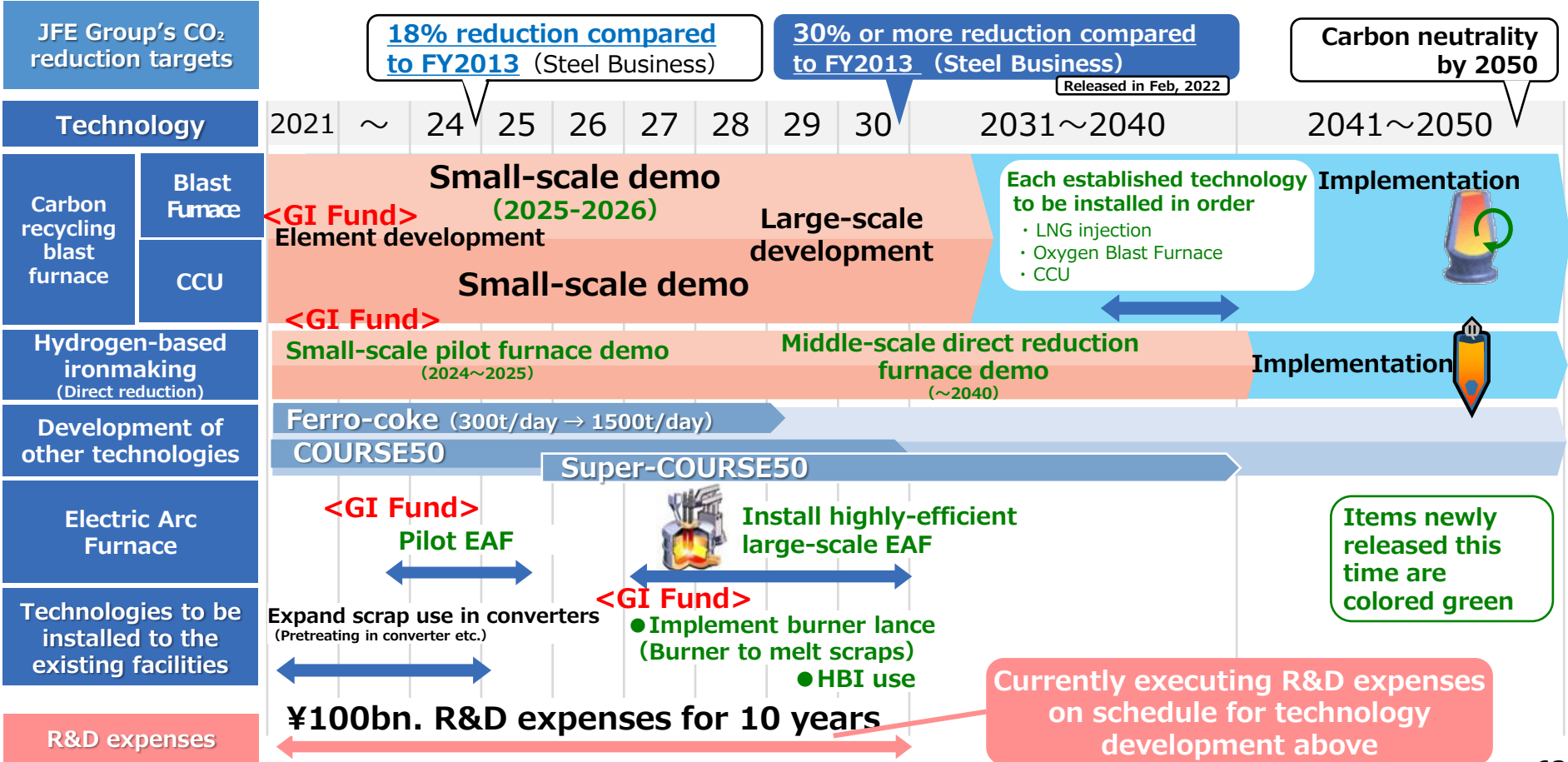
[Steel Business] Roadmap for Carbon Neutrality



JFE

Revised our roadmap for realizing carbon neutrality in 2050, considering installing the technologies below in the concrete:

- Carbon recycling blast furnace: **Each established technology to be installed in order** (late 2030s)
- Hydrogen-based ironmaking:
 - Small-scale pilot furnace demo** (2024~25), **middle-scale direct reduction furnace demo** (~2040)
- EAF: **Install pilot EAF in Chiba** (demo to be started from 2024) → **Install highly efficient large scale EAF** (2027~30)

