Securities Code : 5411.T

# JFE Group

## Financial Results through Third Quarter of Fiscal Year 2022 ending March 31, 2023

JFE Holdings, Inc.

February 6, 2023

# Key Points of today's Announcement

**Results for 3Q of FY2022**

- Business profit in Apr-Dec of FY2022 was **¥231.0bn.**

**Forecast of FY2022**

- **Full-year business profit is expected to be ¥235.0bn.**
  (decreased by ¥20.0bn. from previous forecast)
- Steel demand is expected to further decline under the previous forecast due to sluggish activity and reluctance to buy in domestic market and due to slow recovery in overseas market.
- Maintaining an emphasis on selling price, **crude steel production volume is expected to decline from the previous forecast.**
  Full-year crude steel production [stand alone] :
  Approx. 25.00Mt (previous forecast) ⇒ Approx.24.00Mt (Updated forecast)
- Profit of steel business is expected to decrease due to reducing crude steel production etc. (decreased by ¥15.0bn. from previous forecast)
  However, **the spread improvement is expected to progress from the previous forecast** due to initiatives for improving sales price.
- Profit of engineering business is expected to decrease due to losses from European construction projects.
  (decreased by ¥7.0bn. from previous forecast : ¥20.0bn. → ¥13.0bn.)
- Profit of trading business is expected **to post a record profit of ¥60.0bn.**, as the previous forecast is.

**Dividends**

- JFE has decided to propose at its general meeting of shareholders **a year-end dividend of 30 yen per share**(annual:80yen)

**Topics**

- Consideration of expand manufacturing facilities for non-oriented electrical steel sheet

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This presentation material is for information and discussion purpose only.
Any statements in the presentation which are not historical facts are future projections based on certain assumptions and currently available information. Please note that actual performance may vary significantly due to various factors.

# Consolidated Results through Third Quarter of Fiscal Year 2022 (April 1 to December 31, 2022)

# and

# Consolidated Financial Forecast for Fiscal Year 2022 (April 1, 2022 to March 31, 2023)

# Financial Results through Third Quarter of Fiscal Year 2022

➢ **Business profit in Apr-Dec of FY2022 was ¥231.0bn.**
(decreased by ¥91.8bn. year-on-year)

| (billion yen) | FY2021 | | FY2022 | | Change |
|---|---|---|---|---|---|
| | Oct-Dec | Apr-Dec | Oct-Dec | Apr-Dec | Apr-Dec |
| Revenue | 1,154.4 | 3,097.3 | **1,344.2** | **3,908.5** | 811.2 |
| **Business Profit [Excluding Inventory Valuation etc.]** | 123.9 [26.9] | 322.8 [135.8] | **43.1 [44.1]** | **231.0 [116.0]** | (91.8) [(19.8)] |
| Finance Income/Costs | (2.9) | (8.5) | (4.2) | (10.9) | (2.4) |
| Segment Profit | 121.0 | 314.2 | **38.8** | **220.0** | (94.2) |
| Exceptional Items | (10.4) | (10.4) | (6.2) | (6.2) | 4.2 |
| Profit before Tax | 110.6 | 303.8 | **32.5** | **213.8** | (90.0) |
| Tax Expense and Profit (Loss) Attributable to Non-Controlling Interests | (28.3) | (80.7) | (11.8) | (69.8) | 10.9 |
| **Profit Attributable to Owners of Parent** | 82.2 | 223.0 | **20.6** | **143.9** | (79.1) |

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

# Financial Results through Third Quarter of Fiscal Year 2022 (by Segment)

| (billion yen) | FY2021 | | FY2022 | | Change |
|---|---|---|---|---|---|
| | Oct-Dec | Apr-Dec | Oct-Dec | Apr-Dec | Apr-Dec |
| Steel Business | 832.8 | 2,243.2 | **986.9** | **2,905.9** | 662.7 |
| Engineering Business | 129.8 | 359.1 | **130.9** | **349.9** | (9.2) |
| Trading Business | 329.8 | 873.7 | **383.6** | **1,133.8** | 260.1 |
| Adjustments | (137.5) | (378.6) | (157.2) | (481.1) | (102.5) |
| **Revenue** | 1,154.4 | 3,097.3 | **1,344.2** | **3,908.5** | 811.2 |
| Business Profit (A) | 123.9 | 322.8 | 43.1 | 231.0 | (91.8) |
| Finance Income/Costs (B) | (2.9) | (8.5) | (4.2) | (10.9) | (2.4) |
| Steel Business | 93.5 | 252.0 | **21.8** | **170.0** | (82.0) |
| Engineering Business | 10.2 | 21.3 | **1.7** | **(2.1)** | (23.4) |
| Trading Business | 16.2 | 41.9 | **15.1** | **55.7** | 13.8 |
| Adjustments | 1.0 | (1.0) | 0.1 | (3.5) | (2.5) |
| **Segment Profit (A+B)** | 121.0 | 314.2 | **38.8** | **220.0** | (94.2) |

# Financial Forecast for Fiscal Year 2022

➢ Full-year business profit is expected to be **¥235.0bn.**
(decreased by ¥20.0bn. from previous forecast, decreased by ¥181.4bn. year-on-year)

| (billion yen) | FY2021 Actual | FY2022 Forecast (Previous) | FY2022 Forecast(Updated) | | | Change FY2021→ FY2022 (Updated) | Change Previous →Updated |
|---|---|---|---|---|---|---|---|
| | Full Year | Full Year | 1H (Apr-Sep) | 2H (Oct-Mar) | Full Year | Full Year | Full Year |
| Revenue | 4,365.1 | 5,260.0 | 2,564.3 | **2,635.7** | **5,200.0** | 834.9 | (60.0) |
| **Business Profit** **[Excluding Inventory Valuation etc.]** | 416.4 [222.4] | 255.0 [173.0] | 187.9 [71.9] | **47.1 [90.1]** | **235.0 [162.0]** | (181.4) [(60.4)] | (20.0) [(11.0)] |
| Finance Income/Costs | (11.6) | (15.0) | (6.6) | (8.4) | (15.0) | (3.4) | 0.0 |
| Segment Profit | 404.8 | 240.0 | 181.2 | **38.8** | **220.0** | (184.8) | (20.0) |
| Exceptional Items | (16.2) | - | - | (6.2) | (6.2) | 10.0 | (6.2) |
| Profit before Tax | 388.5 | 240.0 | 181.2 | **32.6** | **213.8** | (174.7) | (26.2) |
| Tax Expense and Profit (Loss) Attributable to Non-Controlling Interests | (100.4) | (85.0) | (57.9) | (5.9) | (63.8) | 36.6 | 21.2 |
| **Profit Attributable to Owners of Parent** | 288.0 | 155.0 | 123.2 | **26.8** | **150.0** | (138.0) | (5.0) |

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

# Financial Forecast for Fiscal Year 2022 (by Segment)

(億円)

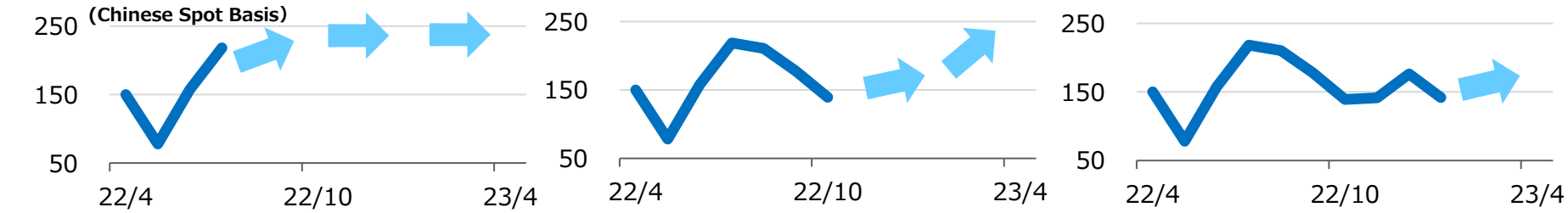
| | FY2021 Actual | FY2022 Forecast (Previous) | FY2022 Forecast(Updated) | | | Change FY2021→ FY2022 (Updated) | Change Previous →Updated |
|---|---|---|---|---|---|---|---|
| | Full Year | Full Year | 1H (Apr-Sep) | 2H (Oct-Mar) | Full Year | Full Year | Full Year |
| Steel Business | 3,173.4 | 3,960.0 | 1,918.9 | **1,941.1** | **3,860.0** | 686.6 | (100.0) |
| Engineering Business | 508.2 | 520.0 | 219.0 | **301.0** | **520.0** | 11.8 | 0.0 |
| Trading Business | 1,231.7 | 1,490.0 | 750.2 | **739.8** | **1,490.0** | 258.3 | 0.0 |
| Adjustments | (548.3) | (710.0) | (323.9) | (346.1) | (670.0) | (121.7) | 40.0 |
| **Revenue** | 4,365.1 | 5,260.0 | 2,564.3 | **2,635.7** | **5,200.0** | 834.9 | (60.0) |
| Business Profit (A) | 416.4 | 255.0 | 187.9 | 47.1 | 235.0 | (181.4) | (20.0) |
| Finance Income/Costs (B) | (11.6) | (15.0) | (6.6) | (8.4) | (15.0) | (3.4) | 0.0 |
| Steel Business | 323.7 | 165.0 | 148.2 | **1.8** | **150.0** | (173.7) | (15.0) |
| Engineering Business | 26.0 | 20.0 | (3.9) | **16.9** | **13.0** | (13.0) | (7.0) |
| Trading Business | 55.9 | 60.0 | 40.6 | **19.4** | **60.0** | 4.1 | 0.0 |
| Adjustments | (0.9) | (5.0) | (3.6) | 0.6 | (3.0) | (2.1) | 2.0 |
| **Segment Profit (A+B)** | 404.8 | 240.0 | 181.2 | **38.8** | **220.0** | (184.8) | (20.0) |

# Demand for steel and Crude steel production

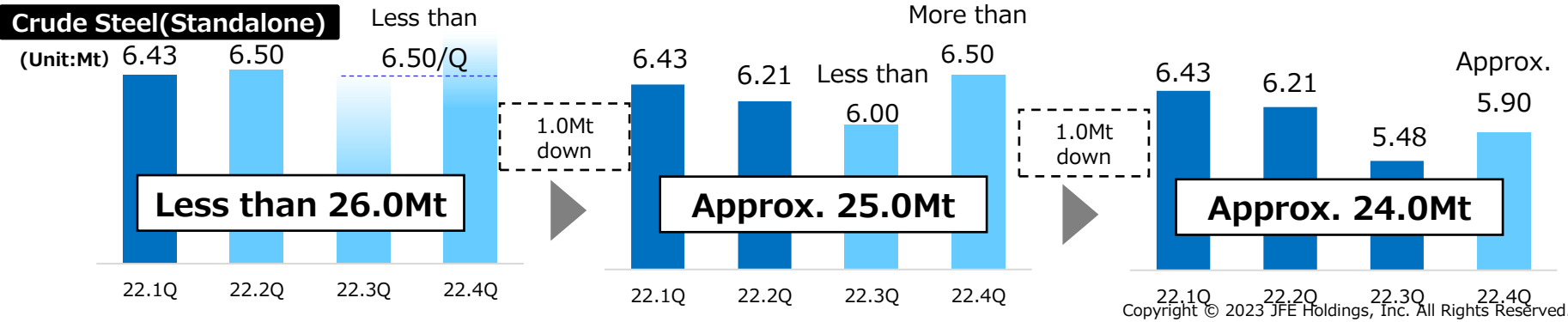
➢ Due to the postponement of domestic demand in the residential & civil engineering construction sectors and continued weakness in overseas steel demand & market, **Standalone crude steel production is expected to be approx. 24Mt, down 1Mt from previous forecast.**

| | Aug. 2022 announcement | Nov. 2022 announcement | Feb. 2023 announcement (This Time) |
|---|---|---|---|
| **Sales environment** | ・**Parts supply constraints in the domestic auto sector are expected to ease gradually.**<br>・Despite sluggish domestic demand due to the zero-COVID policy in China, overseas demand and market are expected **to recover for the second half of the year** due to economic stimulus measures by Government of China. | ・**The recovery of activity levels in the domestic auto sector delays than the previous forecast.**<br>・ China's economic is weak and demand for construction is postponed in emerging countries. **Recovery in overseas demand and market** due to economic stimulus measures in China **is expected to be delayed to the fourth quarter**. | ・**Due to the rising cost of materials, demand is postponed, especially in the domestic housing, civil engineering and construction sectors.**<br>・Demand for overseas steel products and market conditions **remain weak in the fourth quarter** due to economic uncertainty. |

**HRC Metal Spread** ($/t)



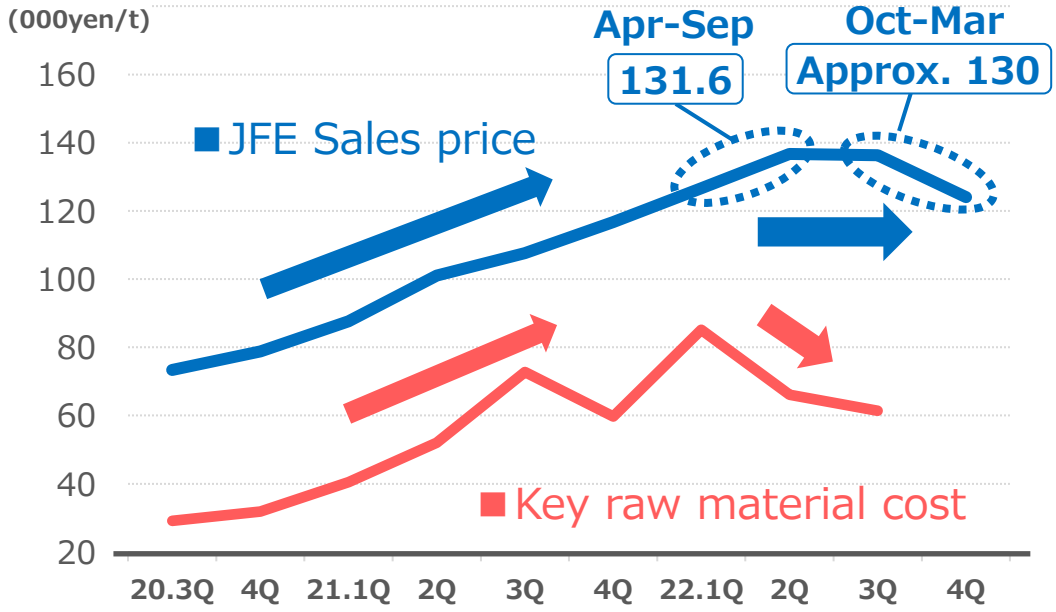

**Crude Steel(Standalone)** (Unit:Mt)



# Initiatives for Improving Sales Price

- In the 2H of FY2022, overseas steel market price and Key raw material cost declined due to sluggish steel demand.
- Further sales price improvement is expected due to **the reflections of metal and commodity costs***, **overhaul of extra pricing**, and **enhancing sales price to the sustainable level**. *Including foreign exchange effect, scrap, metal, fare, energy, etc.
- The spread in 2H of FY2022 is expected to **increase by ¥87.0bn. (+8,100yen/t)** from 1H of FY2022 and **increase by ¥28.0bn.(+2,600yen/t)** from the previous forecast.

## Average Sales Price / Key Raw Material Cost




## Initiatives of Improve our Sales Price

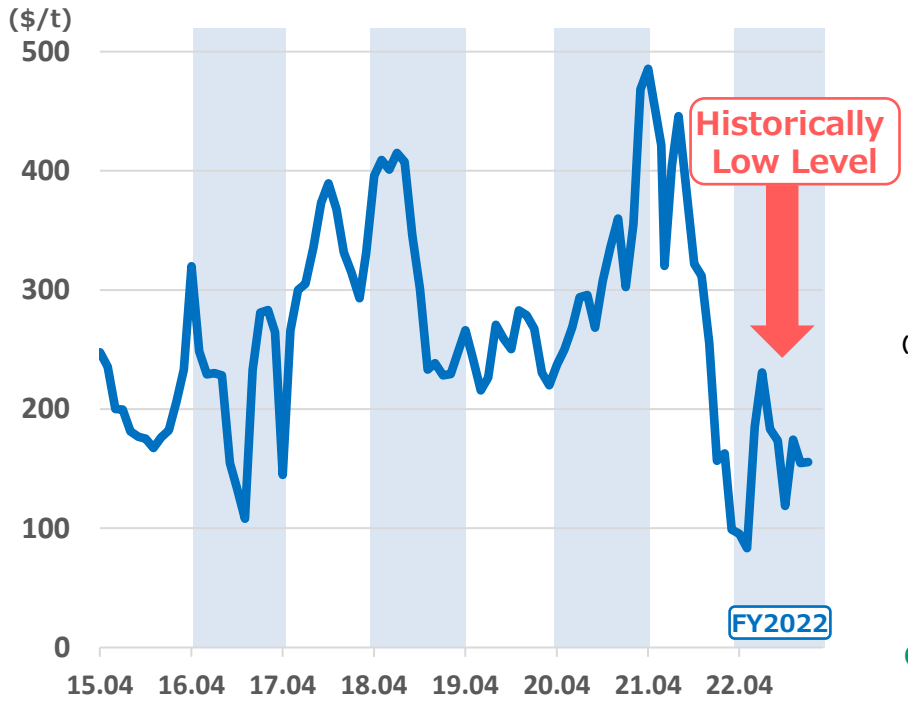
- **Quick reflection of raw material cost to sales price**
  Make effort to quickly and steadily pass on the cost increase of key raw materials to the sales prices.
- **Overhaul of extra pricing**
  Already realized some part of extra revision. Accelerate overhaul to modify the extra pricing which is inappropriate to the current status.
- **Sales price improvement to the sustainable level**
  Improve sales prices to the sustainable level even among the long-term/continuous contracts if the margin is not enough.

# Maintaining Profit in a Tough Business Environment

- In 2H of FY2022, **overseas metal spread is significantly declined**, and **production volume shrunk**.
- The establishment of **a stable and profitable business structure that is less affected by overseas steel market conditions and steel demand** is progressing, amid enhancing profit due to initiatives of improving the spread etc..

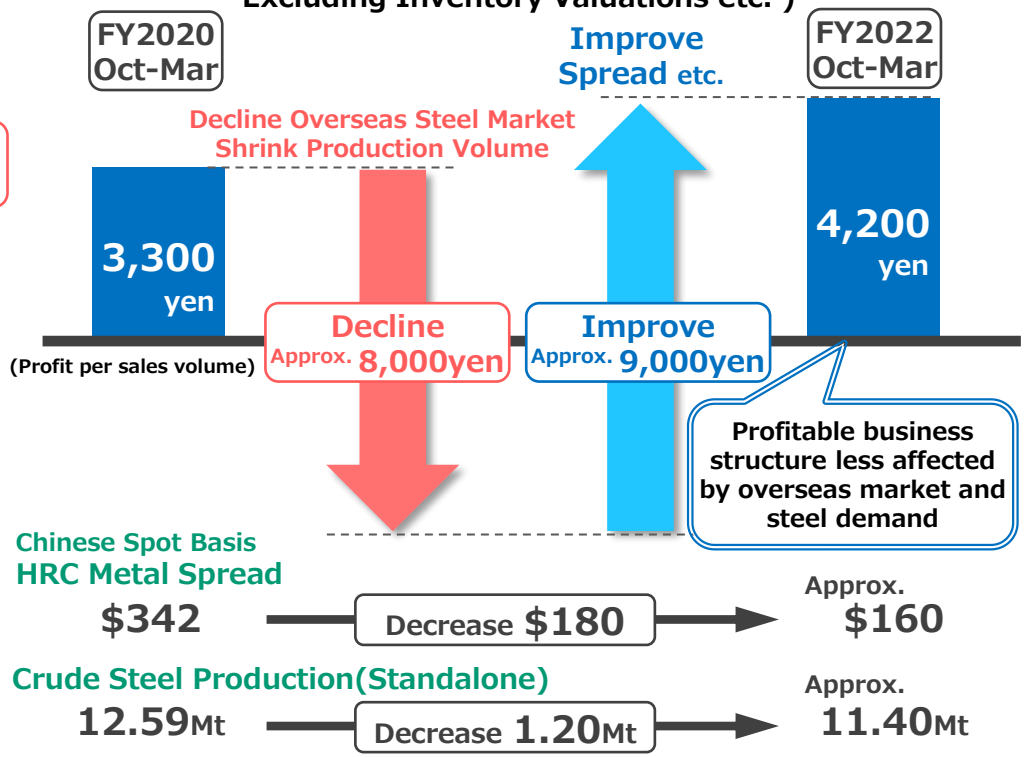
## Overseas Metal Spread Trend

**(HRC Metal Spread : Chinese Spot Basis)**




## Changes in Profit

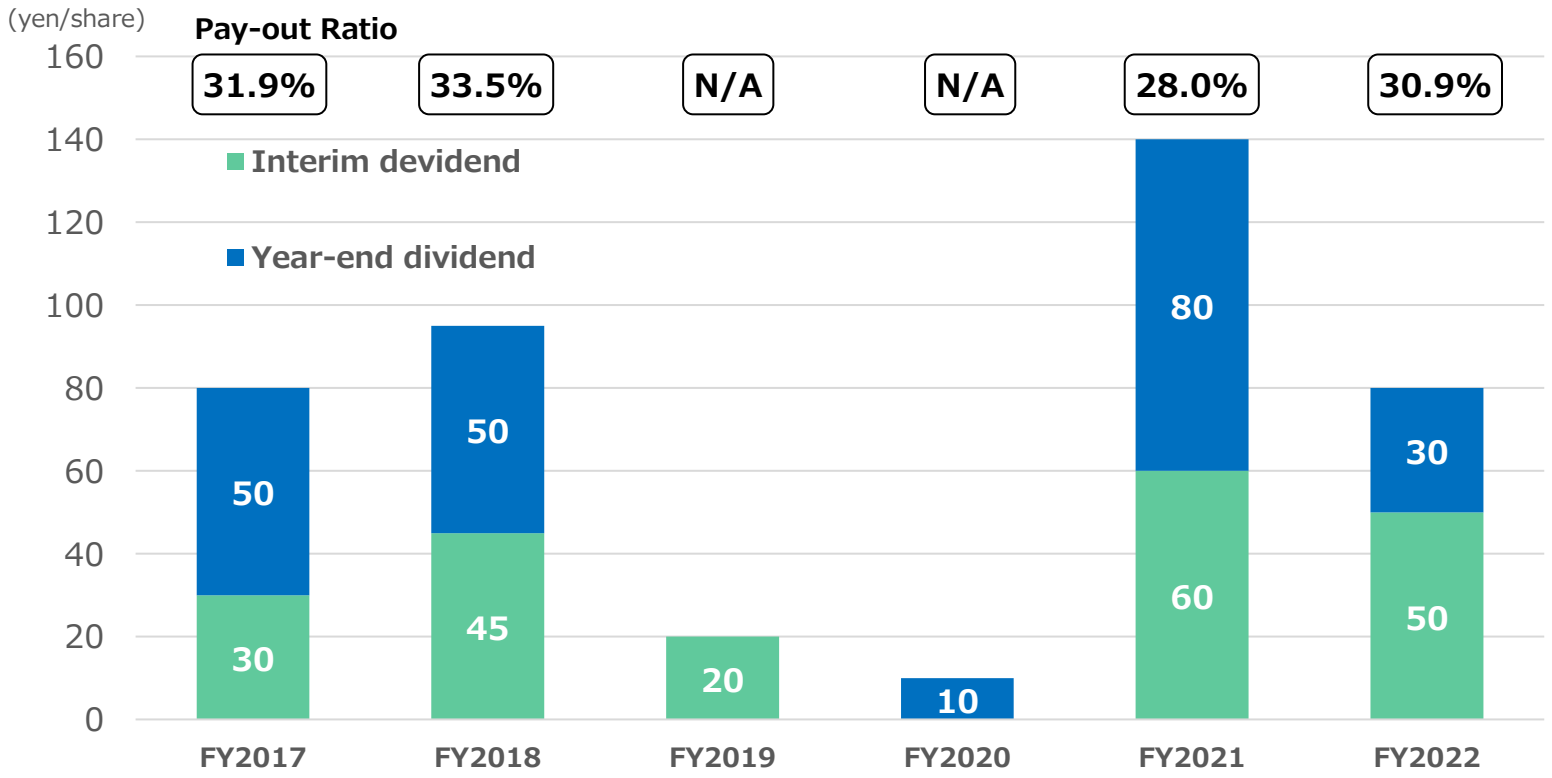
**(Segment Profit of Steel Business, Excluding Inventory Valuations etc. )**



# Dividend

# Dividend

- JFE Holdings has decided to propose at its general meeting of shareholders **a year-end dividend of 30 yen per share**, which would bring the annual dividend of 80 yen per share.



# JFE Steel

## Financial Results through Third Quarter of Fiscal Year 2022 and Financial Forecast for Fiscal Year 2022

# Financial Forecast through Fiscal Year 2022

| | Unit | FY2021 Actual | | FY2022 Updated Forecast | | | | | FY2022 Previous Forecast (Full Year) |
|---|---|---|---|---|---|---|---|---|---|
| | | Apr-Dec Actual | Full Year | 1H Actual | 3Q Actual | 4Q Forecast | 2H | Full Year | |
| Revenue | billion yen | 2,243.2 | 3,173.4 | 1,918.9 | 986.9 | 954.2 | 1941.1 | 3,860.0 | 3,960.0 |
| Segment Profit | billion yen | 252.0 | 323.7 | 148.2 | 21.8 | (20.0) | 1.8 | 150.0 | 165.0 |
| Excluding Inventory Valuation etc.* | billion yen | 65.0 | 129.7 | 32.2 | 22.8 | 22.0 | 44.8 | 77.0 | 83.0 |
| Crude Steel (Standalone) | Mt | 19.20 | 25.88 | 12.64 | 54.8 | Approx. 59.0 | Approx. 11.40 | Approx. 24.00 | Approx. 2,500 |
| Crude Steel (Consolidated) | Mt | 20.24 | 27.26 | 13.37 | 58.1 | Approx. 62.0 | Approx. 12.00 | Approx. 25.40 | |
| Shipment (Standalone) | Mt | 16.46 | 22.38 | 10.86 | 52.5 | Approx. 55.0 | Approx. 10.80 | Approx. 21.60 | |
| Export Ratio on Value Basis (Standalone) | % | 46.2 | 45.5 | 46.7 | 41.0 | Approx. 41 | Approx. 41 | Approx. 44 | |
| Average Sales Price (Standalone) | 000 yen / t | 99.0 | 103.7 | 131.6 | 136.3 | Approx. 124 | Approx. 130 | Approx. 131 | |
| Exchange Rate | ¥/$ | 111.0 | 112.1 | 131.6 | 144.0 | Approx. 131 | Approx. 137 | Approx. 135 | Approx. 138 |

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

# 82.0Bn. Yen Decrease in JFE Steel's Segment Profit (FY2021 Apr-Dec vs. FY2022 Apr-Dec)

( billion yen )

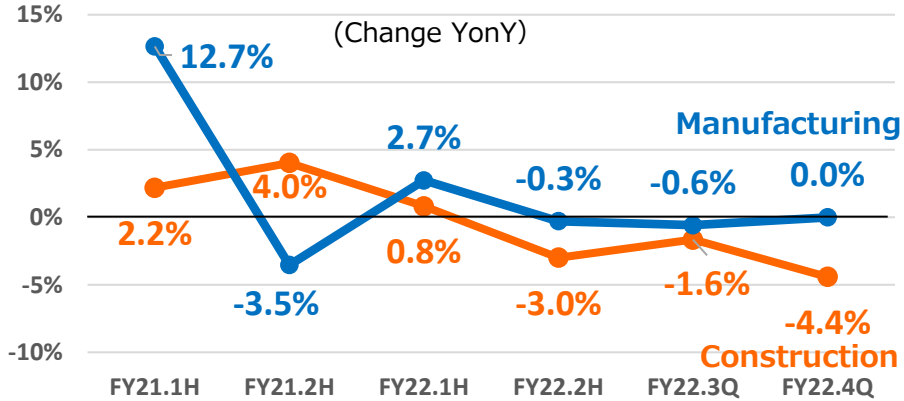
| JFE Steel | FY2021 Apr-Dec | FY2022 1H | FY2022 3Q | FY2022 Apr-Dec | Change |
|---|---|---|---|---|---|
| Segment Profit | **252.0** | 148.2 | 21.8 | **170.0** | **(82.0)** |
| Excluding Inventory Valuation etc. | 65.0 | 32.2 | 22.8 | 55.0 | (10.0) |

| | | |
|---|---|---|
| **1. Cost** | **+5.0** | • Cost reduction progress despite Chiba No.6 blast furnace refit |
| **2. Volume and Mix** | **(18.0)** | • Volume -20.0, Mix +2.0 |
| **3. Sales and Raw materials** | **+182.0** | • Improve spreads due to the reflection of high prices of main raw materials, metals, and other commodities in selling prices |
| **4. Foreign exchange effects on trade** | **(75.0)** | • 1USD=111.0yen→1USD=135.7yen |
| **5. Inventory valuation** | **(72.0)** | • Inventory valuation-26.0 (+123.0→+97.0)<br>• Carry over-59.0 (+60.0→+1.0)<br>• Foreign exchange valuation+13.0(+4.0→+17.0) |
| **6. Others** | **(104.0)** | • Group companies-51.0<br>• Energy prices-36.0, etc |

# Current Business Environment (Domestic)

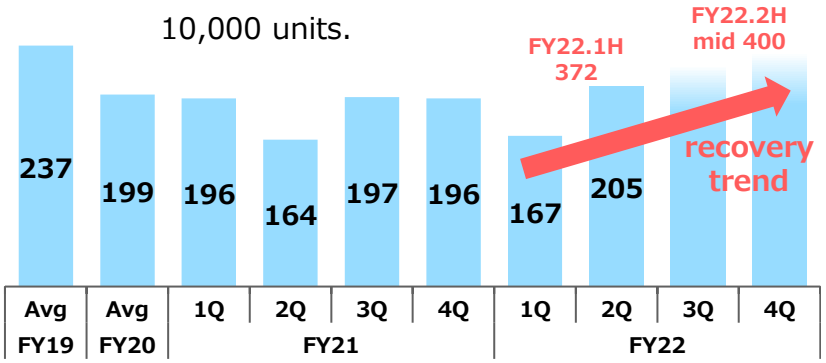
- **Domestic demand in the residential and civil engineering construction sectors is the postponed** and some **customer's production activity is slowing** due to a slowdown in overseas economies.
- **The level of activity in the auto sector** is slightly behind the previous forecast **but is improving.**

## 【Outlook for Domestic Ordinary Steel Consumption】




Source: Ministry of Economy, Trade and Industry, "Outlook for Steel Consumption" 24 December 2022. (FY2022.1H and after is estimated results)

## 【Outlook for Domestic Auto Production】



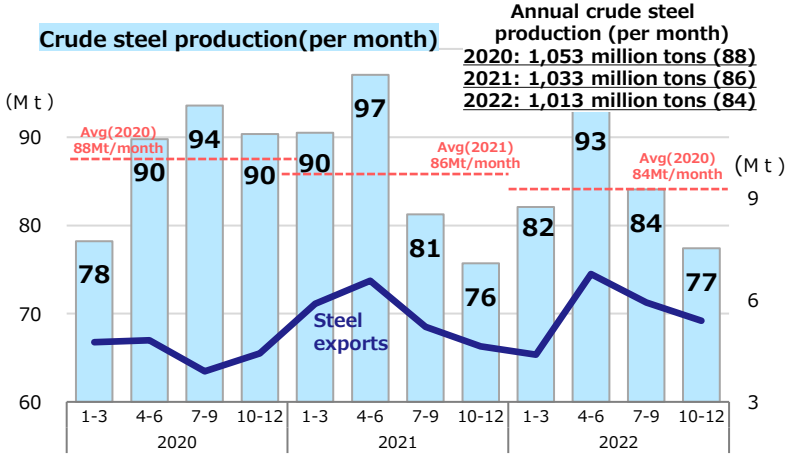

## 【Trend by Sector】

| | |
|---|---|
| Auto-mobile | • **Demand remains strong** and there is a large backlog of orders.<br>• Restrictions on the supply of semiconductors and other components are gradually ease and **the level of activity is expected to improve in the future**. |
| Ship-building | • Negotiation of new shipbuilding is deadlocked, however **the contract balance still remains for two years**.<br>• **The current level of activity is expected to remain stable over the next two to three years**, although there are soaring materials prices and labor shortages. |
| Other manufacturing | • **Orders for industrial machinery have slowed** due to the global economic slowdown.<br>• **The level of activity in construction equipment is strong**. The impact of declining housing investment in North America should be closely watched. Demand for steel materials is almost flat compared to the previous year. |
| Building | • In the non-residential use, **large projects such as distribution warehouses and semiconductor factories are steady, but small and medium-sized projects are still sluggish**.<br>• In residential properties, **the number of new housing starts has been sluggish** due to soaring materials prices.<br>• Demand for steel materials decreased slightly from the previous year. |
| Civil engineering | • In the public sector, a high level of budget has been secured, but **delays have become apparent due to design reviews** caused by soaring materials prices. Demand for steel materials decreased slightly from the previous year. |

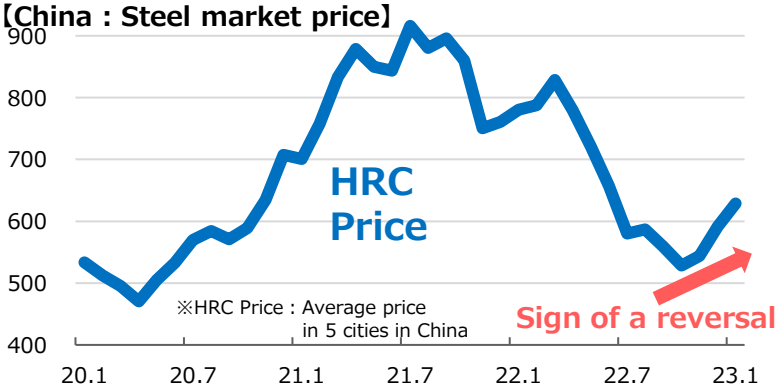
# Current Business Environment (Overseas)

- With weak domestic demand in China and the outlook uncertain in Europe and US due to the slowdown of economies, **demand for steel overseas is currently weak and there were moves to adjust inventories.**
- **The supply and demand for steel products and market conditions are expected to improve in the future** due to the economy recovery with a round of inventory adjustment, China's lifting of the zero-COVID policy and support measures for the real estate sector. **Moderate improvement are seen recently**.

【 crude steel production and steel exports in China 】




【China : Steel market price】




【Real GDP Growth Forecast in 2023】

(Arrows indicate changes from the previous forecast)

| | World | US | China | India | ASEAN-5 |
|---|---|---|---|---|---|
| 2022 Estimate | 3.4% | 2.0% | 3.0% | 6.8% | 5.2% |
| Oct. 2022 Forecast | 2.7% | 1.0% | 4.4% | 6.1% | 4.5% |
| Jan. 2023 Forecast | 2.9% → | 1.4% → | 5.2% ↗ | 6.1% → | 4.3% → |

Source: IMF World Economic Outlook Update October 14, 2022, January 31, 2023

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

【Trend by Sector】

| | |
|---|---|
| Thin Sheet | ・**Demand was generally weak** due to weak real estate market in China, inventory adjustment due to uncertainty about the future, and postponement of building demand in emerging countries due to weak currency and insufficient foreign exchange reserves.<br>・**A recovery is expected in the future, and moderate improvement was seen recently.** |
| Auto mobile | • **Demand remains firm and production levels gradually recover as supply constraints ease.**<br>• In Europe, production and sales were sluggish due to the situation in Ukraine and inflation. |
| Ship Building | ・Chinese and South Korean shipbuilding companies **secured stable contracts balance** by increasing new construction orders.<br>・It is assumed that there will be a delay in construction due to a shortage of workers, but there will be no significant impact. |
| Energy | ・**WTI crude oil prices remain in high range**. Development of alternatives to Russian crude oil and gas has progressed mainly in North America and the Middle East.<br>・**Inquiries increased mainly for high chromium seamless steel pipes**. |

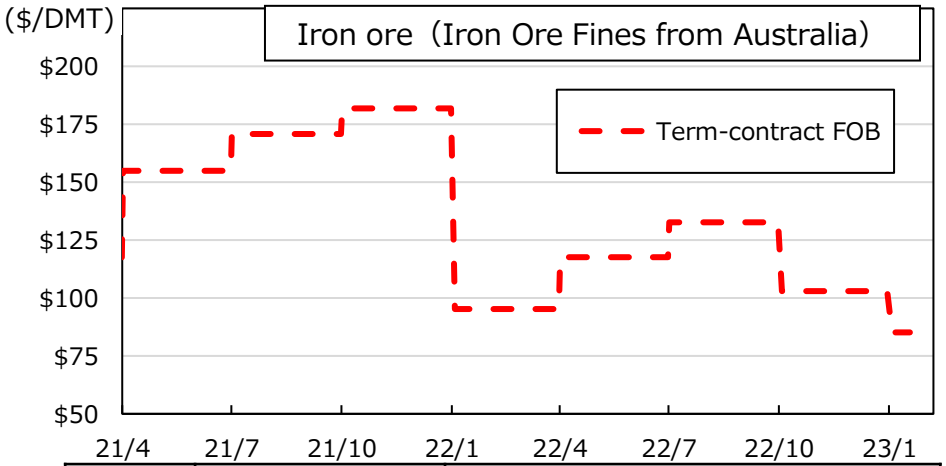
# Raw materials (Steel Business)

## ■ Key raw material

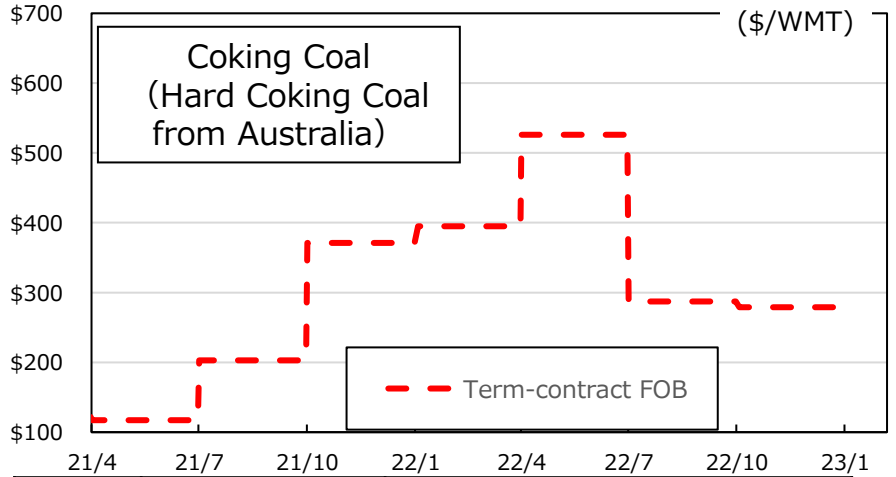
- Iron ore bottomed out at the end of October 2022 and **has been on an uptrend mainly** due to expectations of a recovery in demand for steel products following China's easing of its zero-coronavirus policy.
- Coking coal prices are on a downward trend from their recent peak due to the recent deterioration in overseas steel prices, **but it remain in the high range,** and is expected **to continue at current levels**.
- The effects **of reduced supplies due to weather** in Australia and Brazil, which have entered the rainy season, and **China's partial lifting of import restrictions on Australian coal** should be closely watched.