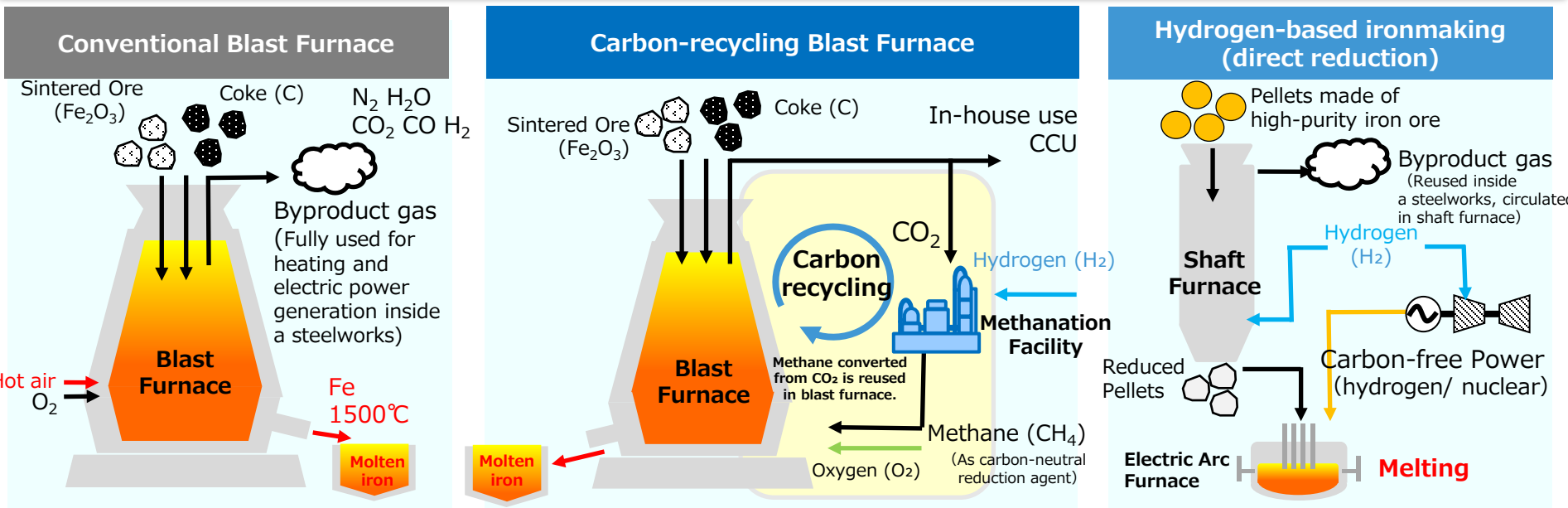




Carbon-recycle Blast Furnace

JFE

- Technologies for reducing CO₂ emissions from blast furnaces are necessary to maximize blast furnaces' advantages such as mass production, high-efficiency production, and high-grade steel production
- Combining carbon-recycling blast furnace with CCU enables to reuse CO₂ inside a steelworks by using raw materials of the same grade as those used in conventional blast furnaces. By doing so, JFE aims to achieve **net zero carbon emissions**.



	Conventional Blast Furnace	Carbon-recycling Blast Furnace	Hydrogen-based ironmaking (direct reduction)
Capacity	4M t / BF-year	4M t / BF-year (on par with Conventional BF)	2M t / Shaft Furnace-year (current direct reduction ironmaking basis)
Reducing Agent	Coke + Pulverized Coal	Coke + Recycled methane (CH ₄)	Hydrogen (H ₂)
Raw Materials	Low-grade raw materials possible.	Low-grade raw materials possible.	Limited (High-grade iron ore)
CO ₂ Emissions	2/t-CO ₂ /1-ton of pig iron	Target: Zero (CO ₂ reduction in BF+CCUS)	Target: Zero (Carbon-free method)



JFE

Groupwide commercialization of offshore wind-power business (Study feasibility)

- Become a pioneer in offshore wind-power generation business by commercializing manufacture of monopile and other seabed-fixed structures.
- Establish groupwide supply-chain such as monopile-structure manufacturing and O&M
- Aim to expand renewable energy business by leveraging group synergy effect, taking JFE Engineering as a main driver.

O&M: Operation and Maintenance. Apply expertise of maintenance and analysis technologies.



JFE Engineering
 Manufacture and market monopile and other seabed-fixed structures for offshore wind-power generation

JFE Steel
 Increase capacity for heavy, extra-thick steel plate for offshore wind-power applications
 Utilizing NO.7 new continuous-casting equipment in Kurashiki district (Start operating in FY2021)

JFE Shoji
 Contribute to groupwide cooperation by carrying out SCM of steel materials and processed products for offshore wind-power generation

Subsidiaries/ Affiliates
JMU : manufacture power-generation floating structures and construct work vessels. **Groupwide**: O&M making maximum use of group resource

Provide steel products

Provide steel products

Carry out SCM
 Provide steel products

Carry out SCM

Social sustainability : Safety management, HR issues

Safety management

Further increase efforts to prevent accidents not only by using facilities but also through safety education and obedience of rules, in order to achieve top-priority goal of zero major accidents.

Groupwide investment for safety issues : Approx. 10 billion yen/year

Implement multifaceted health/safety management using advanced IT (monitoring, detection, etc.).

Facilitate employee participation

Proceed following initiatives in order to allow employees to maximize performance and enhance groupwide competitive advantages

Diversity & Inclusion	Maximize capabilities of employees with diverse background
Personnel development	Improve individual abilities and develop skills for global competence
Workstyle reforms	Create workplaces and internal structures to maximize employees potential and enable them to work safely and confidently

Social sustainability : Contribution to Regional Societies through Engineering Business

- Expand bases of local production and local consumption business (Food-recycling business and regional PPS business)
- Contribute to the regional society considering to expand combined utility service business in the future.
- Realize circular economy by developing this business

(Example) Local PPS Business : Smart Energy Kumamoto

Points

1. Local production of energy for local consumption (Local generation of renewable-energy power to be consumed in the regional societies)
2. Return economic merits to the city fund. (Investment for renewable energy and energy saving by citizen)
3. Strengthen disaster prevention and energy saving (Establishing self-supporting energy supply line**, using storage battery)

Electricity supply through self-supporting energy supply line



Disaster Prevention Bases (local parks)



Western waste disposal factory (built by JFE Engineering)



Business support



EMS (Energy Management System)

Smart Energy Kumamoto

Electric power

Electric power



Eastern waste disposal factory

Electric power



Public Facilities

Charge/Discharge (optimized control)



Storage battery

- Demand: 226 public facilities in the city
- Energy source
Western waste disposal factory : 5,980kw
Eastern waste disposal factory : 10,500kw

*Regional PPS (Power Producer and Supplier) : Power producers and suppliers engaged in local production of energy for local consumption **Self-supporting energy supply line: Direct energy supply line from power generation plants to the connection points



Establish economic sustainability (stable earnings power)

JFE

Establish sufficient profitability and stable financial base for proactive business operation for the mid/long-term growth

- 1. Shift focus of domestic steel business from quantity to quality** –Pursue world-class earnings power
 - Achieve world-class cost and quality competitiveness
 - Expand margins and achieve stable profit
- 2. Promote growth strategies**
- 3. Significantly enhance competitiveness through DX**
- 4. Balance financial soundness with effective investment based on a “select and concentrate” approach**



7th mid-term business plan <Steel Business>

JFE

Aim to achieve world-class per-ton profit and enhance strategies for global growth
Promote innovation for carbon neutrality

Main initiatives

1. Transition to a lean, robust business structure by **shifting focus from quantity to quality**
2. Expand and accelerate overseas business via **solutions based on knowledge, skills, and data**
3. Use **digital technology** to strengthen production base and strategies for new growth
4. Pursue innovation aimed at achieving **carbon neutrality**

**Targets
FY2024**

Per-ton profit 10,000yen/ton*
(Segment profit ¥230.0bn.)

*Segment profit / unconsolidated sales volume in tons

Cf. 2H of FY2020 (actual)

- Per-ton profit 6,000 yen/ton
- Segment profit ¥70.8bn.

Equipment & Business Investment :
1,080bn. over 4 years

- **40% for GX, DX, equipment modernization and profitability improvements** (6th mid-term actual:20%)
- **30% for maintenance investments** (6th mid-term actual:50%)



Transition to a lean, robust business structure by shifting focus from quantity to quality

JFE

Improve per-ton profit by both fixed cost reduction and increase of high value-added products ratio, and enhance earning base.