## ■ Metal and scrap

- Market have calmed down after a brief surge **but have remained relatively high.**




| Term-contract FOB | FY2021 | | FY2022 | | | |
|---|---|---|---|---|---|---|
| | Oct-Dec | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | Jan-Mar |
| $/DMT | 182 | 95 | 118 | 133 | 103 | 85 |




| Term-contract FOB | FY2021 | | FY2022 | | | |
|---|---|---|---|---|---|---|
| | Oct-Dec | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | Jan-Mar |
| $/WMT | 371 | 395 | 526 | 287 | 279 | – |

# 15.0bn. Decrease in JFE Steel's Segment Profit (FY2022 (Previous Forecast) vs. FY2022(Updated Forecast))

(billion yen)

| JFE Steel | FY2022 Previous Forecast | FY2022 Updated Forecast | Change |
|---|---|---|---|
| Segment Profit | **165.0** | **150.0** | **(15.0)** |
| Excluding Inventory Valuation etc. | 83.0 | 77.0 | (60) |

| | | |
|---|---|---|
| **1. Cost** | **(10.0)** | • Cost increases due to production reduction |
| **2. Volume and Mix** | **(20.0)** | • Volume -20.0 |
| **3. Sales and Raw materials** | **+20.0** | • Reflect high prices of main raw materials, metals, and other commodities quickly in selling prices to further improve spreads |
| **4. Foreign exchange effects on trade** | **+14.0** | • 1USD=138yen(about)→1USD=135yen(about) |
| **5. Inventory valuation** | **(9.0)** | • Inventory valuation+12.0 (+72.0→+84.0)<br>• Carry over-6.0 (-19.0→-25.0)<br>• Foreign exchange valuation-15.0 (+29.0→+14.0) |
| **6. Others** | **(10.0)** | • Group companies-6.0<br>• Energy prices -6.0, etc. |

# 173.7Bn. Decrease in JFE Steel's Segment Profit (FY2021 (Actual) vs. FY2022 (Forecast))

(billion yen)

| JFE Steel | FY2021 Actual | FY2022 Forecast | Change |
|---|---|---|---|
| Segment Profit | **323.7** | **150.0** | **(173.7)** |
| Excluding Inventory Valuation etc. | 129.7 | 77.0 | (52.7) |

| | | |
|---|---|---|
| **1. Cost** | **±0** | • Positive : Promote cost reductions<br>Negative: Chiba No.6 blast furnace refit and cost increases due to production reduction. |
| **2. Volume and Mix** | **(30.0)** | • Volume -35.0, Mix +5.0 |
| **3. Sales and Raw materials** | **+220.0** | • Improve spreads due to the reflection of high prices of main raw materials, metals, and other commodities in selling prices |
| **4. Foreign exchange effects on trade** | **(91.0)** | • 1USD=112.1yen→1USD=135yen(about) |
| **5. Inventory valuation** | **(121.0)** | • Inventory valuation -76.0 (+160.0→+84.0)<br>• Carry over-48.0 (+23.0→-25.0)<br>• Foreign exchange valuation+3.0 (+11.0→+14.0) |
| **6. Others** | **(151.7)** | • Group companies-73.5<br>• Energy prices -51.0, etc. |

# 146.4Bn. Yen Decrease in JFE Steel's Segment Profit (FY2022.1H vs. FY2022.2H)

(billion yen)

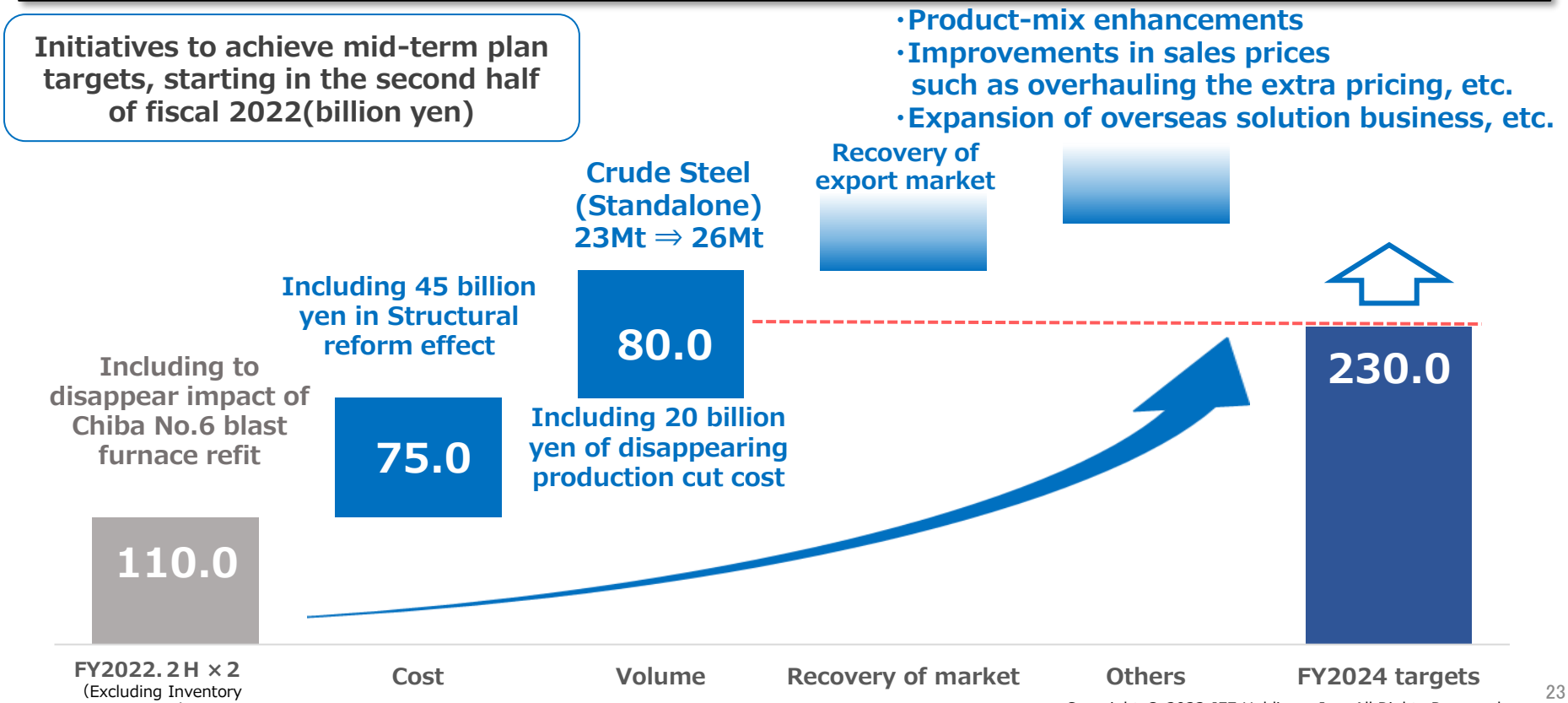
| JFE Steel | FY2022 Forecast | | | Change |
|---|---|---|---|---|
| | 1H Actual | 2H Forecast | Full Year | |
| Segment Profit | **148.2** | **1.8** | 150.0 | **(146.4)** |
| Excluding Inventory Valuation etc. | 32.2 | 44.8 | 77.0 | 12.6 |

| | | |
|---|---|---|
| **1. Cost** | **(10.0)** | • Positive : Promote cost reductions<br>Negative: Chiba No.6 blast furnace refit and cost increases due to production reduction. |
| **2. Volume and Mix** | **(21.0)** | • Volume -24.0, Mix +3.0 |
| **3. Sales and Raw materials** | **+117.0** | • Reflect high prices of main raw materials, metals, and other commodities quickly in selling prices to further improve spreads |
| **4. Inventory valuation** | **(159.0)** | • Inventory valuation -80.0 (+82.0→+2.0)<br>• Carry over-35.0 (+5.0→-30.0)<br>• Foreign exchange valuation-44.0(+29.0→-15.0) |
| **5. Others** | **(73.4)** | • Foreign exchange effects on trade -9.0 (1USD=131.6yen→1USD=137yen(about)<br>• Group companies-25.0<br>• Energy prices -21.0, etc. |

# Initiatives toward achieving the 7th mid-term plan from 2nd half of FY2022

- In the second half of FY2022, segment profit excluding Inventory Valuation etc.(including **Disappear impact of Chiba No.6 blast furnace refit**) in the steel business is expected to be **about 110 billion yen on an annual basis**.
- We will implement various measures, including the Shut down of upstream facilities in Keihin planned for next fiscal year, and aim to exceed the performance target of 230 billion yen in FY2024.

**Initiatives to achieve mid-term plan targets, starting in the second half of fiscal 2022(billion yen)**



# JFE Engineering
## Financial Forecast for Fiscal Year 2022

# Financial Forecast for Fiscal Year 2022

## Current Business Environment/Overview of Financial Status

- Orders remain strong, but **losses from European construction projects have been significant**.
- Full-year segment profit is expected to **fall to ¥13.0bn.** (decrease by ¥7.0bn. from previous forecast)

| Financial Forecast (billion yen) | FY2021 Actual 2H | FY2021 Actual Full Year | FY2022 Forecast (Updated) 2H | FY2022 Forecast (Updated) Full Year | Change FY2021→FY2022 (Updated forecast) 2H | Change FY2021→FY2022 (Updated forecast) Full Year | FY2022 Forecast (Previous) 2H | FY2022 Forecast (Previous) Full Year |
|---|---|---|---|---|---|---|---|---|
| Orders | 253.5 | 505.8 | **264.0** | **550.0** | 10.5 | 44.2 | 264.0 | 550.0 |
| Revenue | 278.9 | 508.2 | **301.0** | **520.0** | 22.1 | 11.8 | 301.0 | 520.0 |
| Segment Profit | 14.8 | 26.0 | **16.9** | **13.0** | 2.1 | (13.0) | 23.9 | 20.0 |

Compared to previous forecast (segment profit)

<Full-year (7.0)> **Loss on constructions in Europe (5.5)**

- Cost increases due to construction delays caused by shortages of materials/equipment and manpower resulting from the prolonged situation in Ukraine. ・・・ (3.5)
- Delay in obtaining additional fees from customers (Delay for next fiscal year and beyond) ・・・ (2.0)

**Rising price of rising price of utilities (1.5)**

# JFE Shoji
# Financial Forecast for Fiscal Year 2022

# Financial Forecast for Fiscal Year 2022

## Current Business Environment/Overview of Financial Status

- Full-year segment profit is expected to be **¥60bn.**
  (As the previous forecast is, increased by ¥4.1bn. year-on-year)

## Financial Forecast

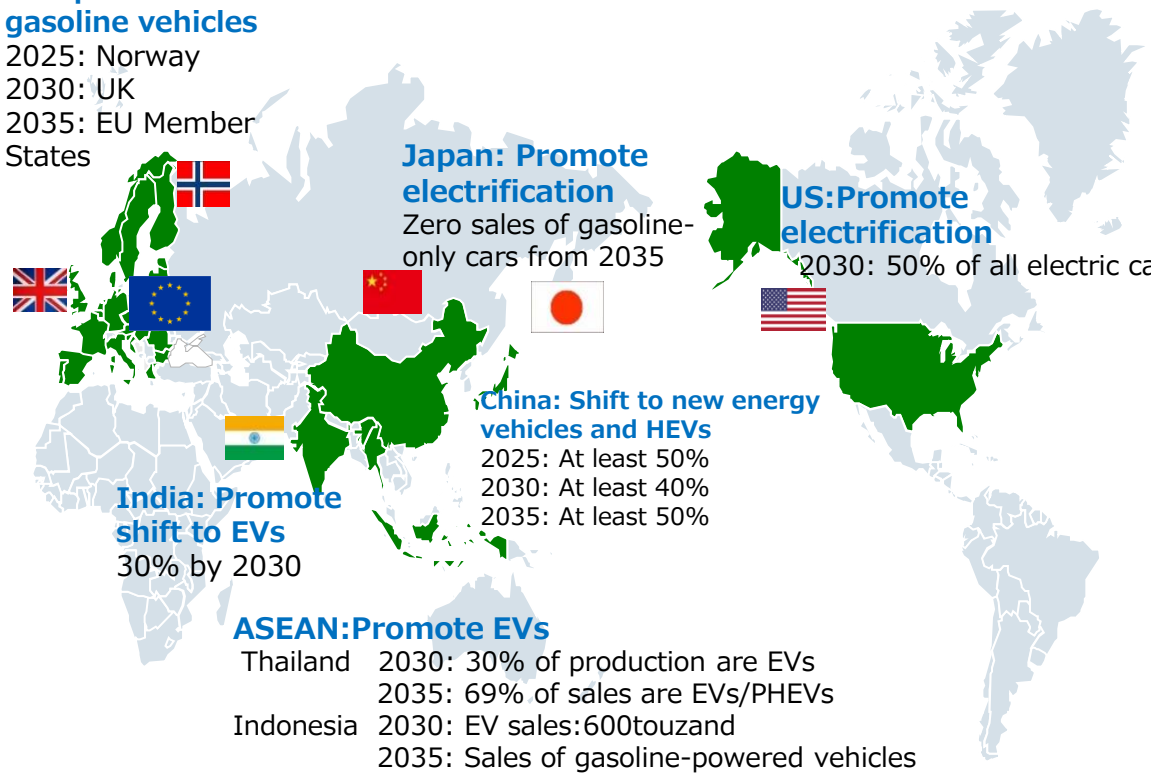
| (billion yen) | FY2021 Actual 2H | FY2021 Actual Full Year | FY2022 Forecast (Updated) 2H | FY2022 Forecast (Updated) Full Year | Change FY2021 →FY2022 (Updated forecast) 2H | Change FY2021 →FY2022 (Updated forecast) Full Year | FY2022 Forecast (Previous) 2H | FY2022 Forecast (Previous) Full Year |
|---|---|---|---|---|---|---|---|---|
| Revenue | 687.3 | 1,231.7 | **739.8** | **1,490.0** | 52.5 | 258.3 | 739.8 | 1,490.0 |
| Segment Profit | 30.3 | 55.9 | **19.4** | **60.0** | (10.9) | 4.1 | 19.4 | 60.0 |

# Topics

# Consideration of expand manufacturing facilities for non-oriented electrical steel sheet

- As the electrification of automobiles accelerates with the strengthening of environmental regulations worldwide, **the demand for high-grade non-oriented electrical steel sheet(N/O) for the main engine motors of electric vehicles will rapidly increase**. Therefore, supply and demand are expected to tighten.

## Regulations for automobiles (electrification)



**Europe: Ban sales of gasoline vehicles**
2025: Norway
2030: UK
2035: EU Member States

**Japan: Promote electrification**
Zero sales of gasoline-only cars from 2035

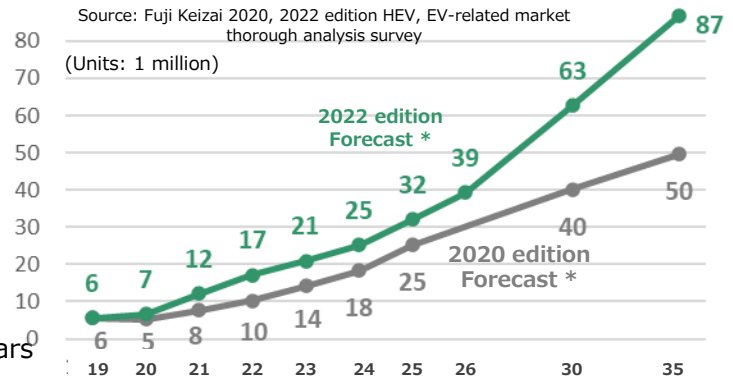
**US:Promote electrification**
2030: 50% of all electric cars

**China: Shift to new energy vehicles and HEVs**
2025: At least 50%
2030: At least 40%
2035: At least 50%

**India: Promote shift to EVs**
30% by 2030

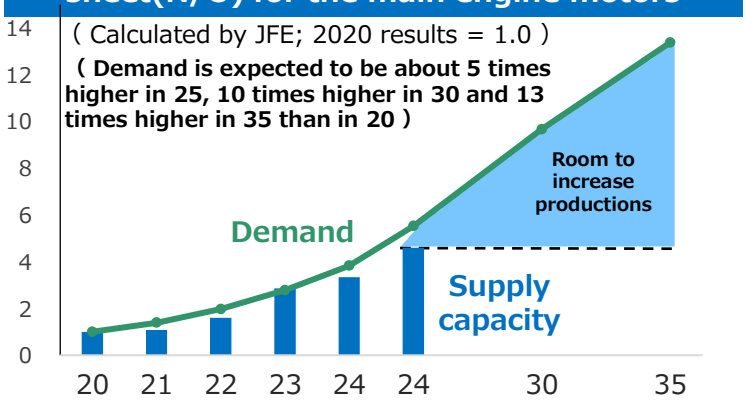
**ASEAN:Promote EVs**
Thailand 2030: 30% of production are EVs
2035: 69% of sales are EVs/PHEVs
Indonesia 2030: EV sales:600touzand
2035: Sales of gasoline-powered vehicles banned (all vehicles to be EVs)

## Electric Vehicle Global Demand Outlook




*20 edition forecast: Estimate in 20 and forecast thereafter.
22 edition forecast: Estimate in 22 and forecast thereafter.

## Prediction of global demand and supply of high-grade non-oriented electrical steel sheet(N/O) for the main engine motors



# Consideration of expand manufacturing facilities for non-oriented electrical steel sheet

- We are considering **further capacity expansion of non-oriented electrical steel sheet(N/O)** in response to increased demand. (**Plan; starting operation in fiscal 26, with top grade N/O for the main engine motors of electric vehicle 3 times higher than the current level**)
- In anticipation of increased global demand, we will continue to consider increasing our supply capacity in Japan and overseas.

**Japan**

**Expand manufacturing facilities for non-oriented electrical steel sheet (N/O) in Kurashiki district**

| | |
|---|---|
| **Apr.21 Release** | |
| Total investment | Approx. 49 billion yen |
| Operation start | First half of FY2024 |
| Production capacity | **Double current production capacity** for high-grade non-oriented electrical steel sheets |
| **Feb. 23 Release** | |
| Total investment (plan) | Approx. 50 billion yen |
| Operation start(plan) | FY2026 |
| Production capacity (plan) | **Triple current production capacity** for top-grade non-oriented electrical steel sheets used in the main engine motors of electric vehicles |

## Aim of the main engine motors of electric vehicles

◇**Higher efficiency (improve electricity)**

**-- > More cruising distance and save battery usage**

◇**High speed rotation and high power**

**-- > Downsizing and weight reduction**

## Performance Requirements for non-oriented electrical steel sheet and JFE's efforts

**Low iron loss**

The challenge is to be compatible

**High magnetic flux density**

The challenge is to be compatible

**High Strength**

**JFE's original technology achieves all required performance in high dimensions. (Top Grade N/O)**

In addition to our product development and production technology capabilities, we can use the Group's extensive supply chain to increase production and sell top-grade N/O.

# DX Report

- We have published「DX report 2022」to describe JFE's initiatives for DX. Visit our company website.
  *English version is coming soon.
  <URL : https://www.jfe-holdings.co.jp/investor/library/dxreport/index.html>

## Table of Contents



# Appendix(1)
# Profit/Loss Analysis

# Main Financial Data

## J-GAAP

| | FY14 | FY15 | FY16 | FY17 | FY18 |
|---|---|---|---|---|---|
| (bn. Yen, times) | | | | | |
| Ordinary Income | 231.0 | 64.2 | 84.7 | 216.3 | 221.1 |
| EBITDA | 421.5 | 254.4 | 279.9 | 388.8 | 405.9 |
| ROS | 6.0% | 1.9% | 2.6% | 5.9% | 5.6% |
| ROE | 7.7% | 1.8% | 3.7% | 7.6% | 8.3% |
| ROA | 5.5% | 1.7% | 2.3% | 5.2% | 5.1% |
| Debt Outstanding | 1,501 | 1,379 | 1,375 | 1,331 | 1,450 |
| Debt/EBITDA Ratio | x3.6 | x5.4 | x4.9 | x3.4 | x3.6 |
| D/E Ratio | 59.0% | 56.9% | 51.4% | 58.1% | 62.0% |
| | | | | | |
| Profit attributable to owners of parent (yen/share) | 241.6 | 58.4 | 117.8 | 250.8 | 285.0 |
| Dividend (yen/share) | 60 | 30 | 30 | 80 | 95 |
| Pay-out Ratio | 24.8% | 51.4% | 25.5% | 31.9% | 33.3% |

## IFRS

| | FY18 | FY19 | FY20 | FY21 | '22 Forecast |
|---|---|---|---|---|---|
| (bn. Yen, times) | | | | | |
| Business profit | 232.0 | 37.8 | -12.9 | 416.4 | 235.0 |
| EBITDA ＊1 | 428.2 | 269.4 | 223.4 | 668.7 | 505.0 |
| ROS ＊2 | 6.0% | 1.0% | -0.4% | 9.5% | 4.5% |
| ROE ＊3 | 8.6% | -11.1% | -1.3% | 15.7% | 7.3% |
| ROA ＊4 | 5.0% | 0.8% | -0.3% | 8.4% | 4.4% |
| Interest-bearing debt outstanding | 1,524 | 1,814 | 1,806 | 1,849 | 1,950 |
| Debt/EBITDA multiple ＊5 | x3.6 | x6.7 | x8.1 | x2.8 | x3.9 |
| D/E Ratio ＊6 | 68.2% | 96.4% | 93.2% | 80.8% | 75.0% |
| | | | | | |
| Profit attributable to owners of parent (yen/share) | 283.8 | -343.4 | -38.0 | 500.1 | 258.9 |
| Dividend (yen/share) | 95 | 20 | 10 | 140 | 80 |
| Pay-out Ratio | 33.5% | – | – | 28.0% | 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.

# Main Financial Data and Performance & Profitability Targets

| | | 7th mid-term business plan FY2024 | FY2020 Actual | FY2021 Actual | FY2022 Forecast |
|---|---|---|---|---|---|
| Consolidated | Business profit | ¥320.0 billion | ¥-12.9 billion | ¥416.4 billion | **¥235.0 billion** |
| | Profit attributable to owners of the parent | ¥220.0 billion | ¥-21.8 billion | ¥288.0 billion | **¥150.0 billion** |
| | ROE | 10% | -1.3% | 15.7% | **7.3%** |
| | Debt/EBITDA | About 3x | 8.1x | 2.8x | **3.9x** |
| | D/E*1 | About 70% | 93.2% | 80.8% | **75.0%** |
| Operating companies | Steel business Profit per ton*2 | 10,000 yen/ton | -3,000 yen/ton | 14,000 yen/ton | **7,000 yen/ton** |
| | Steel business Segment profit | ¥230.0 billion | ¥65.4 billion | ¥323.7 billion | **¥150.0 billion** |
| | Engineering business Segment profit | ¥35.0 billion | ¥24.0 billion | ¥26.0 billion | **¥13.0 billion** |
| | Engineering business Revenue | ¥650.0 billion | ¥485.7 billion | ¥508.2 billion | **¥520.0 billion** |
| | Trading Business Segment profit | ¥40.0 billion | ¥20.0 billion | ¥55.9 billion | **¥60.0 billion** |
| | Payout ratio | 7th mid-term business plan Around 30% | – (10 yen) | 28.0% (140 yen) | **30.9% (80 yen)** |

*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)

# Progress of Cash Flow Improvements, Debt/EBITDA Ratio

➢ At the end of FY2022, the Debt/EBITDA ratio is expected to be x3.9.

**FY2022**

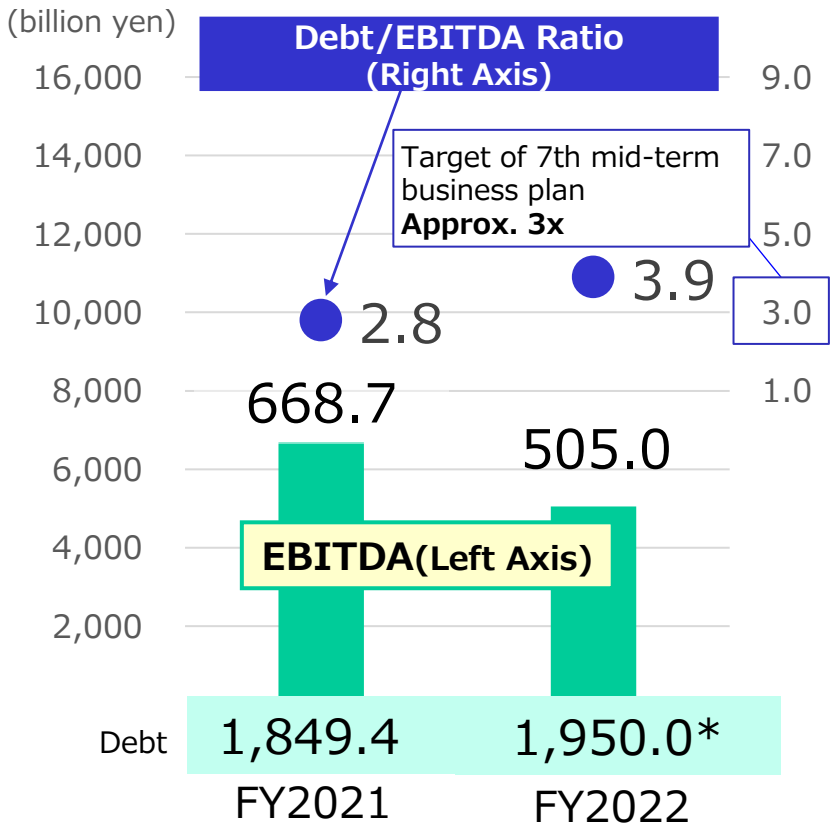
(billion yen)

## Consolidated Cash Flow Forecast

| Cash-in | | Cash-out | |
|---|---|---|---|
| Net Profit | **150.0** | CAPEX & Investments | **330.0** |
| Depreciation and Amortization | **270.0** | | |
| | | Dividend Payment | **75.0** |
| Asset Compression | **43.0** | Working Capital etc. | **158.0** |
| Debt | **100.0** | | |

* Debt is expected to increase by ¥100 bn. from FY2021 to FY2022. It includes ¥25 bn. increase by foreign currency translation impact due to the yen depreciation.

## Progress of Debt/EBITDA Ratio




■ EBITDA＝Business profit＋Depreciation and Amortization

■ Debt/EBITDA Ratio＝Interest-bearing debt outstanding/EBITDA

# Financial Results for Third Quarter of Fiscal Year 2022

| | Unit | FY2021 | | | | | FY2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1Q | 2Q | 3Q | 4Q | Full Year | 1Q | 2Q | 3Q |
| Revenue | billion yen | 638.5 | 771.9 | 832.8 | 930.2 | 3,173.4 | 932.6 | 986.3 | 986.9 |
| Segment Profit | billion yen | 69.7 | 88.8 | 93.5 | 71.7 | 323.7 | 93.0 | 55.2 | 21.8 |
| Excluding Inventory Valuation etc.* | billion yen | 25.7 | 42.8 | (3.5) | 64.7 | 129.7 | (23.0) | 55.2 | 22.8 |
| Crude Steel (Standalone) | Mt | 6.25 | 6.45 | 6.49 | 6.69 | 25.88 | 6.43 | 6.21 | 5.48 |
| Crude Steel (Consolidated) | Mt | 6.59 | 6.80 | 6.85 | 7.02 | 27.26 | 6.77 | 6.59 | 5.81 |
| Shipment (Standalone) | Mt | 5.26 | 5.56 | 5.63 | 5.92 | 22.38 | 5.54 | 5.32 | 5.25 |
| Export Ratio on Value Basis (Standalone) | % | 43.2 | 49.3 | 45.9 | 43.6 | 45.5 | 48.5 | 45.0 | 41.0 |
| Average Sales Price (Standalone) | 000 yen/ t | 87.6 | 101.0 | 107.6 | 116.7 | 103.7 | 126.7 | 136.7 | 136.3 |
| Exchange Rate | ¥/$ | 109.8 | 110.0 | 113.1 | 115.3 | 112.1 | 126.5 | 136.6 | 144.0 |
| Exchange Rate (End of Term) | ¥/$ | 110.6 | 111.9 | 115.0 | 122.4 | 122.4 | 136.7 | 144.8 | 132.7 |

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

# 33.4Bn. Yen Decrease in JFE Steel's Segment Profit (FY2022.2Q (Actual) vs. FY2022.3Q (Actual))

(billion yen)

| JFE Steel | FY2022 1Q Actual | FY2022 2Q Actual | FY2022 3Q Actual | FY2022 4Q Forecast | FY2022 Full Year Forecast | Change |
|---|---|---|---|---|---|---|
| Segment Profit | 93.0 | **55.2** | **21.8** | (20.0) | 150.0 | **(33.4)** |
| Excluding Inventory Valuation etc. | (23.0) | 55.2 | 22.8 | 22.0 | 77.0 | (32.4) |

| | | |
|---|---|---|
| **1. Cost** | **(5.0)** | • Chiba No.6 blast furnace refit |
| **2. Volume and Mix** | **(16.0)** | • Volume-17.0、Mix+1.0 |
| **3. Sales and Raw materials** | **+5.0** | • Improve spreads due to the reflection of high prices of main raw materials, metals, and other commodities in selling prices |
| **4. Inventory valuation** | **(1.0)** | • Inventory valuation -6.0 (+21.0→+15.0)<br>• Carry over+28.0 (-32.0→-4.0)<br>• Foreign exchange valuation-23.0(+11.0→-12.0) |
| **5. Others** | **(16.4)** | • Foreign exchange effects on trade -6.0 (1USD=136.6yen→1USD=144yen)<br>• Group companies -10.0, etc. |

# 41.8Bn. Yen Decrease in JFE Steel's Segment Profit (FY2022.3Q (Actual) vs. FY2022.4Q (Forecast))

(billion yen)

| JFE Steel | FY2022 1Q Actual | FY2022 2Q Actual | FY2022 3Q Actual | FY2022 4Q Forecast | FY2022 Full Year Forecast | Change |
|---|---|---|---|---|---|---|
| Segment Profit | 93.0 | **55.2** | **21.8** | (20.0) | 150.0 | **(41.8)** |
| Excluding Inventory Valuation etc. | (23.0) | 55.2 | 22.8 | 22.0 | 77.0 | (0.8) |

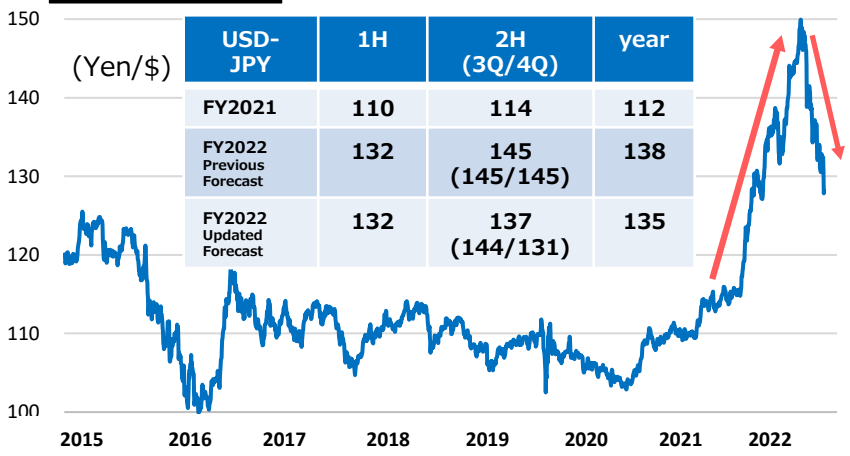
| | | |
|---|---|---|
| **1. Cost** | **±0** | |
| **2. Volume and Mix** | **+11.0** | ・Volume＋9.0、Mix＋2.0 |
| **3. Sales and Raw materials** | **(5.0)** | ・Sluggish market due to overseas economic slowdown |
| **4. Inventory valuation** | **(41.0)** | ・Inventory valuation -28.0 (+15.0→-13.0)<br>・Carry over-22.0 (-4.0→-26.0)<br>・Foreign exchange valuation+9.0(-12.0→-3.0) |
| **5. Others** | **(6.8)** | ・Increase in depreciation cost and other expenses etc. |

# Impact of the depreciation of the yen(Steel Business)

- **Currently, the yen is trending toward appreciation**, but compared to the past, the yen is still at a weaker level.
- The impact of foreign exchange effects on trade in FY2022 is expected to decrease by ¥91bn. (improve by ¥14bn. from previous forecast).
- We **promote to reflect the impact of the depreciation of the yen to sales price** by improving sales prices in the domestic market.

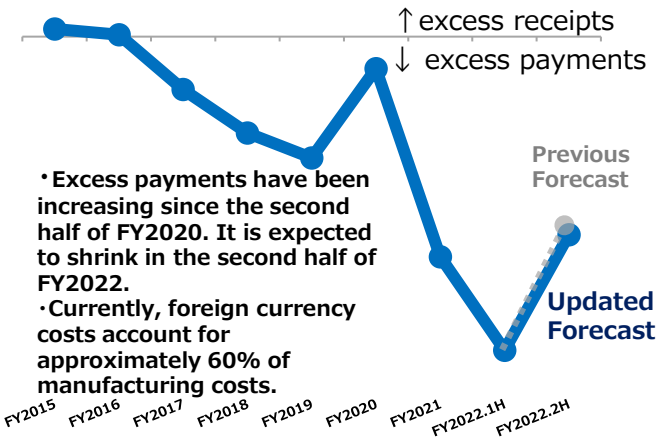
| | Sales environment | Manufacturing cost | Profit and Loss※1 |
|---|---|---|---|
| **Past** | Improving export competitiveness of customers/JFE Steel | A small portion of imported raw materials in manufacturing costs<br>=> Small impact of FOREX movements | Valuation : positive<br>effects on trade : neutral<br>(imports and exports) |
| **Now** | Parts supply constraints in the automotive sector and weak overseas steel market | Due to the soaring prices, a big portion of imported raw materials in manufacturing costs<br>=> Heavy impact of FOREX movements | Valuation : positive<br>effects on trade :Negative<br>(imports and exports) |

## USD-JPY trend




| USD-JPY | 1H | 2H (3Q/4Q) | year |
|---|---|---|---|
| FY2021 | 110 | 114 | 112 |
| FY2022 Previous Forecast | 132 | 145 (145/145) | 138 |
| FY2022 Updated Forecast | 132 | 137 (144/131) | 135 |

## FOREX balance of trade




- Excess payments have been increasing since the second half of FY2020. It is expected to shrink in the second half of FY2022.
- Currently, foreign currency costs account for approximately 60% of manufacturing costs.

(FY2015 ~ FY2021: half-year basis)

※1
**Valuation :**
Translational FOREX Impact concerning foreign currency assets, liabilities and overseas Gr companies' profit.

**effects on trade :**
Impact of FOREX movements on foreign currency trade (imports and exports) on earnings.

# Shifting Focus from Quantity to Quality

## (Progress of Structural Reform and Major CAPEX)

- Steadily implementing structural reforms and capital investment to shift from quantity to quality.
  - ✓ August 2022: **Shutdown of Tin Mills in Chiba was completed**, and production of steel sheet for cans was consolidated in Fukuyama.
  - ✓ January 2023**: Refit of No. 6 Blast Furnace in Chiba was completed.**

| Facilities | FY2022 | FY2021 | FY2022 | FY2023 | FY2024～ |
|---|---|---|---|---|---|
| Shutdown of Tin Mills in Chiba (No.2 Tandem Mill, No.4 CAL, TFL) | | | Shutdown(Aug. 2022) (No.2 Tandem Mill, No.4 CAL, TFL) ★ | | |
| Refit of Blast Furnace | | Kurashiki Refit No.4 BF(~Dec.2021) ☆ | No.6 BF(Sep.2022~Jan.2023) ★ | | |
| Shut down of upstream facilities in Keihin (No.2 BF, Sintering Machine, Coke oven, Converters, EAF, Continuous Casting Machine etc.) | | | | To be shut down (~Sep. 2023) ★ | Effect of structural reform and CAPEX |
| Shutdown of Hot Rolling Facilities in Keihin (excl. Pickling line and skinpass mill) | | | | To be shut down (~Sep. 2023) ★ | • Maintenance cost reduction<br>• Fixed cost reduction<br>• Product-mix enhancements etc. |
| CAPEX related to improvements of high-value added product ratio | | Installed new Continuous Casting Machine (Jun.2021) ★ | | Reinforce extra-thick steel plate production line for offshore wind-power application (Nov.2023) ★ | 1H of FY24 Reinforce Non-oriented Electrical Steel Sheet Production Line ★ |

### Shutdown of Tin Mills in Chiba

- August 2022: Shutdown of Tin Mills in Chiba was completed.
- Consolidation of manufacturing to Fukuyama and customer approval are progressing well.

### Refit of No. 6 Blast Furnace in Chiba

- Refit began in Sept. 22, and a blow-in was carried out in Jan. 23.
- Facility enhancements such as furnace stabilization and Cyber Physical Systems improvements are also planned.
- Investment: 43 billion yen/Furnace capacity after refit: 5,153m³

# Grain-Oriented Electrical-Steel-Sheet, Trading Business

## Steel Business

Overseas

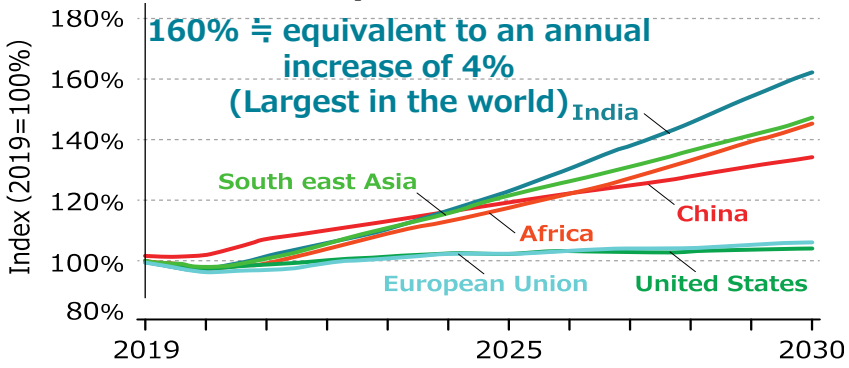
**To conduct FS of grain-oriented electrical-steel-sheet JV with JSW in India**

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.)

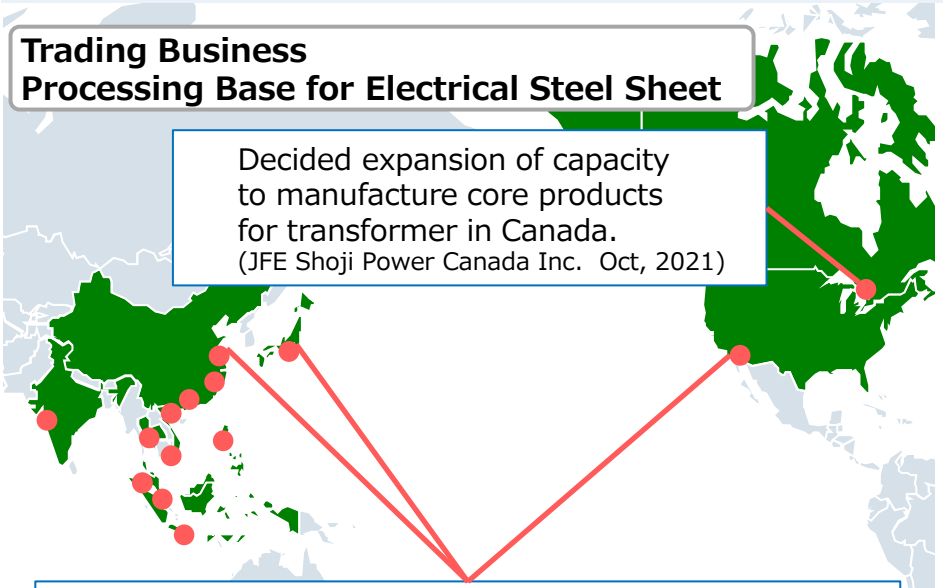
〈Electricity Needs in India〉




## Trading Business

**Establish No.1 global distribution and processing system of electrical steel sheet market**

**Promote the investment to capture the growth demand** for in-vehicle motors and transformers inside and outside Japan.



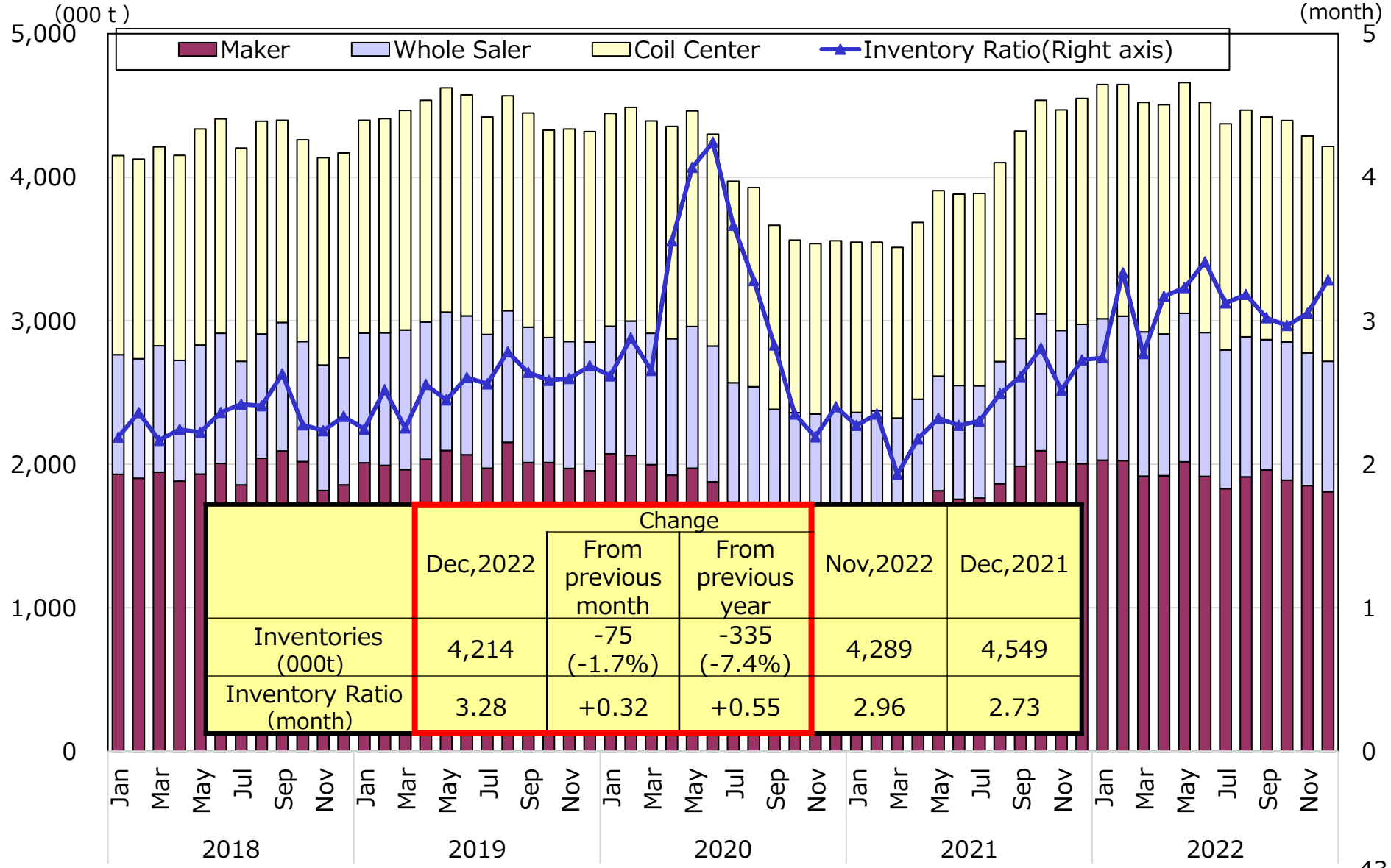

Decided expansion of capacity to manufacture in-vehicle motor core products.