Achieve world-class cost and quality competitiveness

- Cost reductions: ¥120bn. over 4 years
- Labor productivity: +20%
(13% via structural reform +
1,670→2,000t/person/year via DX etc.
Number of employees: 16,000→13,000)
- Establish profit base that is resilient to changes in economic conditions by completing structural reforms
 - Greatly reducing fixed costs
 - Lowering breakeven points
- Introduce new technologies through DX
 - Improve production efficiency and yields
 - Greatly improve labor productivity
- Ensure quality competitiveness by improving product quality, production efficiency and our delivery

Expand margins and achieve stable profit

- Increase mix of highly value-added products* to an unprecedented 50%
*Products that offer technological advantages, are recognized by customers for their value added and have greater earnings power than commodity products.
- Product-mix enhancements by focusing on selective concentration in priority fields
 - Increase non-oriented electrical steel sheet production capacity
 - Increase capacity for heavy, extra-thick steel plate for offshore wind-power applications
 - Production of high-tensile steel sheet for automotive
- Fully overhaul our sales pricing
Ensure that products offering the type of high value that customers seek are suitably recognized in the market, based on which we aim to fully overhaul our sales pricing



Expand and Accelerate Overseas Business

JFE

- Expand returns from **1. vertical specialization business** such as steel production applied for automobiles
- **Further deepen integrated production in high-demand market (2. "Insider" business)**
- **Expand 3. solution business**, in which we provide cutting-edge technologies, operations and research knowhow **(aim to triple earnings in FY2024 compared to FY2020)**

1. Vertical specialization business

2. "Insider" business

3. Solution business

India **JSW**

- Investment in 2009 (current equity ratio 15%)
- **Further deepen direct participation** such as beginning FS of establishing a grain-oriented electrical steel sheet manufacturing company



GJSS started renewal construction [FY2020]

Started JV of production of iron powder (BJCMX) [FY2018]

Started JV of production and sales of specialty bar steel (BJSS)[FY2019]

JFE Chemical Established JV of anode materials [FY2019]

UAE **Started commercial production of large-diameter welded pipe (AGPC) [FY2019]**

Mexico **NUCOR-JFE STEEL MEXICO Began Operating Hot-dip Galvanized Steel Sheet Production Facility for Automotive Applications[FY2019]**

Vietnam **FHS**

- Investment in 2015 (current equity ratio 4%)

ASEAN **JSGI (Indonesia) · JSGT (Thailand)** production and sales of galvanized steel sheet and cold-rolled steel sheet for automotive

Examples of Steel Business's Critical Initiatives: Strategy to Capture Growing Demand for Electrical Steel Sheet



JFE



To expand non-oriented electrical steel sheet (N/O) production capacity
Released April 1, 2021

JFE Steel decided that it would **expand the electrical steel sheet production capacity** of its West Japan Works (Kurashiki District) amid **increasing demand for high-grade N/O** applied for EV and HEV motors.

<Demand forecast of high-grade N/O>

The global movement to tighten and accelerate environmental regulations will rapidly increase demand for high-grade N/O, which are essential for production of motors that drive electric vehicles.

CAPEX	Approx. 49.0bn.
Expected time to start production	1H of FY2024
Expected capacity	Doubling the facility's existing capacity for producing high-grade non-oriented electrical steel sheet
CO2 reductions	Approx. 1.5Mt-CO ₂ /Year*

*CO₂ reductions effect resulting from expanding EV/HEV



To conduct FS of grain-oriented electrical-steel-sheet JV with JSW in India
Released May 7, 2021

JFE Steel signed a memorandum of understanding to **conduct a feasibility study** with JSW, JFE's strategic alliance-partner in India, regarding **establishing a G/O manufacturing and sales joint-venture-company in India.**

<Demand forecast of G/O>

Demand for G/O, which are used for the iron cores of power transform, **is expected to grow globally** amid continuous increase in demand for electric power and expansion of reusable energy. (Economic growth in India is estimated to boost its local demand for electric power.)





JFE Group-wide Strategy to Capture Growing Demand for Electrical Steel Sheet (Steel Business and Trading Business)

JFE

JFE Steel

Production of electrical steel sheets

Expand production and supply function of high value-added electrical steel sheets

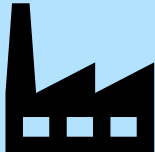
JFE Shoji

Processing and distribution of electric cores

World's No.1 global distribution and processing system

Sharing Strategies

Domestic



Increase electrical steel sheet production capacity

Overseas



Production & sales JV with India's JSW for electrical steel sheets

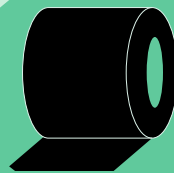
Synergy



Expand collaboration with alliance partners



Establish SCM in new regions



Expand processing functions in coil centers

Groupwide Strategy: Capture increasing demand for high value-added electrical steel sheets both in domestic and overseas market

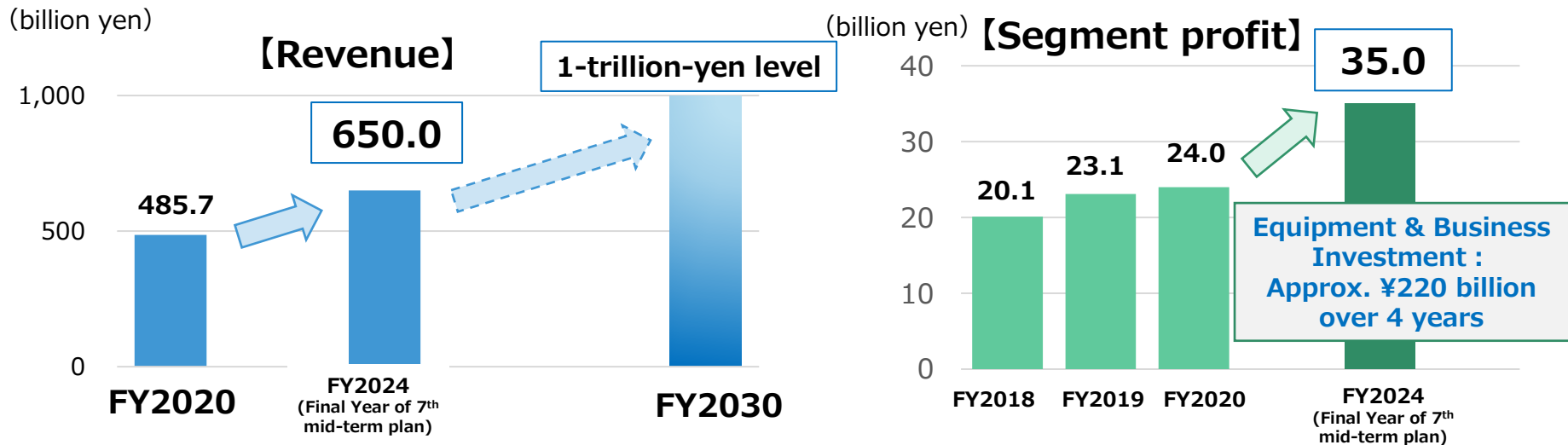
7th mid-term business plan <Engineering Business>

JFE

Expand sales revenue to 1-trillion-yen level in FY2030

Targets FY2024

- Revenue **650.0 billion yen**
- Segment Profit **35.0 billion yen**



Main initiatives

- 1. Enhance mid/long-term priority areas (See next page)**
Waste to Resources, Carbon-neutral business, Combined utility service, Core infrastructure
- 2. Expand overseas business** enhance EPC competitiveness, engage in ODA, pursue M&A synergies in chemical plant field, participation in local business in environmental, water and recycling fields
- 3. Promote DX initiatives**



Engineering Business's Main initiatives

–Enhancing mid/long-term priority areas–

JFE

- Expand engineering business as a growth sector by helping to solve pressing issues in global society, in view of increasing importance of the environmental, recycling and renewable-energy fields.
- Expand revenue and profit by setting the following **four priority areas**:

Waste to Resource

FY2024 revenue target
¥290 billion

- Establish stable profit base in domestic environment business
- Priority investment and expansion of domestic market in recycling business*

*Food, Plastic, Incineration and Power generation



Carbon Neutral

FY2024 revenue target
¥80 billion

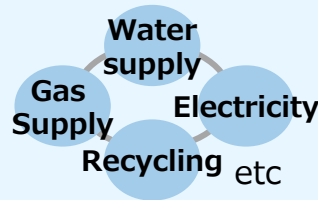
- Put priority in renewable energy (offshore wind-power generation, biomass power plant, solar power plant, geothermal power plant etc.)
- Develop carbon neutral technologies.



Combined utility services

FY2024 revenue target
¥20 billion

- Shift to comprehensive business model, including for efficient operation of facilities to contribute to energy savings and decarbonization



Core infrastructure

FY2024 revenue target
¥260 billion

- New technologies to address newly arising needs for strengthening and improving life of infrastructure
 - Strengthening of existing infrastructure →install new product and method for construction
 - Improving life of existing infrastructure→install new materials and new products

1. **Waste to Resource** : Recycling and waste-to-power generation etc. 2. **Carbon neutral** : Renewable energy, carbon recycling etc.
 3. **Combines utility services**: contribute to the local-production and local-consumption (circular economy) by mutual combination among various operation and maintenance business such as water, gas, electricity supply and recycling business/
 4. **Core infrastructure** : infrastructure business to establish social foundation such as bridge and pipeline



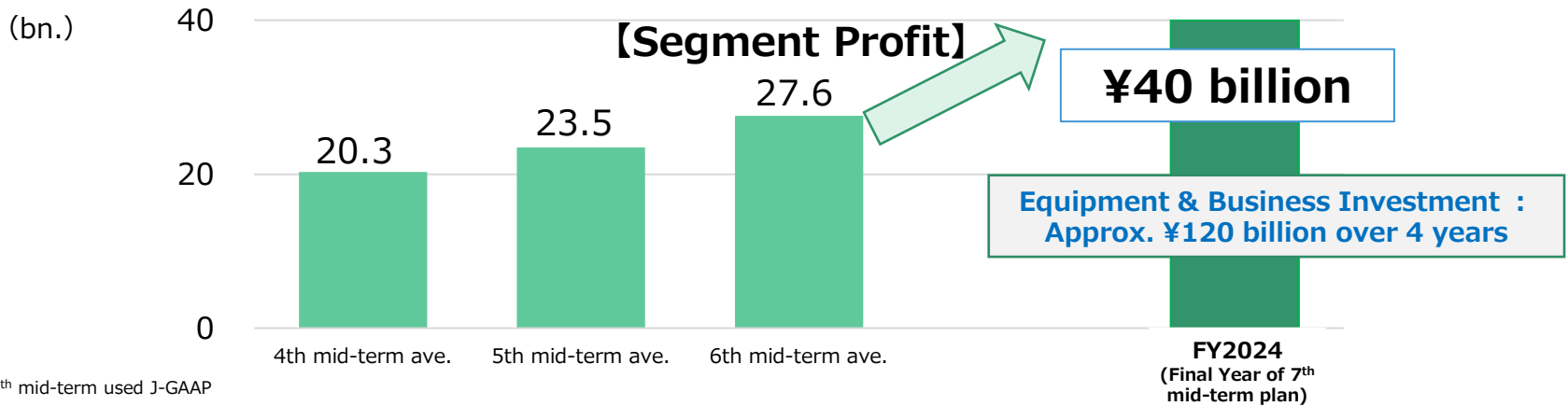
7th mid-term business plan <Trading Business>

JFE

Establish growth foundation by enhancing SCM

Target
FY2024

Segment profit **40bn.**



※4th and 5th mid-term used J-GAAP

Main initiatives

- 1. Proceed key strategies for growth**
 Establish No.1 position in global processing & distribution of electrical steel sheet, Strengthen SCM of automotive steel composite materials, Accelerate efforts in overseas construction materials business, Fully capture steel demand in Japan
- 2. Strengthen purchasing & sales capabilities** (expand non-JFE Steel business)
 Increase sales of both JFE group products and alliance-partner products as well as actively expand business with other suppliers' products
- 3. Seize new business opportunities**
 Expand environmental-solutions business, DX initiatives

Trading Business's Main initiatives

—Key Strategies for growth, Strengthen purchasing and sales capabilities—

Strengthen SCM of Automotive steel

Enhance SCM for high-tensile steel both in overseas and domestic market to increase sales of JFE's strategic products

Further collaboration with JFE Steel both in domestic and overseas market

- Along with the EV and HEV promotion and increasing needs for lighter body of automobiles, application volume of high-tensile steel for automotive is expected to increase because of its characteristics and environmental-friendly advantages.