- China Jiangsu JFE Shoji Steel Products Co., Ltd. Nov, 2021
- Japan JFE Shoji Electrical Steel Co.,LTD. Apr, 2022
- USA JFE Shoji Steel America Inc. Jul, 2022

# Appendix(2)
# Business Environmental Indicators, etc.

# Domestic Market Environment

## Combined Inventories of HR, CR and Coated Steel Sheet

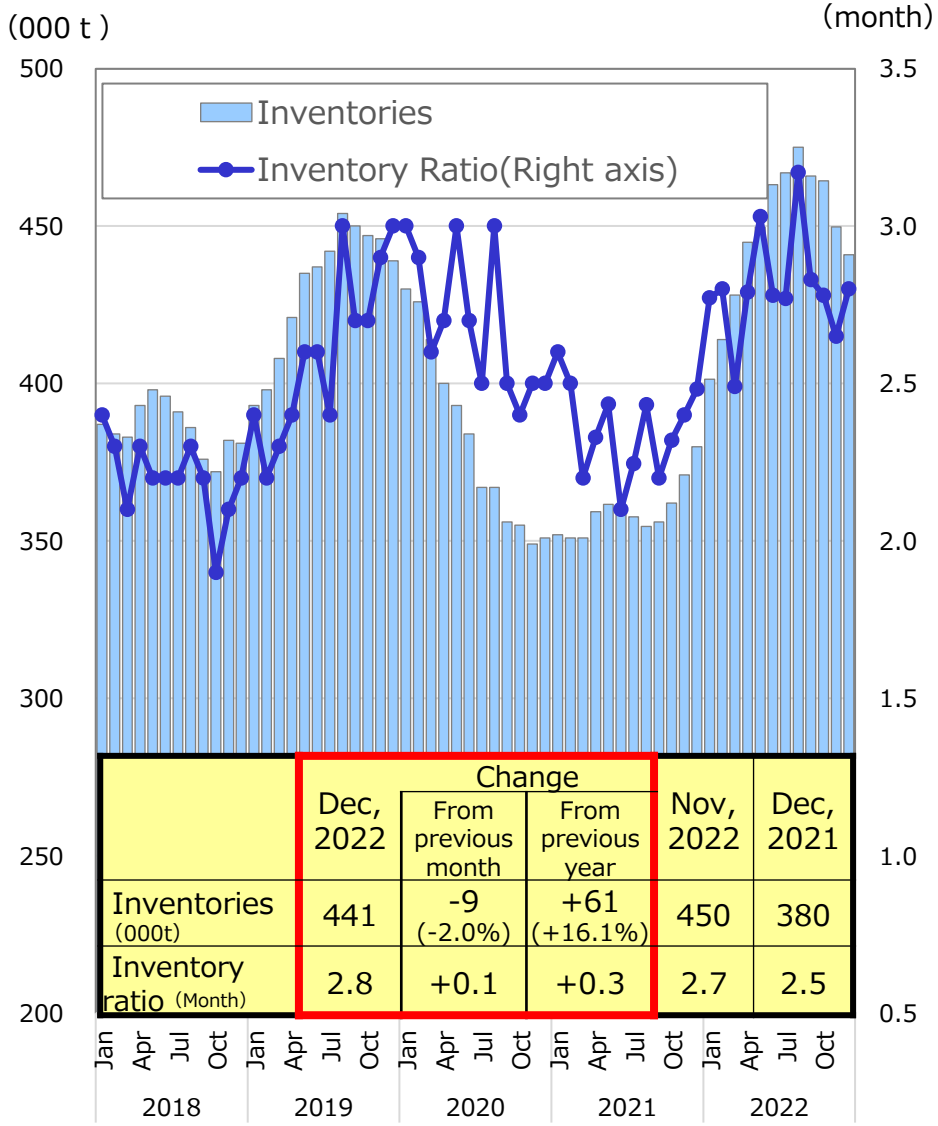



| | Dec,2022 | Change: From previous month | Change: From previous year | Nov,2022 | Dec,2021 |
|---|---|---|---|---|---|
| Inventories (000t) | 4,214 | -75 (-1.7%) | -335 (-7.4%) | 4,289 | 4,549 |
| Inventory Ratio (month) | 3.28 | +0.32 | +0.55 | 2.96 | 2.73 |

# Domestic Market Environment

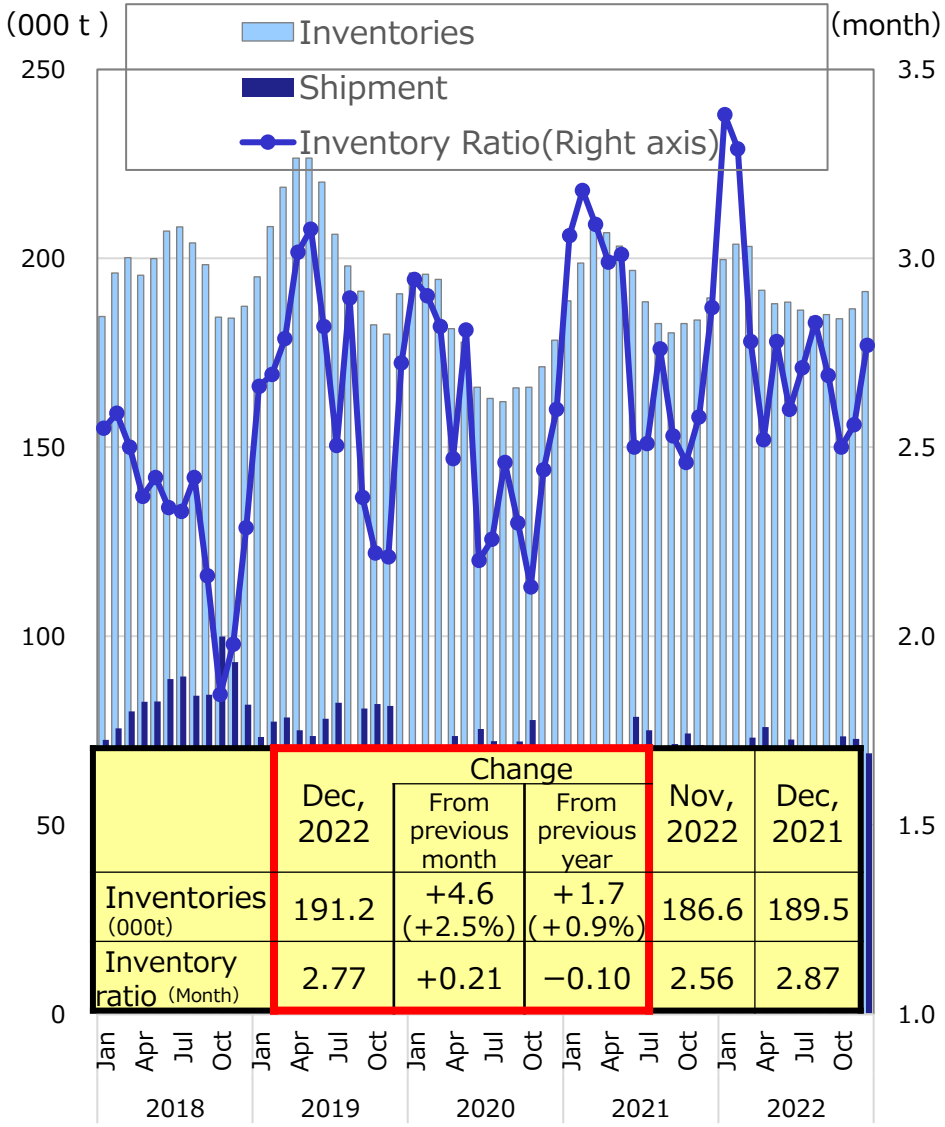
## Inventories of Plate (Plate Shear) and Wide Flange Shapes

### Inventories of Plate (Plate Shear)




| | Dec, 2022 | Change: From previous month | Change: From previous year | Nov, 2022 | Dec, 2021 |
|---|---|---|---|---|---|
| Inventories (000t) | 441 | -9 (-2.0%) | +61 (+16.1%) | 450 | 380 |
| Inventory ratio (Month) | 2.8 | +0.1 | +0.3 | 2.7 | 2.5 |

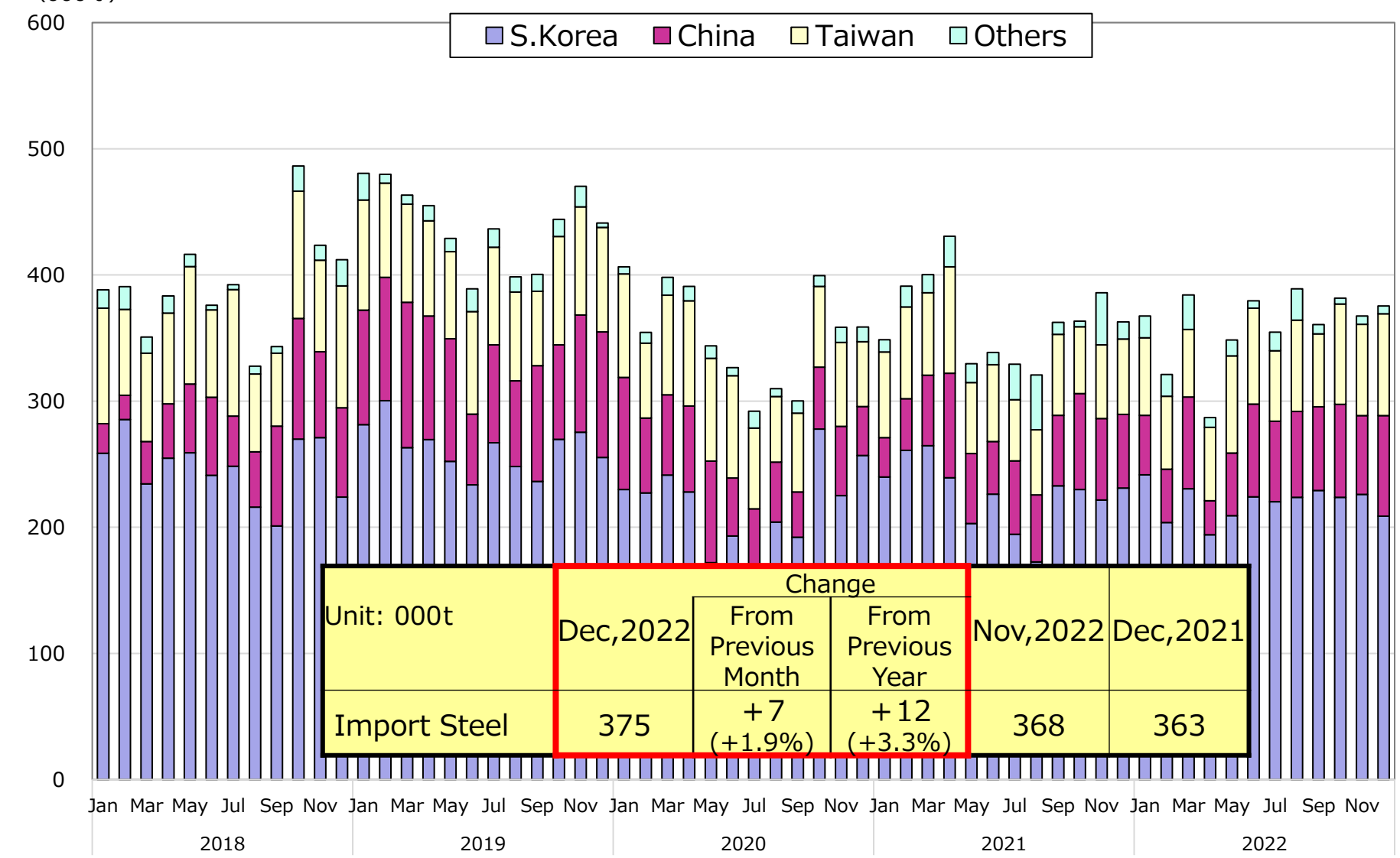
### Inventories of Wide Flange Shapes




| | Dec, 2022 | Change: From previous month | Change: From previous year | Nov, 2022 | Dec, 2021 |
|---|---|---|---|---|---|
| Inventories (000t) | 191.2 | +4.6 (+2.5%) | +1.7 (+0.9%) | 186.6 | 189.5 |
| Inventory ratio (Month) | 2.77 | +0.21 | −0.10 | 2.56 | 2.87 |

# Domestic Market Environment

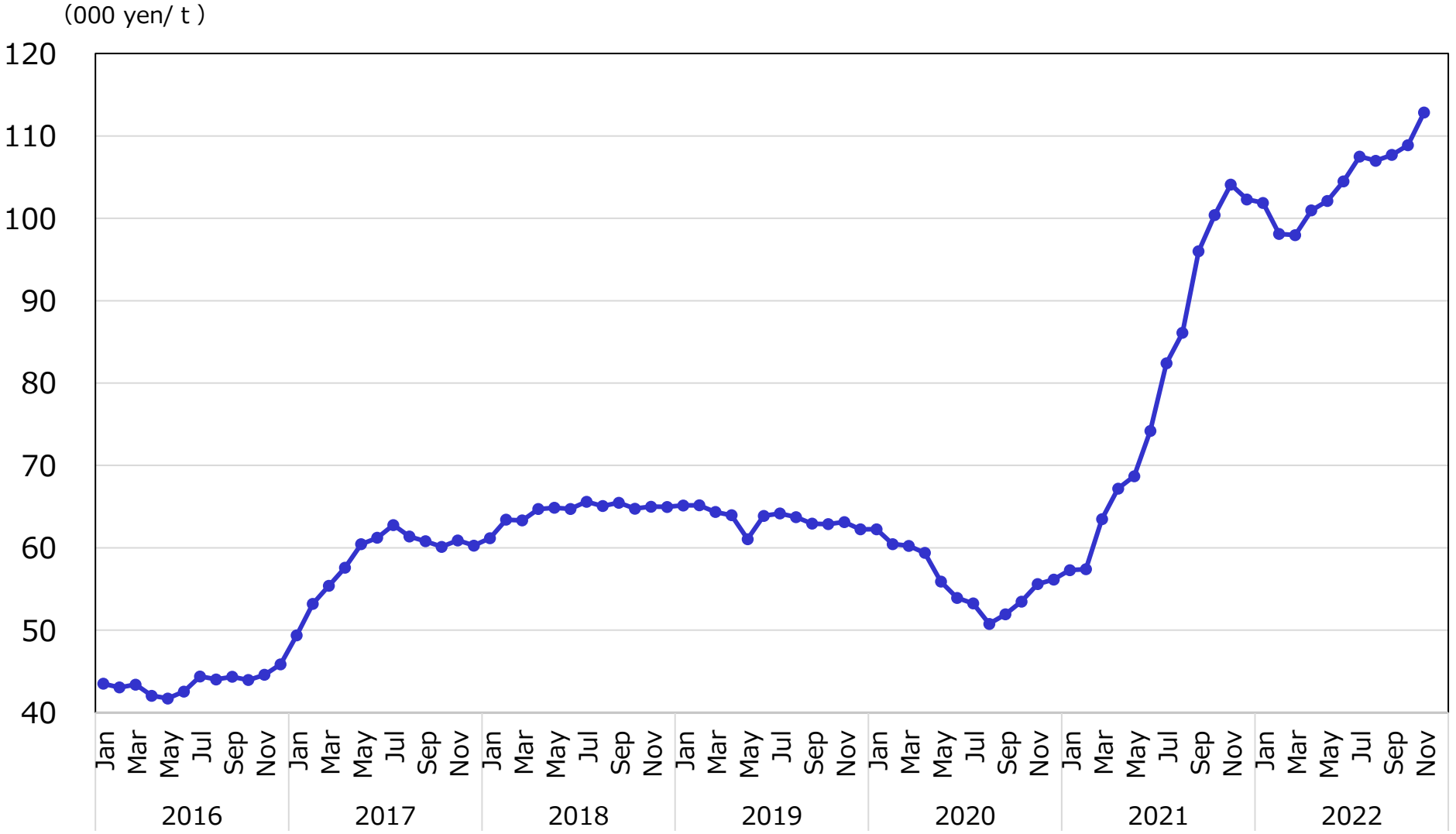
## Trend of Import Steel (Ordinary Steel)




| Unit: 000t | Dec,2022 | Change From Previous Month | Change From Previous Year | Nov,2022 | Dec,2021 |
|---|---|---|---|---|---|
| Import Steel | 375 | +7 (+1.9%) | +12 (+3.3%) | 368 | 363 |

Domestic Market Environment

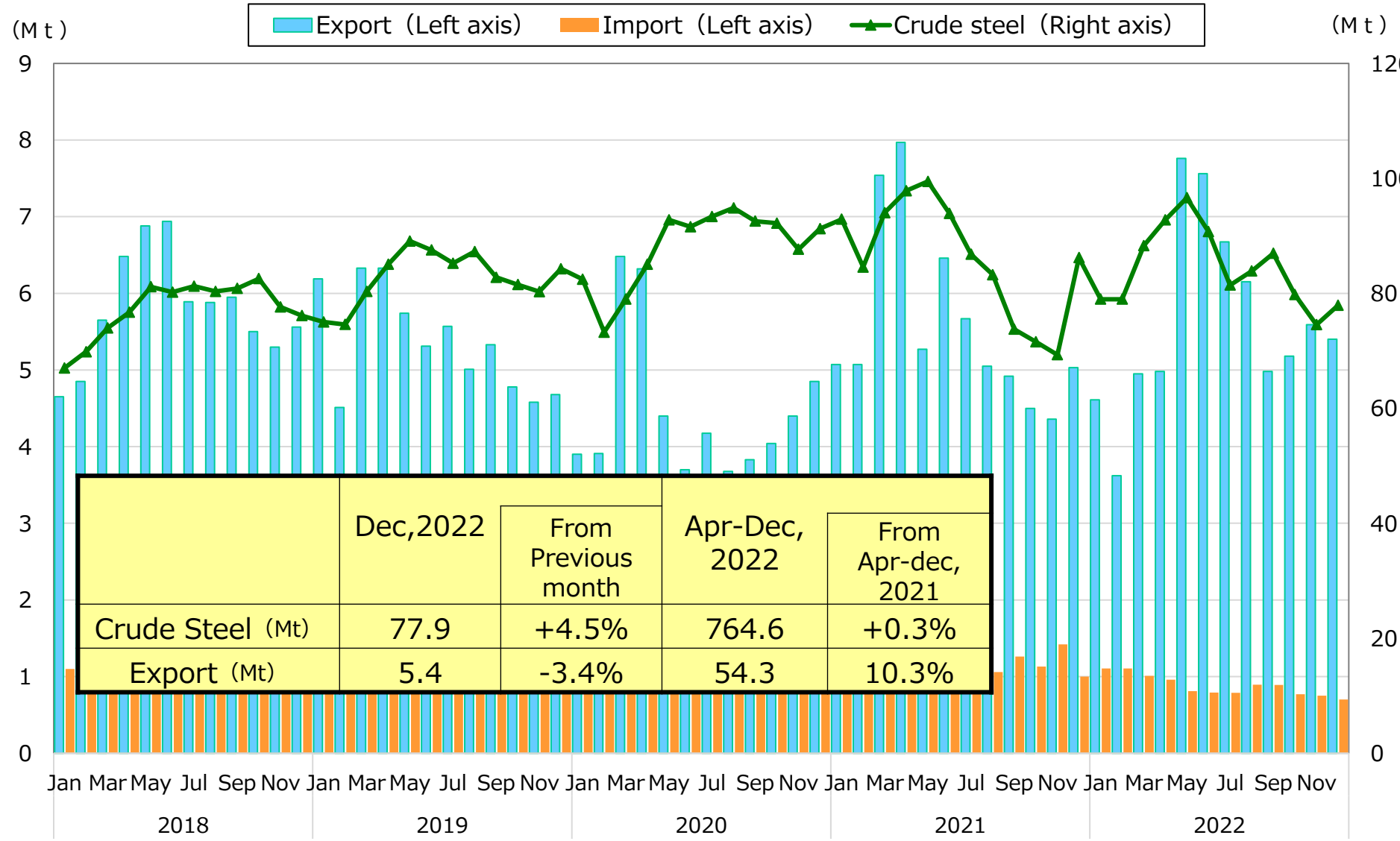
# Price Trend of Import Steel




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

Overseas Market Environment

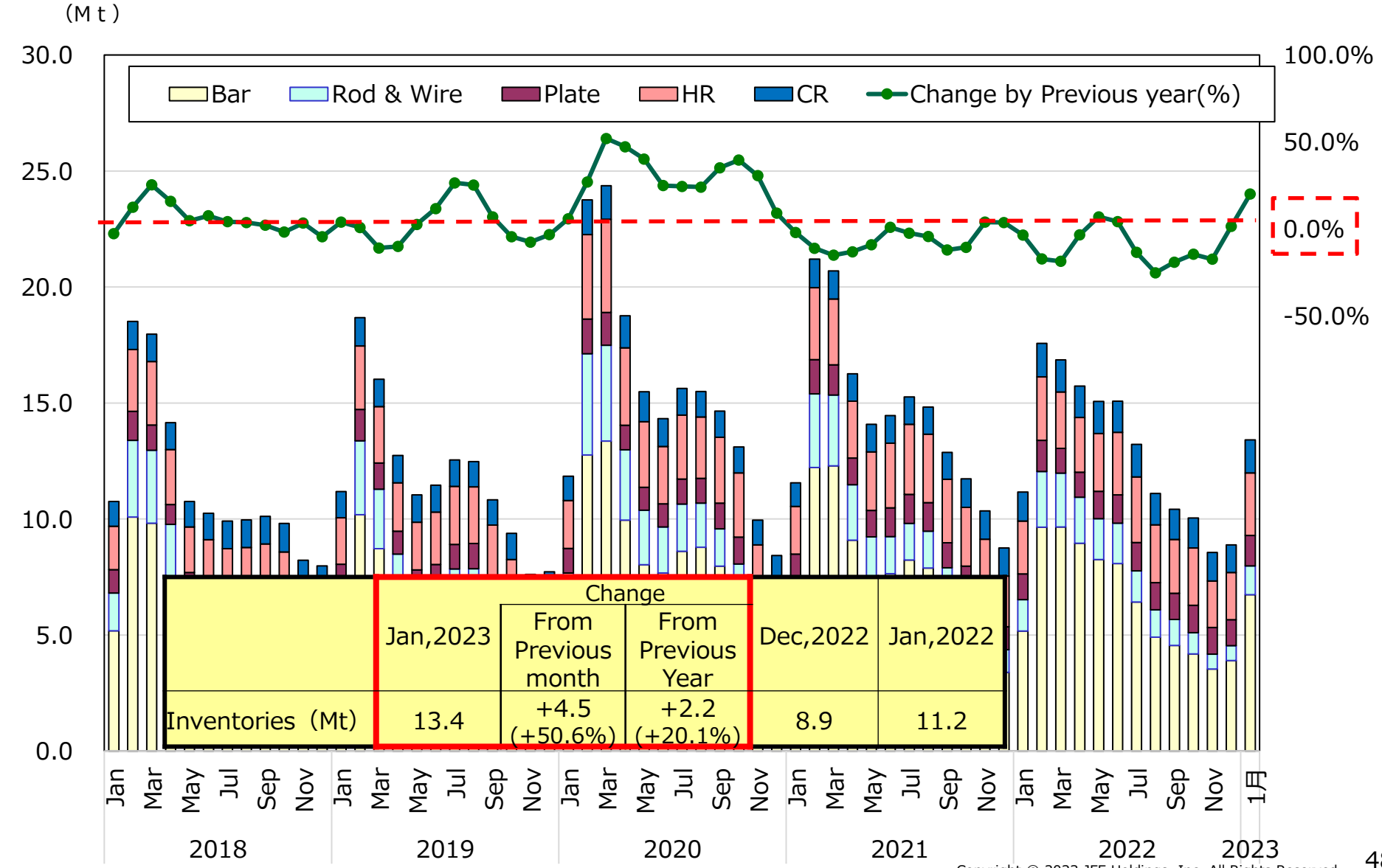
# Crude Steel & Im/Export, China




| | Dec,2022 | From Previous month | Apr-Dec, 2022 | From Apr-dec, 2021 |
|---|---|---|---|---|
| Crude Steel (Mt) | 77.9 | +4.5% | 764.6 | +0.3% |
| Export (Mt) | 5.4 | -3.4% | 54.3 | 10.3% |