China

Japan

US

ASEAN

Strengthen SCM along with groupwide optimum business across four-pillar regions

Fully Capture steel demand in Japan

Increase earnings by enhancing JFE Group's presence through expansion of function (quality) and additional trading (quantity)

Strengthen processing and distribution in domestic steel business

- **Strengthen SCM** continue to strengthen collaboration beyond group boundaries and establish optimum processing and distribution system
- **Widen processing functions to expand business** expand capabilities including secondary and tertiary processing to build strong foundation to meet various types of clients' needs

Pursue the best sales structure by sharing strategies with JFE Steel in the domestic market, which is the most critical

Accelerate efforts in overseas construction materials business

- In ASEAN and North American regions, expand trading in this sector and collaborate with local companies to strengthen business foundations.

Expand non-JFE Steel business

- Aim to expand business to meet clients' needs. Increase sales of both JFE group products and alliance-partner products as well as actively expand business with other suppliers' products



JFE Group's DX strategies

JFE

- Promote DX in every business area such as advancing productivity through innovation, transforming exiting businesses and creating new businesses.
- Proactively invest money and human resource necessary for DX :
DX investment approx. 120 billion yen over 4 years

JFE Steel

Use digital technology to streamline production operations and implement new growth strategies

Target

Labor productivity: 20% improve*

*FY2024 structural reform 13%+ DX effects etc.

Investment

**115 billion yen
over 4 years**

JFE Engineering

Digitalize entire business and provide new digital services to customers.

Target

**Design efficiency: 20% increase
in FY2024**

JFE Shoji

Improve customer service, pursue new businesses by leveraging DX

<JFE Steel's initiatives>

- Enhance competitiveness by introducing cyber-physical systems on all production lines
 - Improve production efficiency, labor productivity and yield ratio etc.
- Utilize digital technologies to raise customer satisfaction through quality enhancements and better delivery services.
- Actively expand solutions businesses



Balance Financial Soundness with Effective Investment based on a “select and concentrate” approach

JFE

- Selective maintenance investment, focusing on investments for enhancing competitiveness and establishing stable profit base
- Ensure earning source by asset compression

1. Equipment & Business Investment about **1,450 billion yen** over 4 years

- Equipment investment : Approx. **1,200 billion yen** over 4 years
GX : About ¥340 billion over 4 years*, **DX : About ¥120 billion 4 years**

Execute maintenance investment carefully selected from the perspectives of effectiveness and necessity
 Shift focus on investment for improving profitability and cutting-edge facilities

- Business investment : About **250 billion yen** over 4 years

Steel business : expand overseas insider businesses, Engineering business : expand operation & maintenance business and overseas business

Trading business : business investment including M&A for increasing earnings from processing and distribution business

*Steel Business : ¥160 billion
 Engineering Business : ¥130 billion
 Trading Business : ¥50 billion

2. Ensuring earning source

- Generate cash by asset compression : Approx. **200 billion yen** over 4 years

Assets that contribute little to earnings or are tied to unprofitable businesses**

3. Returns to shareholders

- Dividend payout ratio: Around 30% on par with the target during 6th mid-term business plan

**Regarding development plans for partial area of Keihin district resulting from structural reform (Ogishima area): We will disclose development plans in FY2023, and strive to see some properties put to new use by FY2030.



Main Financial Data and Performance & Profitability Targets

JFE

		7 th mid-term business plan FY2024	FY2020 Actual
Consolidated	Business profit	¥ 320.0 billion	¥ -12.9 billion
	Profit attributable to owners of the parent	¥ 220.0 billion	¥ -21.8 billion
	ROE	10%	-1.3%
	Debt/EBITDA	About 3x	8.1x
	D/E*1	About 70%	93.2%
Operating companies	Steel business Profit per ton*2 Segment profit	10,000 yen/ton ¥ 230.0 billion	-3,000 yen/ ton ¥ -65.4 billion
	Engineering business Segment profit Revenue	¥ 35.0 billion ¥ 650.0 billion	¥ 24.0 billion ¥ 485.7 billion
	Trading Business Segment profit	¥ 40.0 billion	¥ 20.0 billion
	Payout ratio	7th mid-term business plan Around 30%	6 th mid-term business plan Around 30%

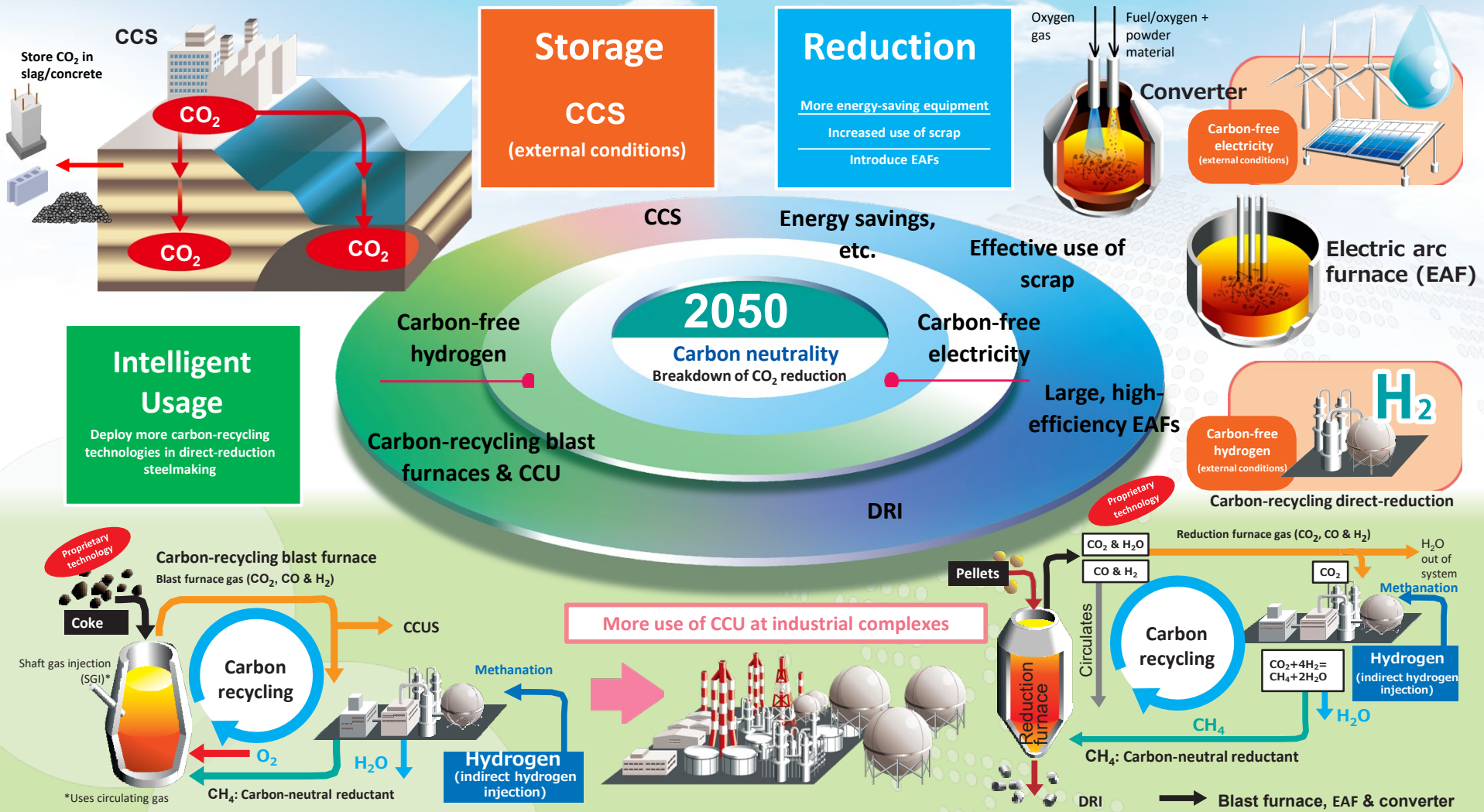
*1 For liabilities with equity subject to credit ratings, these equities reflect the evaluations of rating agencies

*2 Steel business profit per ton (consolidated segment profit / non-consolidated sales volume) Copyright © 2024 JFE Holdings, Inc. All Rights Reserved.

Appendix(4) JFE Steel Carbon Neutral Strategy Briefing

JFE Steel's Carbon Neutrality Vision 2050

Environmental
Vision 2050

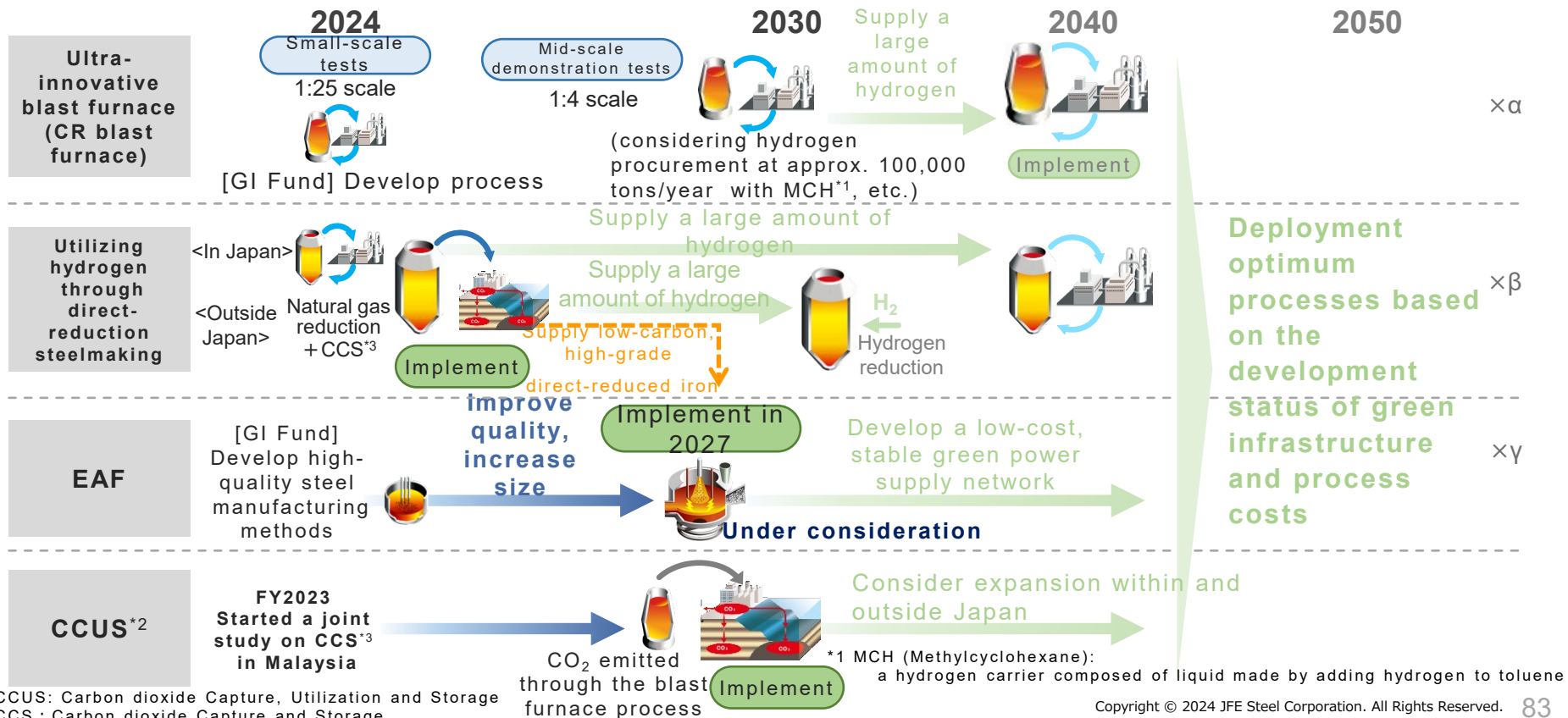


Combine reduction, intelligent usage and CO₂ storage to realize a carbon-neutral steel business by 2050





- ▶ Developing technologies to produce high-quality and high-functional steel in the GI Fund project by using technologies to utilize hydrogen in the blast furnace process and direct-reduction steelmaking as well as EAFs.
- ▶ **Considering the transition of one blast furnace, which is to be refurbished in 2027, to a large, high-efficiency EAF, assuming government support. Aiming for lower CO₂ emissions and business growth.**
- ▶ Policies on the transition after 2030 will be formulated later, taking account of issues such as the development of plentiful, low-cost, and stable supply networks of hydrogen and power as well as demand for green steel.





- ▶ JFE Steel is introducing low-carbon steel processes during its “transition period” to 2030.
- ▶ In its “innovation period” from 2030 to 2050, JFE Steel aims to develop and implement ultra-innovative technologies for carbon neutrality.