Overseas Market Environment

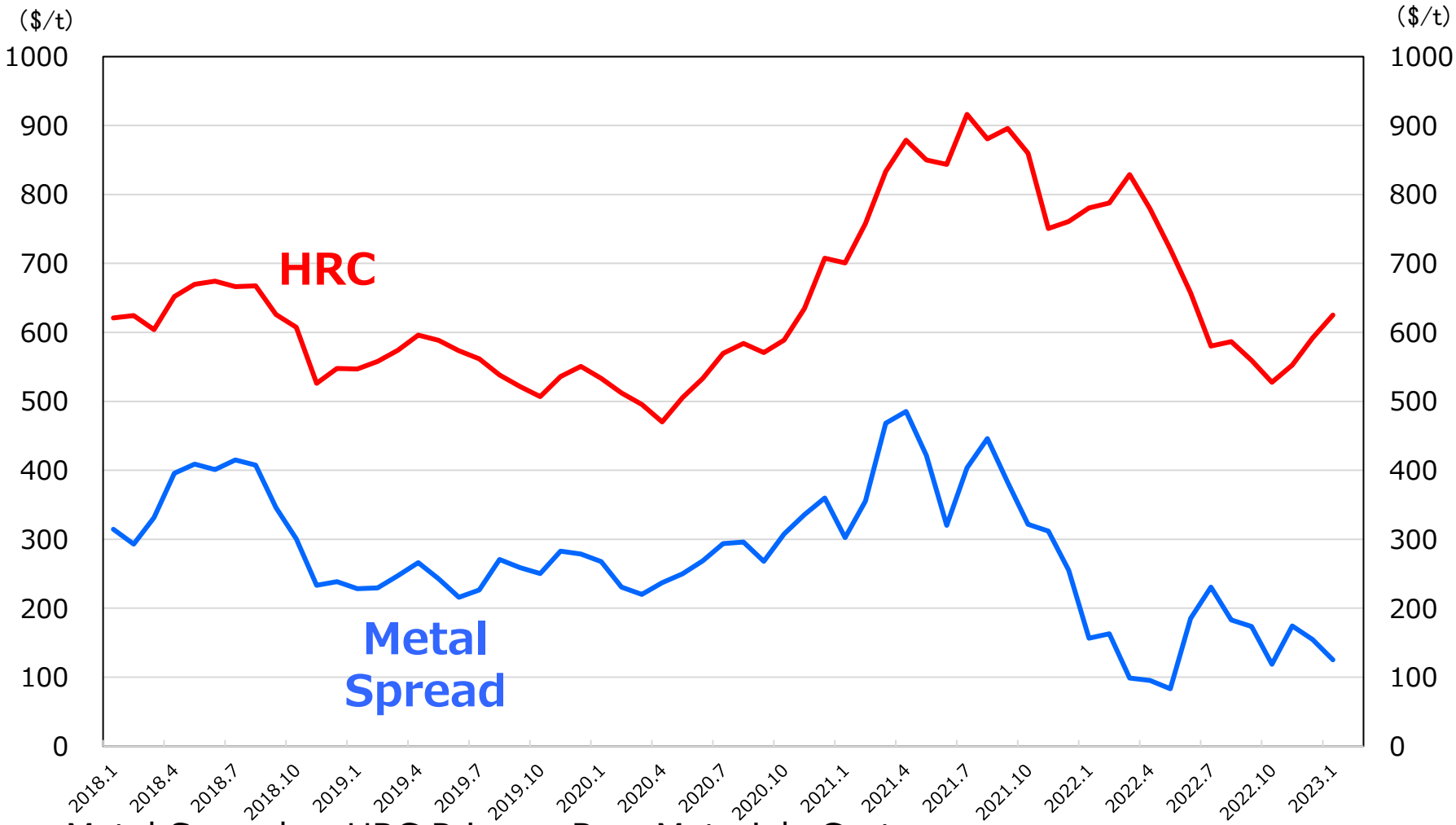
# Inventories in China by Product




| | Jan,2023 | Change: From Previous month | Change: From Previous Year | Dec,2022 | Jan,2022 |
|---|---|---|---|---|---|
| Inventories (Mt) | 13.4 | +4.5 (+50.6%) | +2.2 (+20.1%) | 8.9 | 11.2 |

Overseas Market Environment

# Metal Spread Trend (Chinese Spot Basis)




Metal Spread = HRC Price − Raw Materials Cost

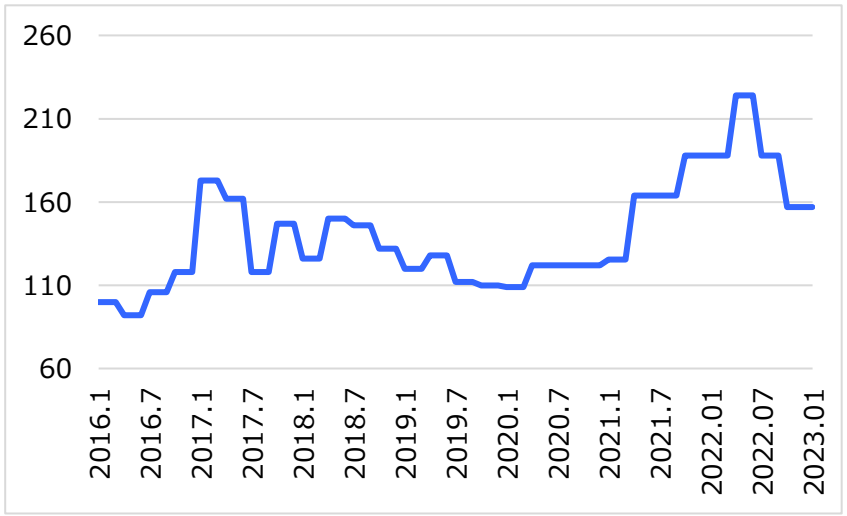
*HRC Price : Chinese Spot basis

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

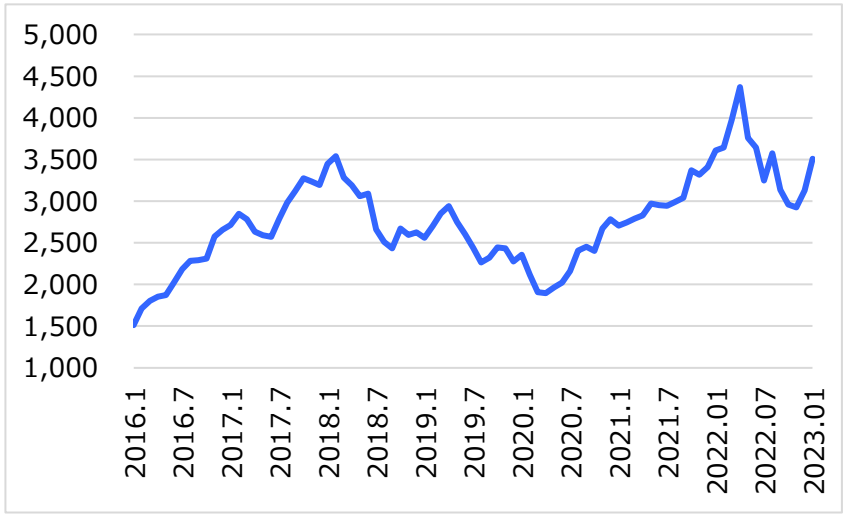
# Raw Materials

# Trend of Sub Material's Market Price

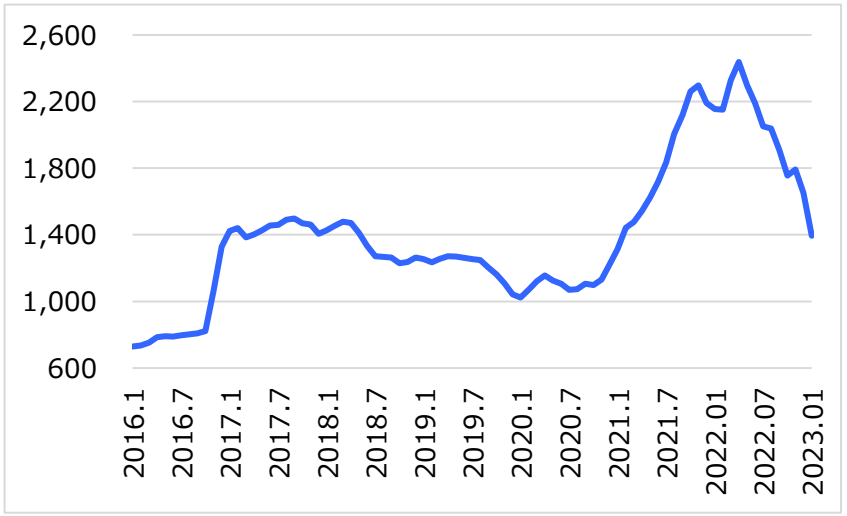
(¢/lb) FeCr




(US$/t) Zn




(US$/t)FeMn

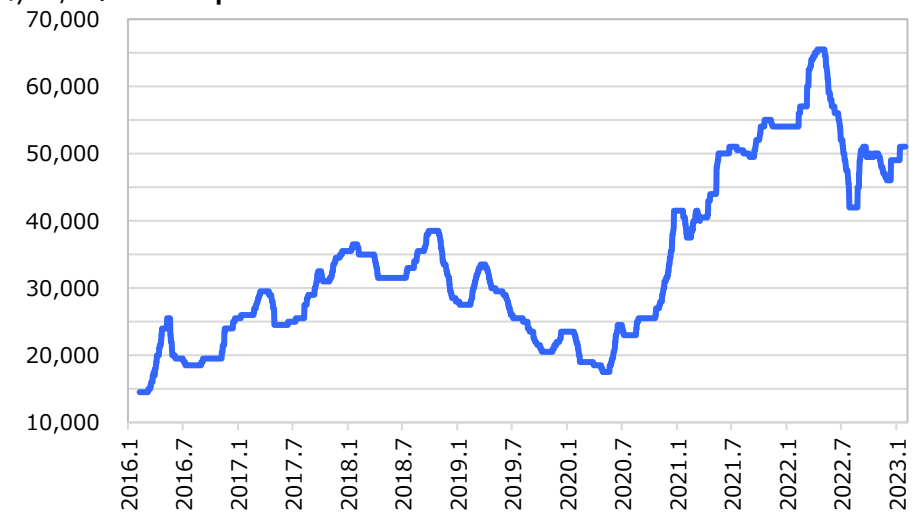



(US$/lb) Mo

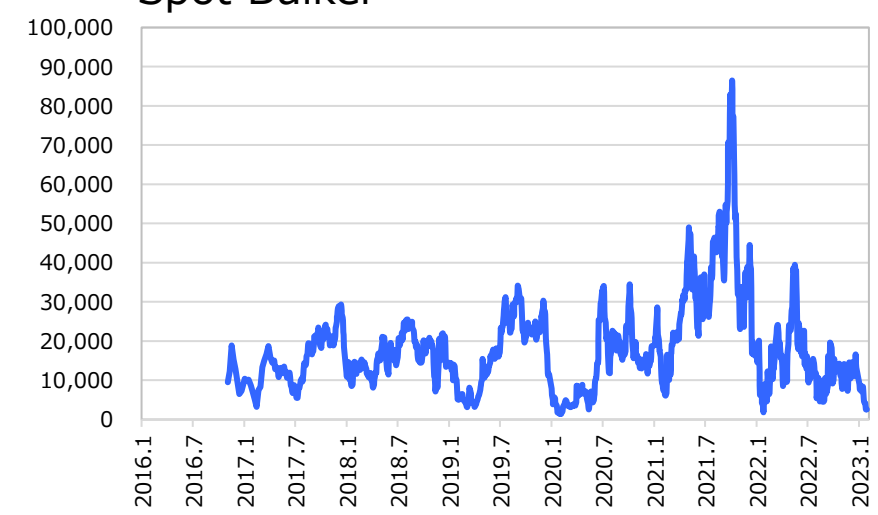
# Raw Materials

# Trend of Sub Material's Market Price

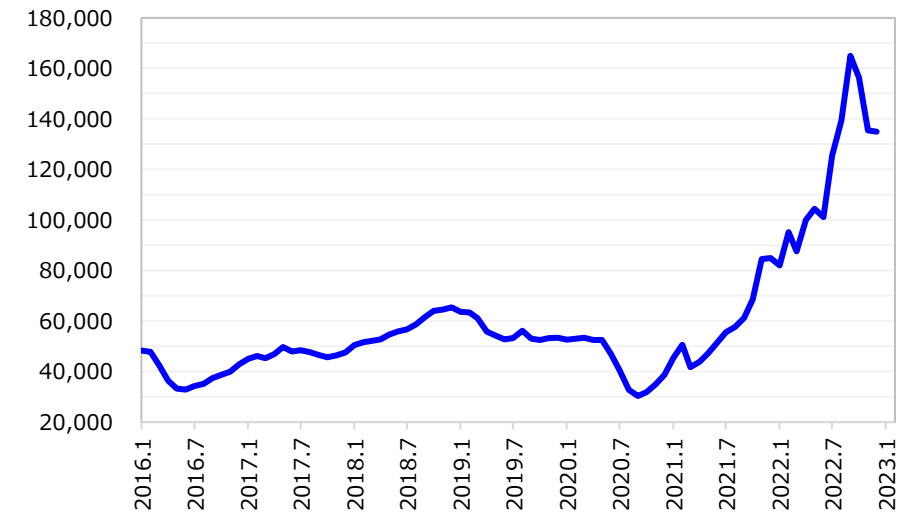
## Scrap



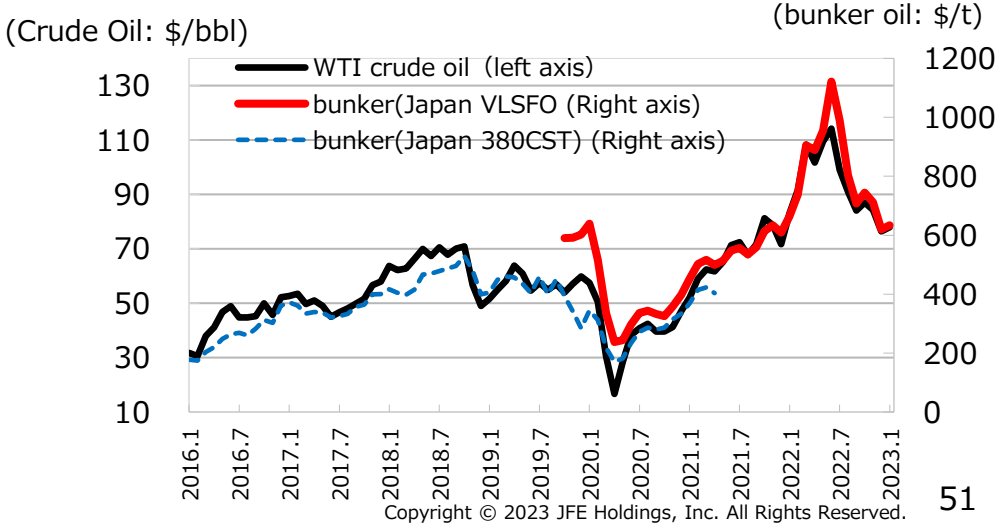

## Spot Bulker




## LNG




## Oil



# Progress of Initiatives of Steel Business

(Structural Reforms and Strategic Investment in Japan)

| Facilities | | | ~FY19 | FY20 | FY21 | FY22 | FY23~ |
|---|---|---|---|---|---|---|---|
| Structural Reforms | Keihin District | Upstream Facilities | | | | | ☆ To be shut down (~Sep. 2023) |
| | | Hot rolling Facilities | | | | | ☆ To be shut down (~Sep. 2023) |
| | | Cold-rolling & Hot-dip Galvanizing Facilities | | ☆ Shut downed | | | |
| | Chiba District | Tin Mills | | ☆ Shut downed (2CAL･2ETL) | | Facilities manufacturing steel sheet for cans were shut downed (Aug.2022) | |
| Strategic Investments | Chiba & Kurashiki | Blast Furnace Refit | | | ☆ Kurashiki Refit No.4 BF(~Dec.2021) | ☆ Chiba Refit No.6 BF(Sep.2022~Jan.2023) | |
| | Kurashiki District | Continuous Casting Machine | | | ☆ Installed new Continuous Casting Machine (Jun.2021) | | |
| | | Extra-thick steel plate for offshore wind-power application | | | | | ☆ Reinforce extra-thick steel plate production line (Nov. 2023) |
| | | Electrical Steel Sheet Facilities | | | | | ☆ FY24 Reinforce Non-oriented Electrical Steel Sheet Production Line |
| | Fukuyama District | Coke Oven | | ☆ Renewed No.3 Coke Oven(A) | ☆ Renewed No.3 Coke Oven(B) (Jun.2021) | | |
| | | Sintering Machine | | ☆ Installed new Sintering Machine | | | |
| | | Energy Plants | | | ☆ Installed No.2 power generator in Joint Thermal Power | | |
| | | Ferro Coke Production Facility | | | Develop ferro coke production technology → | | |
| | Overseas | Mexico NJSM | | ☆ Begun Operating CGL for Automotive Applications | | | |

# Orders by Business Area

(billion yen)

| Business Area | FY2021 Actual | FY2022 Forecast | Change | Main orders received in FY2022<br>★･･･New projects received in 3Q of FY2022 |
|---|---|---|---|---|
| Waste to Resource | 203.9 | 214.0 | 10.1 | Construction works of domestic waste treatment plant [Okayama]<br>Renewal construction of domestic waste treatment plant [Hokkaido, Aichi, ★Tochigi]<br>Construction works of overseas waste treatment and power plant [Germany, UK] |
| Carbon Neutral | 87.4 | 80.0 | (7.4) | |
| Combined Utility Service | 13.4 | 20.0 | 6.6 | |
| Core Infra-stracture | 201.1 | 236.0 | 34.9 | Construction works of fuel feeding pipe for LNG power plant [Hyogo]<br>Construction works of bridge (DAINI SHINMEI ROAD [Hyogo]<br>Reconstruction works of bridge (★Tomei Expressway [Aichi])<br>Construction works of overseas bridge [Ghana, ★Cote d'Ivoire]<br>★Construction works of overseas chemical plant [Singapore] |
| Total | 505.8 | 550.0 | 44.2 | |

# Links to the reports published during FY2022

| Report | URL | QR code |
|---|---|---|
| JFE Group REPORT 2022 | https://www.jfe-holdings.co.jp/en/investor/library/group-report/index.html | |
| JFE Group CSR REPORT 2022 | https://www.jfe-holdings.co.jp/en/csr/data/index.html | |
| JFE Group CSR REPORT 2022 ESG Data | https://www.jfe-holdings.co.jp/en/csr/pdf/2022/2022_09.pdf | |
| DX REPORT 2022 | *English version is coming soon | |

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

# Mid/long-term directions

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

**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 $CO_2$ 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

E S G

## 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 $CO_2$ emissions by 18% by the end of FY2024** (vs. FY2013)

### 2. Carbon Neutrality by 2050

#### ① Reduce $CO_2$ 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 $CO_2$ emissions reduction in society

- Engineering business : Expand & develop renewable-energy power generation and carbon-recycling technologies.
- Steel business : Develop & market eco-products and eco-solutions.
- Trading business : Increase trading in biomass fuels, steel scrap, etc. and strengthen business in SCM for eco products.

→ **Targets to contributions to $CO_2$ emissions reduction**

FY2024 12 Mt
FY2030 25 Mt

SCM : Supply Chain Management

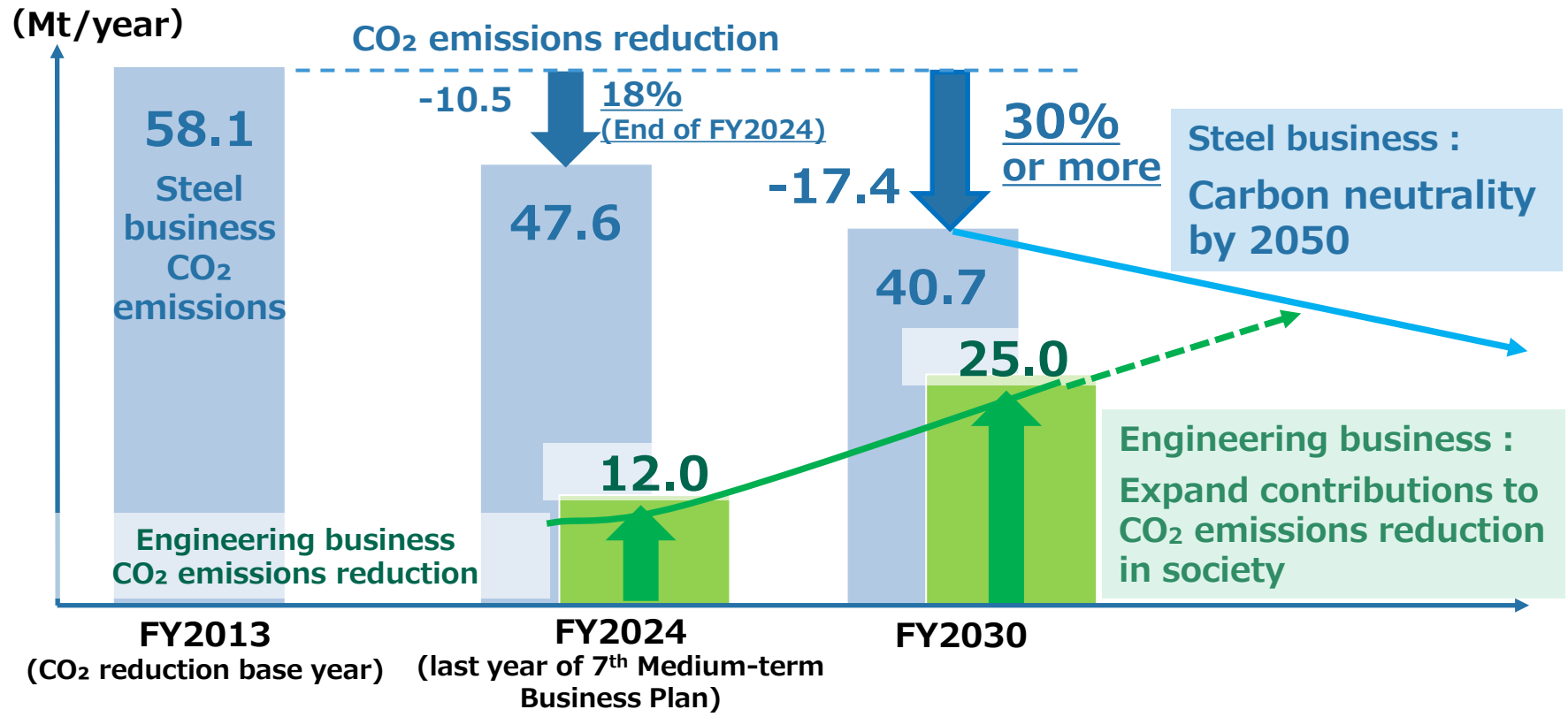
#### ③ Groupwide commercialization of offshore wind-power business

# JFE Group's activities for Carbon neautrality

**Steel Business: $CO_2$ 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 $CO_2$ emissions reduction resulting from its business such as development of renewable-energy generation and carbon recycling technologies.

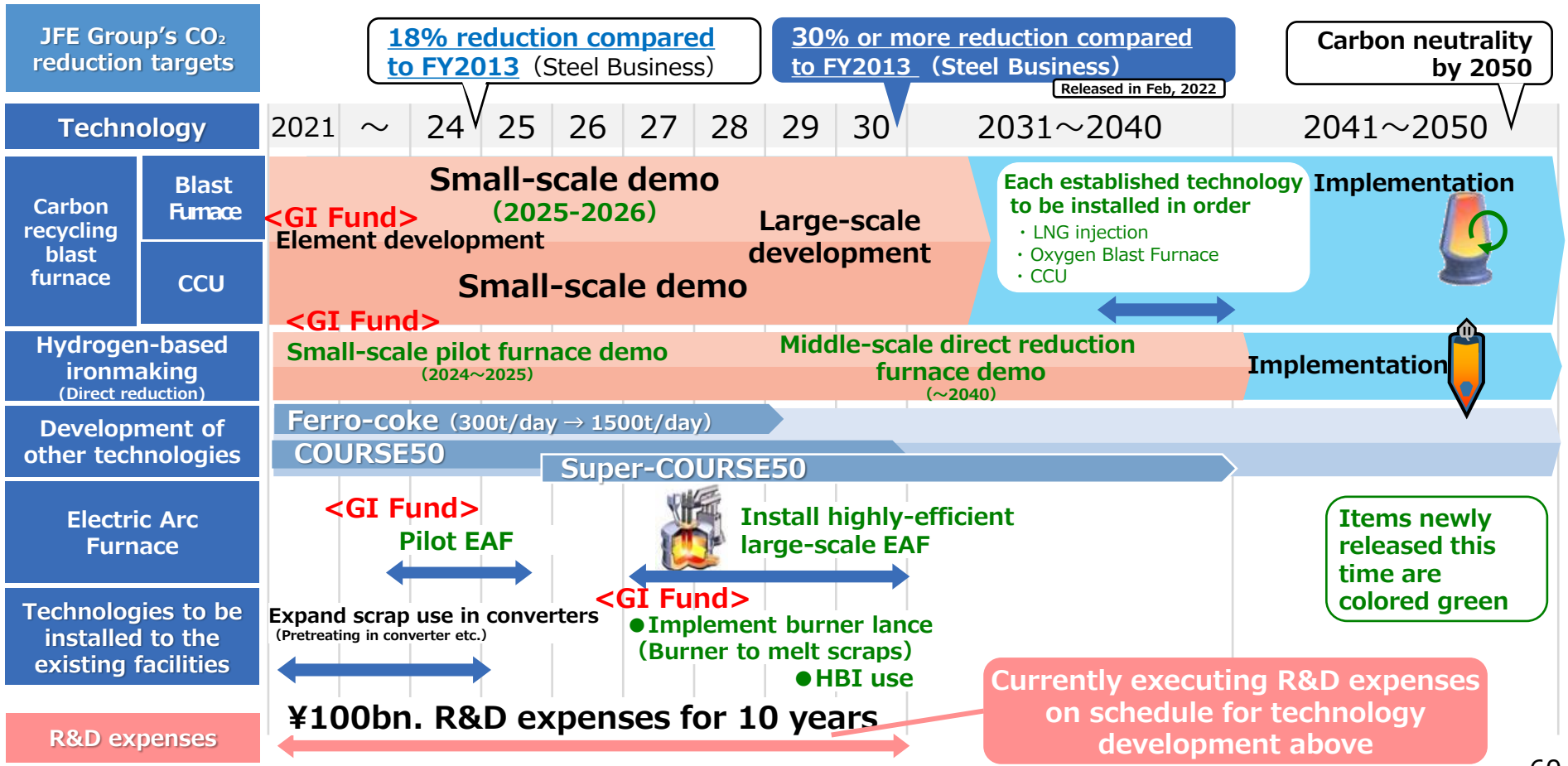


# [Steel Business] Roadmap for Carbon Neutrality

E S G

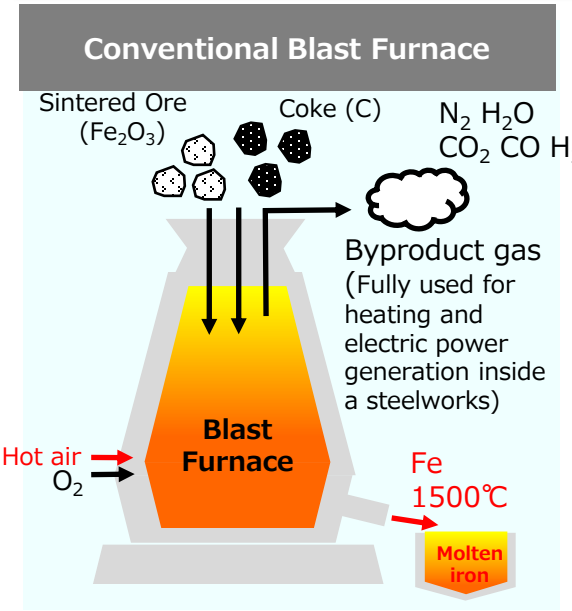
Revised our roadmap for realizing carbon neutrality in 2050, considering installing the technologies below in the concrete:

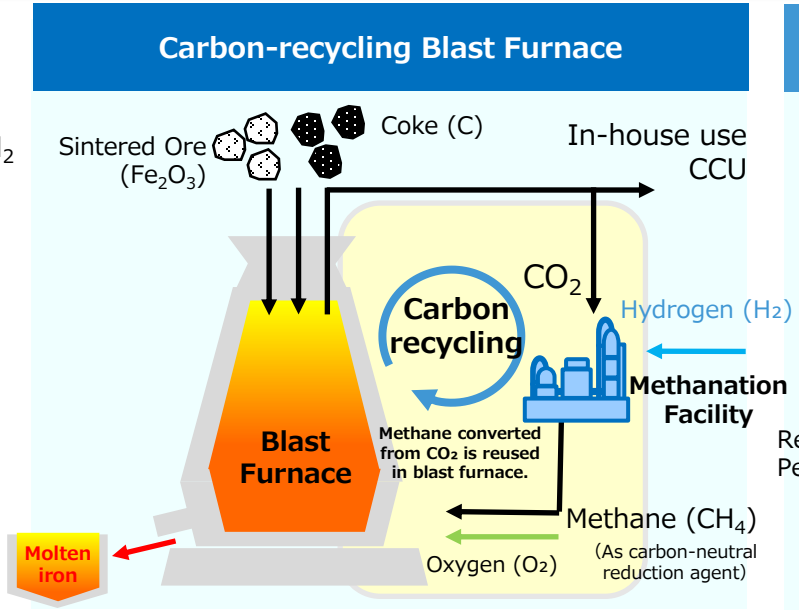
- Carbon recycling blast furnace: **Each established technology to be installed in order** (late 2030s)
- Hydrogen-based ironmaking:
  **Small-scale pilot furnace demo**(2024～25), **middle-scale direct reduction furnace demo** (～2040)
- EAF: **Install pilot EAF in Chiba** (demo to be started from 2024)→**Install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

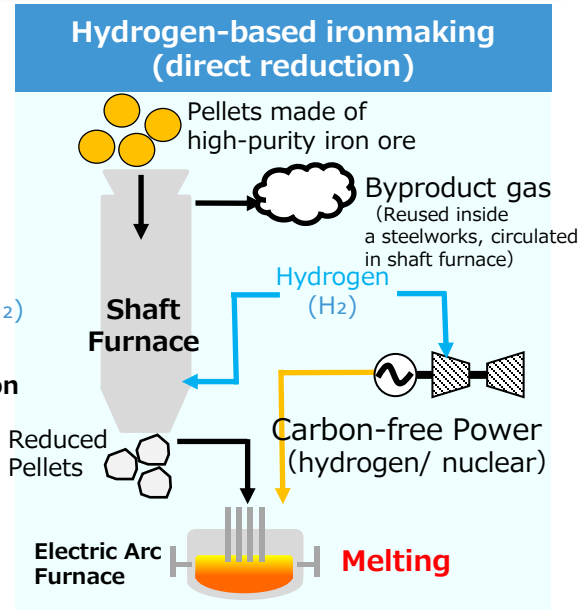


# Carbon-recycle Blast Furnace

- **Technologies for reducing $CO_2$ 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 $CO_2$ 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) |

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

E S G

- 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)**

Provide steel products

Provide steel products

Carry out SCM
Provide steel products

Carry out SCM

## 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

JMU: Japan Marine United Corporation (equity method affiliate)

# Social sustainability : Safety management, HR issues

E S G

## 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 |

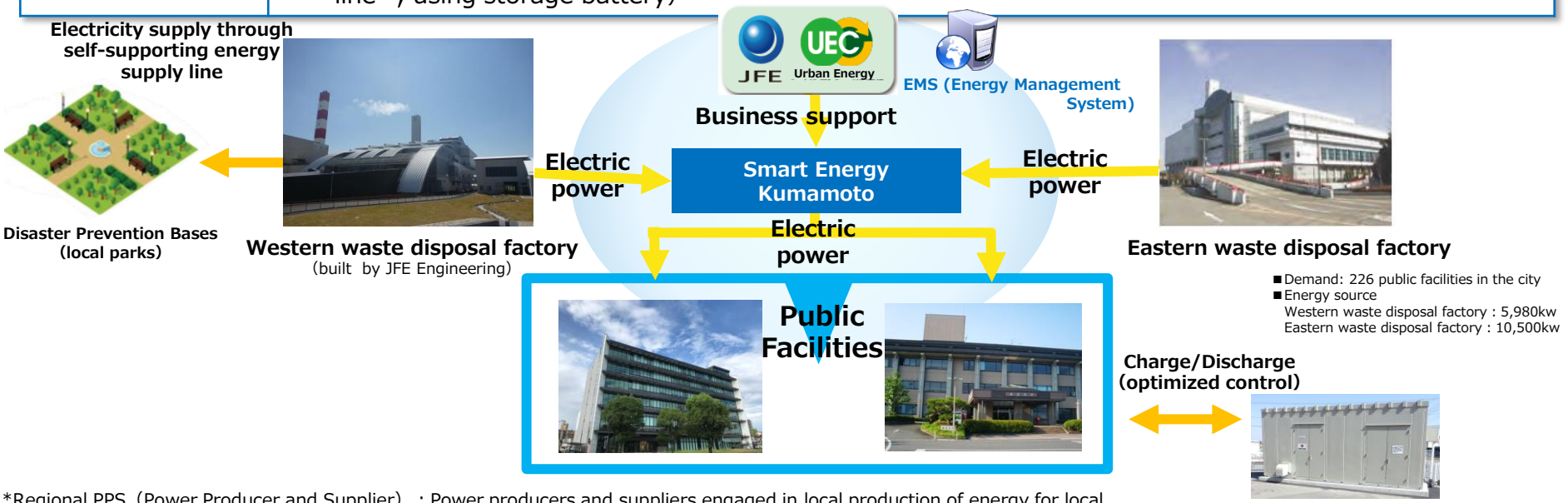
# Social sustainability : Contribution to Regional Societies through Engineering Business

- 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)




*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)

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>

**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

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

- 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

**china**

**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

## Domestic

### 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 |
| **$CO_2$ reductions** | Approx. 1.5Mt-$CO_2$/Year* |

*$CO_2$ reductions effect resulting from expanding EV/HEV

## Overseas

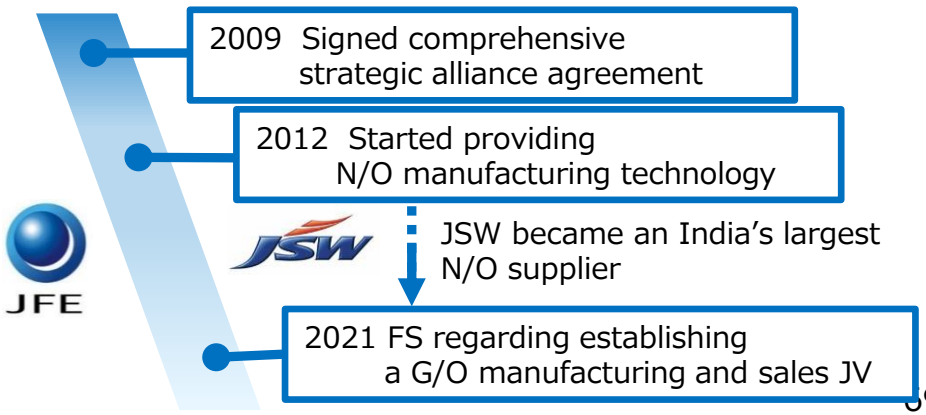
### To conduct FS of grain-oriented electrical-steel-sheet JV with JSW in India

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.)

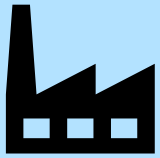


# JFE Group-wide Strategy to Capture Growing Demand for Electrical Steel Sheet (Steel Business and Trading Business)

| JFE 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** |

**Domestic**



**Increase electrical steel sheet production capacity**

**Overseas**

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

**Sharing Strategies**

**Expand collaboration with alliance partners**

**Establish SCM in new regions**

**Expand processing functions in coil centers**

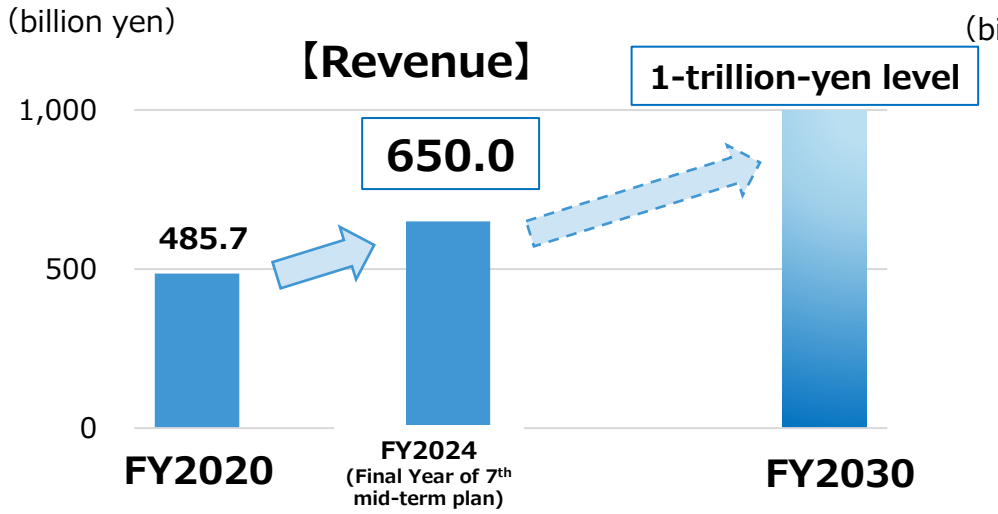
**Synergy**

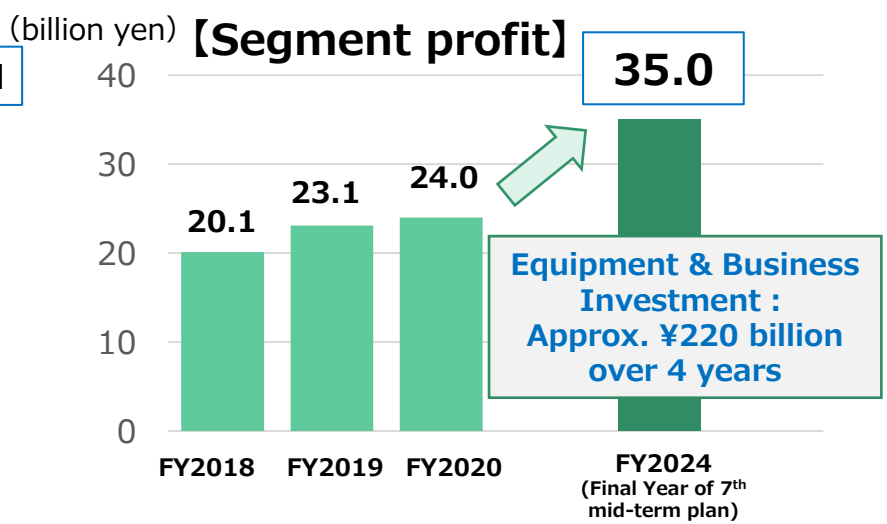
**Groupwide Strategy: Capture increasing demand for high value-added electrical steel sheets both in domestic and overseas market**