Transition period

- Increasingly deploy low-carbon technologies through capital investment to achieve targets such as cutting 2013-level CO₂ emissions by 30% or more by 2030
- Accelerate multitrack R&D targeting ultra-innovative technologies for innovation period
- Create markets for renewable green-steel materials based on actual environmental value
→ Create initial demand

Stimulate demand through government policy

Innovation period

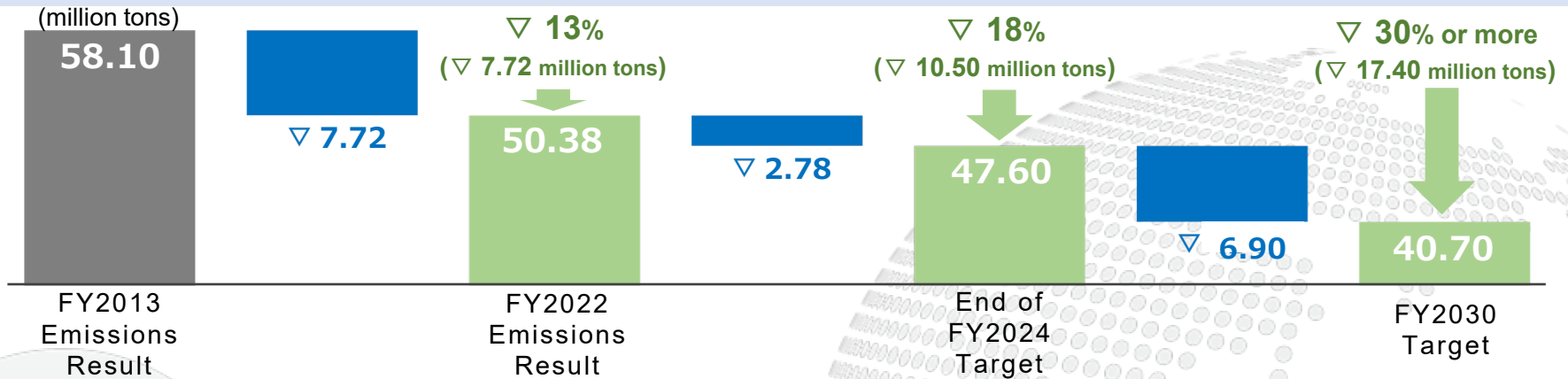
- Swiftly establish and deploy ultra-innovative technologies
- Collaborate with communities and industrial complexes toward carbon neutrality
- Grow markets for sustainable green steel based on actual environmental value
→ Grow demand leading to virtuous cycles

Maintain the competitiveness of Japanese steel through plentiful, low-cost, stable supplies of carbon-free hydrogen and electricity

Behavior must be shifted on both supply and demand sides to create markets for green steel



- ▶ Moving forward according to the FY2022 plan, achieving a 13% reduction. Also expecting to achieve the FY2024 year end target.
- ▶ Making solid progress in investment approval and implementation to achieve the reduction targets. Already approved for approx. 110 billion yen by FY2022.



Aiming for 18% reduction by the end of FY2024 (KPI progress up to FY2022)

■ Capital investment

Completed approval for 90% of total CO₂ reduction in the investment plan against the CO₂ reduction target* through energy savings and technological development

→ **Completed approval for 88% of the total investment plan**

■ Emissions reduction

Achieve 50% of the CO₂ reduction target* through energy savings and technological development

→ **Achieved 58% of the CO₂ reduction target**

*CO₂ reduction through energy savings and technological development: 3.00 million tons

Aiming for 30% or more reduction by FY2030

Energy savings and high efficiency

Low-carbon feedstock & fuel

Utilizing EAFs

• Upgrade to high-efficiency coke ovens in Fukuyama (▽ 16)

• Improve efficiency of power demand facilities

• Leverage AI & DS

• Expand the use of scrap in converters (▽ 150)

• Use reduced iron in blast furnaces and converters (▽ 200)

• Sendai: Upgrade existing EAFs (▽ 10)

• Chiba: Introduce EAFs for SUS (▽ 45)

• Kurashiki: Large, high-efficiency EAFs (▽ 260)

* The projects in blue bold font are already approved. Numbers in parentheses indicate the amount of reduction (10,000 tons/year).



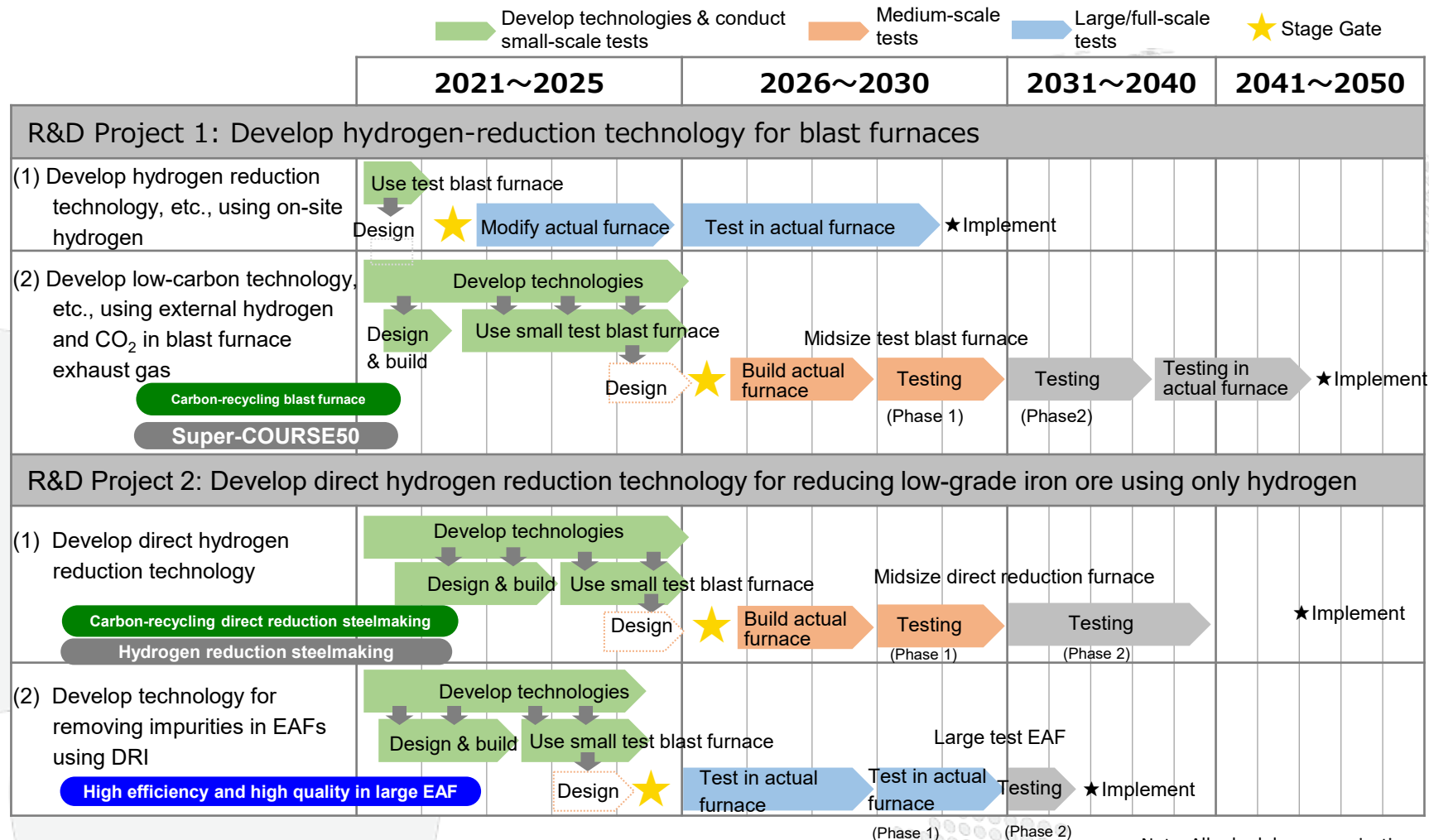
- ▶ Promoting the development of ultra-innovative technologies in the NEDO project on hydrogen utilization in iron and steelmaking processes, financed by the Green Innovation (GI) Fund.
- ▶ Started building a small test blast furnace (150m³) in Chiba District, aiming for swift implementation.

	Ultra-innovative blast furnace (Carbon-recycling blast furnace)	Direct-reduction steelmaking	Large, high-efficiency EAF
Development project	<p>The diagram illustrates a blast furnace where sintered ore (Fe₂O₃) and coke (C) are fed in. CO₂ is captured and sent to a CCUS facility. A carbon recycling loop is shown. Hydrogen is produced from a methanation facility using methane (CH₄) and oxygen (O₂).</p>	<p>The diagram shows low-grade iron ore being fed into a reduction furnace with hydrogen (H₂). By-product gas is captured and used on-site. The resulting DRI is then melted in an EAF, which can generate electricity or carbon-free electricity.</p>	<p>The diagram shows a cross-section of an EAF with a burner lance for preheating reduced iron. It also shows molten steel being stirred by a coil, with slag and a bottom electrode (+) visible.</p>
Target	Reduce CO ₂ emissions by 50% or more (compared to conventional blast furnaces)	Reduce CO ₂ emissions by 50% or more (compared to conventional blast furnaces)	Establish high-quality and high-efficiency melting technologies
Description	<ul style="list-style-type: none"> • Technology to inject a large amount of oxygen and methane • Developing technology for seamless operations between the blast furnace and the methanation facility 	<ul style="list-style-type: none"> • Heat compensation for hydrogen reduction (injection of high-temperature hydrogen and recycled methane) • Optimizing conditions for injecting reduced gas according to the grade of the raw material 	<ul style="list-style-type: none"> • Improving steel quality by facilitating the denitrification with hydrogen gas and dephosphorization with suppress reoxidation • High-efficiency melting through burner lance, preheating of reduced iron, and molten steel stirring
Period	Test scheduled for FY2025-2026	Test scheduled for FY2024-2026	Test scheduled for FY2024-2025

Overall Scale of GI Fund Projects



- ▶ Development toward Stage Gate Reviews scheduled mainly in FY2025–2026
- ▶ Studies also underway with a view to actual implementation in 2030–2040s



Source: METI
(https://www.meti.go.jp/policy/energy_environment/global_warming/gifund/pdf/gif_05_randd.pdf)

Note: All schedules are projections



- ▶ In the EU, green steel is branded and sold using a mass balance approach.
- ▶ Achieving 30% CO₂ reduction by FY2030 will enable JFE Steel to supply up to 5M tons of green steel per year using the same approach.
- ▶ To create a carbon-neutral world, government policies need to encourage behavioral changes in both the supply and demand sides in order to drive changes in society and spark innovation for new industrial competitiveness.

Supply side

- Huge capital investment is needed to introduce low-carbon & ultra-innovative technologies. (1 trillion yen in low-carbon investments by 2030)
- While JFE Steel will strive to minimize R&D cost increases, some increase will be inevitable in the effort to create new environmental value.
- Prospects for appropriate returns on such investments also will be needed.

Demand side

- Green steel products do not directly benefit consumers in terms of better quality, performance, convenience, etc.
- Ethical consumption appears to be on the rise, but in Japan awareness of environmental value is low.
- Incentives are needed to encourage the recognition of environmental value and the purchase of products that significantly reduce carbon.

To support investment in low-carbon technology during the transition period until 2030 and to prepare for further large-scale investment during the innovation period, a green steel market must be created at an early stage (transition period) and government policies must raise the public's awareness as well as encourage steel consumers to change their behavior.



- ▶ While achieving carbon neutrality is a top management priority for JFE Steel, generating environmental value involves large investments and cost increases associated with transitioning, requiring efforts beyond the private company level.
- ▶ Mechanisms are needed so that society, as the beneficiary of green steel, helps to cover the associated cost increases through government support, collaborative initiatives, etc.

Initiatives as a private company

- Solidly execute ultra-innovative technologies and formulate plans to implement them in society
- Raise public awareness of environmental value created through green steel, applying the mass balance approach
<Green steel guidelines and setting international standards>
 (The Japan Iron and Steel Federation, World Steel Association)
- Visualize environmental value and participate in the implementation of the new Global Data Collection Framework agreed upon by the G7
- Formulate a plan to develop infrastructure for the low-cost, stable, large-scale supply of carbon-free hydrogen and electricity
- Formulate a plan to develop CCUS and green infrastructure through collaboration with industrial complexes, corporations, etc.

Achieve economic growth through decarbonization

Build a competitive advantage through government-private collaboration

Necessary government support

- Clarify detailed frameworks and schedules on long-term government support for large-scale R&D costs and capital investments
- Ensure government support comparable to that in Europe and the US (e.g., subsidies, tax mechanisms) and international competitiveness of industrial electricity prices
- Provide support for building a green hydrogen supply chain that will become the new infrastructure
- Take measures to stimulate demand for green steel, which has high environmental value, through procurement support (e.g., public procurement)
- Relax the application of competition laws in order to not hinder the promotion of innovation and joint efforts by companies



JFE