# 7th mid-term business plan <Engineering Business>

## 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)<br>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—

- **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

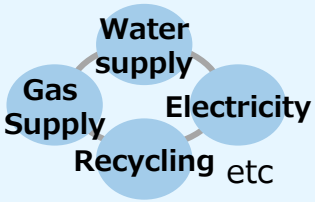
**FY2024 revenue target ¥80 billion**

- 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

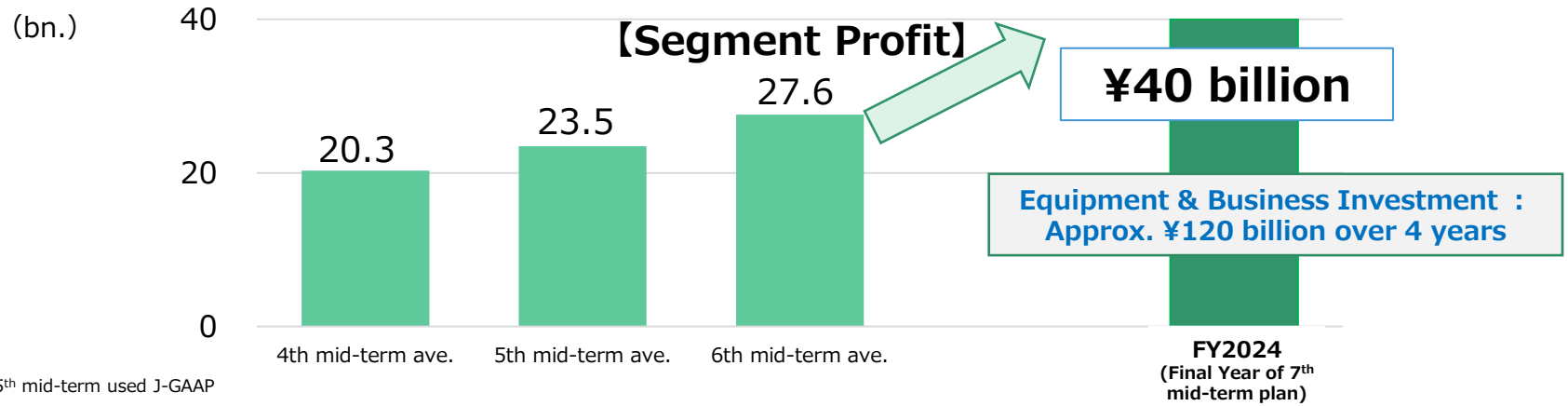
**1. Waste to Resource** : Recycling and waste-to-power generation etc. 2. Carbon neutral : Renewable energy, carbon recycling etc.
**3. Combines utility services**: contribute to the local-production and local-consumption (circular economy) by mutual combination among various operation and maintenance 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>

## 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

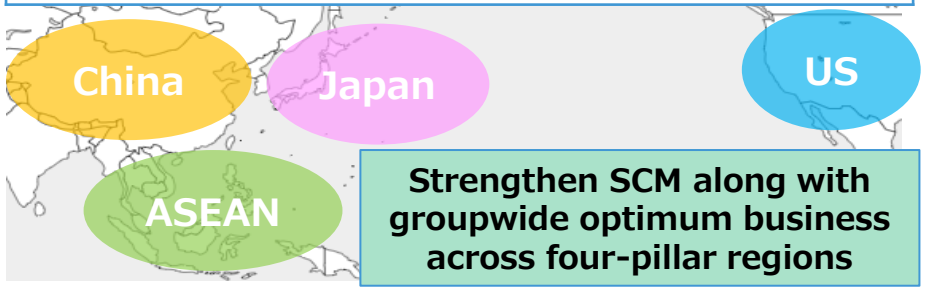
## —Key Strategies for growth, Strengthen purchasing and sales capabilities—

## 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.




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

## 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.

## 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**

## 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

- 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*** <br> *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

- 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

| | | | 7th 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 | **10,000 yen/ton** | -3,000 yen/ ton |
| | | Segment profit | **¥ 230.0 billion** | ¥ -65.4 billion |
| | Engineering business | Segment profit | **¥ 35.0 billion** | ¥ 24.0 billion |
| | | Revenue | **¥ 650.0 billion** | ¥ 485.7 billion |
| | Trading Business | Segment profit | **¥ 40.0 billion** | ¥ 20.0 billion |
| | Payout ratio | | **7th mid-term business plan Around 30%** | 6th 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)

# Appendix(4)
# JFE Steel Carbon Neutral Strategy Briefing

# JFE Steel's Transition to Low-carbon Processes



**2024**
18% less $CO_2$

**Develop ultra-innovative technologies for carbon neutrality**
(GI Use of funds)

**Transition Period**

**Use EAFs**
**Expand use of DRI**

**2030**
30% or more $CO_2$

**Establish & implement ultra-innovative technologies**

**Innovation Period**

**Adopt optimal processes based on external conditions**

**2050**
**Carbon neutrality**

**Carbon recycling blast furnace**
Small-scale tests
Mid-scale demonstration tests +CCU
Develop large-scale furnaces
Use in existing blast furnaces
● LNG injection
● HBI
● Oxygen blast furnaces
Roll out based on hydrogen supply volume
×α

**Direct reduction**
High-grade HBI
EAF iron source
● Low-grade ore
● Carbon recycling technology
Transition to carbon-free hydrogen
Direct-reduced iron made with blast furnace-grade ore (Fe<65%)
×β

**EAF**
Upgrade Sendai EAF
Large, high-efficiency EAF (possibly in Kurashiki District)
Transition to carbon-free electricity
×γ

**Use of scrap**
DRP technology
Double-slag refining process
Expand use of scrap
Burnerless technology

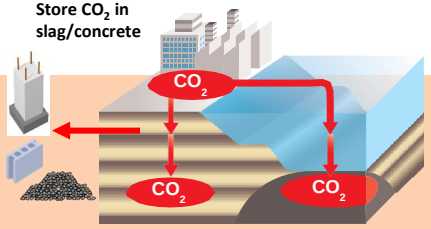
**External conditions**
- Carbon-free electricity
- Carbon-free hydrogen
- CCUS

**Green steel**
Sustainable market based on actual environmental value

Carbon-free electricity


Carbon-free hydrogen

Store $CO_2$ in slag/concrete

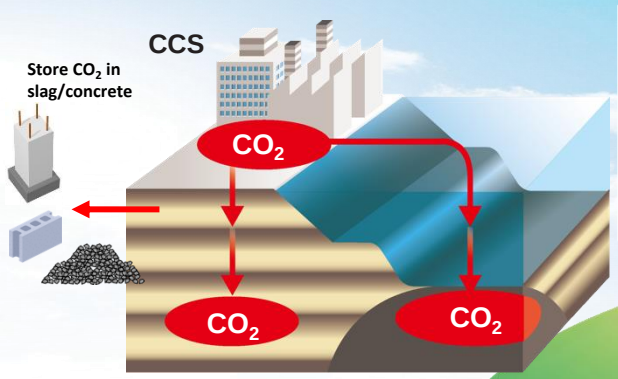



CCS

**Pursue multilayered technology development, via GI Fund projects, etc., to discover the most proven technologies and then achieve carbon neutrality by deploying the most optimized configuration of green steelmaking processes.**

# JFE Steel's Carbon Neutrality Vision 2050






## Storage

CCS

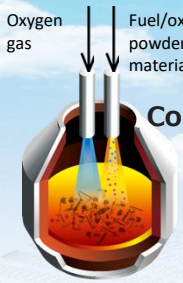
(external conditions)

## Reduction

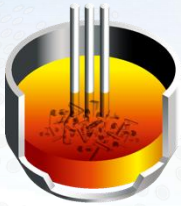
More energy-saving equipment

Increased use of scrap

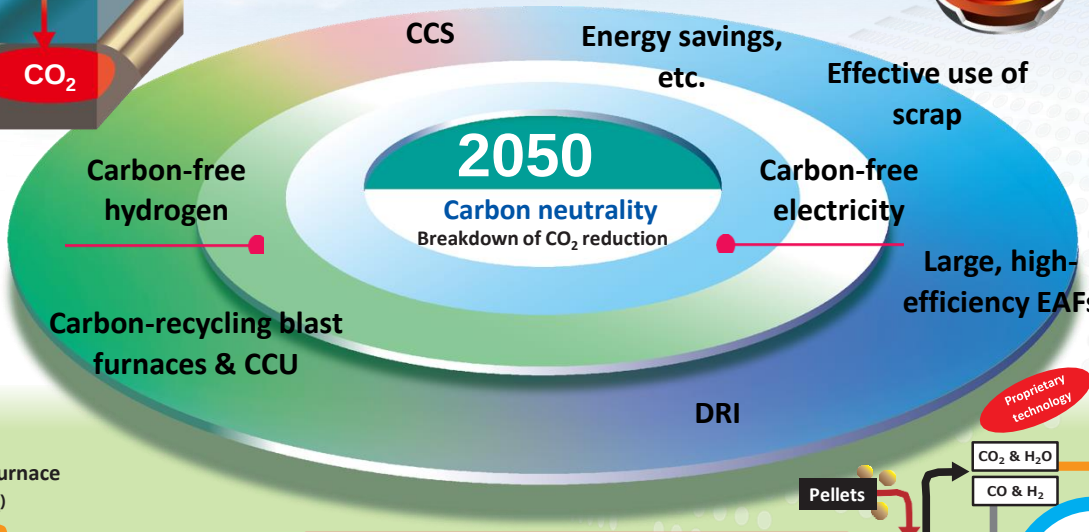
Introduce EAFs





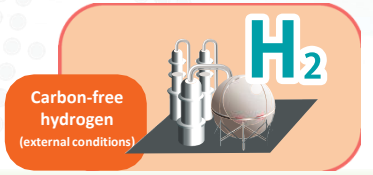


Electric arc furnace (EAF)

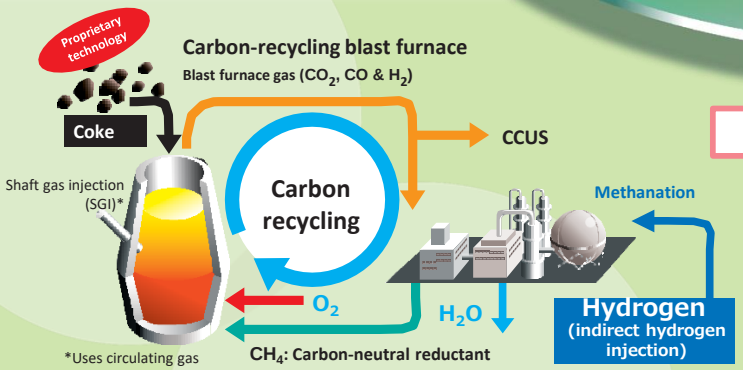



## Intelligent Usage

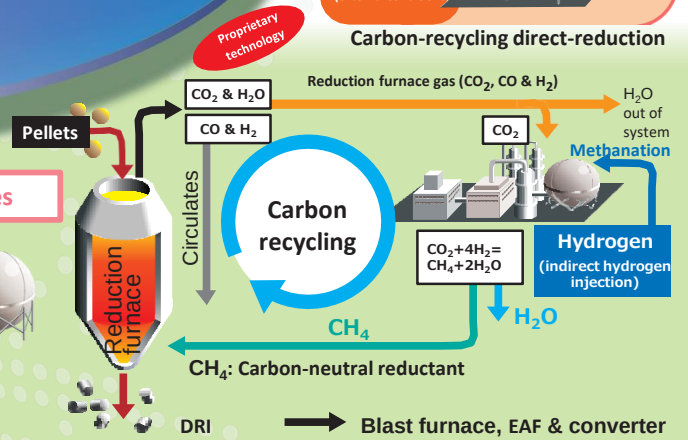
Deploy more carbon-recycling technologies in direct-reduction steelmaking




Carbon-recycling direct-reduction




More use of CCU at industrial complexes




**Combine reduction, intelligent usage and $CO_2$ storage to realize a carbon-neutral steel business by 2050**

JFE

# JFE's Carbon Neutrality Action Plan



▶ 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 $CO_2$ 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

JFE

# Transition to Low-carbon Processes



- Continue to develop ultra-innovative technologies for decarbonized steel processes by 2030
- Increasingly use low-carbon technologies to cut $CO_2$ by 30% or more by FY2030

| Energy savings and high efficiency | Low-carbon feedstock & fuel | Low-carbon processes |
|---|---|---|
| **Upgrade to high-efficiency coke ovens**<br>Fukuyama District (2025) | **Expand use of scrap in converters**<br>**Use direct-reduced iron (HBI)**<br>All districts (under way) | **Upgrade existing EAFs**<br>Sendai Works (2024) |
| **Improve efficiency of power-demand facilities**<br>(Electrify blast-furnace blowers, raise efficiency of oxygen plants, etc.)<br>All districts (under way) | **Securing Scrap and HBI**<br>**Reinforcing storage depots**<br>All districts (under way) | **Introduce large, high-efficiency EAFs**<br>Kurashiki District (2027-2030) |
| **Leverage AI & DS (companywide CPS, etc.) for energy savings**<br>All districts (under way) | **Bolster LNG supply network** | **Use ferro-coke for commercial production**<br>Fukuyama District (TBD) |

- ✓ To reduce $CO_2$ emissions by 30% or more by 2030, 1 trillion yen in capital investment will be needed for low-carbon initiatives (large electric furnaces, ferro coke, scrap and reduced iron, LNG, etc.).
- ✓ A market that reflects the actual environmental value of green steel must be created to support capital investment in decarbonization technologies.

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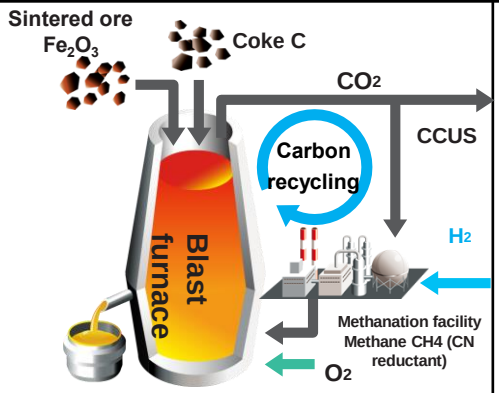
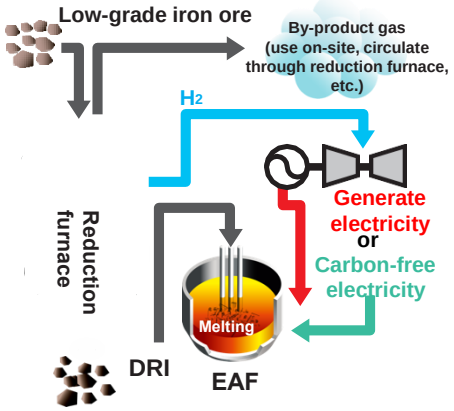
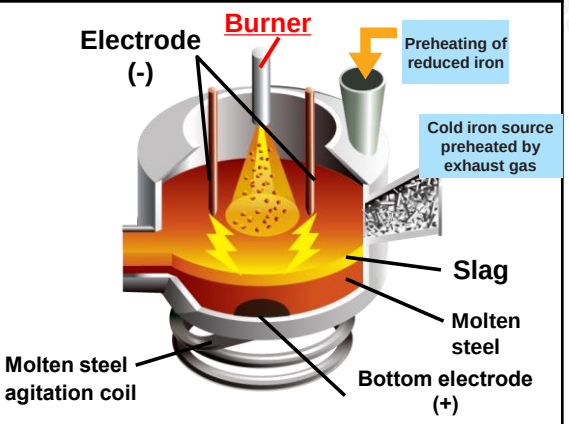
# Development Project Supported by Green Innovation Fund



- This project, targeted at using hydrogen in ironmaking and commissioned and subsidized by NEDO*, was selected in December 2021 to receive support from the Green Innovation Fund.
- The fund is helping to accelerate the development of technologies for achieving carbon neutrality.
- Formed a consortium with three steel companies and JRCM** and held the first meeting of the Hydrogen Iron and Steel Committee in June 2022.

*New Energy and Industrial Technology Development Organization **Japan Research and Development Center for Metals

| | Carbon-recycling blast furnace | Direct-reduction steelmaking | Large, high-efficiency EAF |
|---|---|---|---|
| Development project |  |  |  |
| Summary | Build a small test blast furnace (150m³) in Chiba District Prefecture to develop a process for converting $CO_2$ by-product into methane for reuse as a reductant, aiming to cut $CO_2$ emissions by 50% or more. | Build a small test reduction furnace in Chiba District Prefecture to develop a direct-reduction ironmaking process for reduced iron that uses hydrogen to remove oxygen from low-grade iron ore, aiming to cut $CO_2$ emissions by 50% or more vs. blast furnaces. | Build a small test EAF in Chiba District Prefecture to develop a high-quality steel manufacturing method incorporating high-efficiency melting of scrap and reduced iron, reduction of impurities, etc. |

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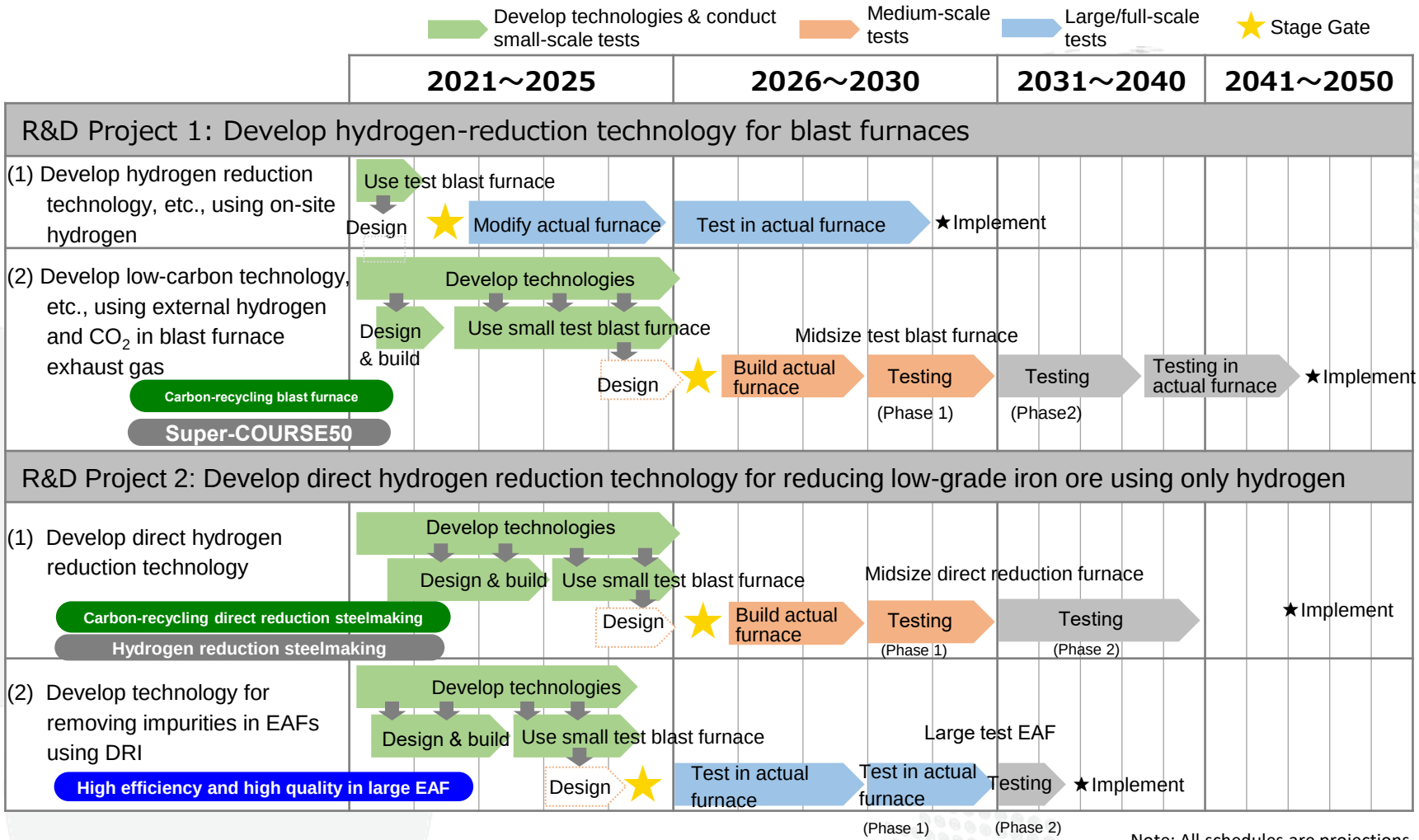
# Overall Scale of GI Fund Projects



- ▶ 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

# Stimulating Demand for Green Steel



▶ In the EU, green steel is branded and sold using a mass balance approach.
▶ Achieving 30% $CO_2$ 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.

JFE

# Initiatives for Collaborating with Society



- **Realizing carbon-neutral steelmaking is a top priority for JFE Steel, but generating environmental value will involve large cost increases, so there are limits on what a single company can do.**
- **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.**

## Huge R&D and facility installation costs

- Achieving CN by 2050 will be a major technological challenge requiring huge R&D outlays.
- Transitioning steelworks to carbon-neutral processes will require even greater capital investment.
- Long-term government support will be needed to shoulder the financial costs of achieving carbon neutrality.

## Deliver environmental value and create markets during transition

- Government support is needed for capital investment in low-carbon technologies by 2030
- A mechanism is needed to create a market where costs commensurate with green steel's environmental value can be shared with customers and society

## Develop infrastructure for carbon-neutral steelmaking and fuel inter-company collaboration

- Develop infrastructure for the low-cost, stable, large-scale supply of carbon-free hydrogen and electricity needed for carbon-neutral steelmaking
- Develop an execution platform for CCUS and green infrastructure implementation through collaboration with industrial complexes, corporations, etc.

## Economic policies targeting green-transformation investment and international competitiveness

- Ensure international competitiveness of industrial electricity prices
- Introduce tax system that encourages implementation of ultra-innovative technologies, such as the abolition of depreciable asset taxation and the avoidance of a carbon tax before the establishment of decarbonizing technologies
- Carbon Border Adjustment Measure (CBAM) should be consistent with WTO rules. Ensure a level playing field in cooperation with other countries

JFE