



JFE Holdings, Inc.

Briefing for Seventh Medium-term Business Plan

May 7, 2021

Presentation

Moderator: We would like to move on to Part 2: JFE Holdings, Inc. Briefing for Seventh Medium-term Business Plan. Mr. Kakigi, Representative Director, President and CEO, will now give an explanation.



JFE-HD

Review of Sixth Medium-Term Business Plan

Financial results from FY2018 to FY2020 were significantly underachieved to the original 6th mid-term plan targets amid the significant loss resulting from trade friction between the US and China and COVID-19 pandemic from FY2019.

(billion yen)	FY2018	FY2019	FY2020	6 th mid-term business plan
Business Profit	232.0	37.8	(12.9)	290.0/year
Segment Profit				
Steel Business	161.3	(8.7)	(65.4)	220.0/year
Engineering Business	20.1	23.1	24.0	30.0/year
Trading Business	35.7	27.0	20.0	35.0/year

On the other hand, we promoted following initiatives to establish a foundation for the sustainable growth.

JFE Group		
Announced the individual target of the reduction of CO₂ emissions reduction Proactively promoted Digital Transformation		
JFE Steel	JFE Engineering	JFE Shoji
Reinforced manufacturing base Decided structural reform etc.	Expanded O&M business Executed M&A etc.	Strengthened electrical steel processing base Expanded supply chain management etc.

3

Kakigi: I am Kakigi from JFE Holdings. I will begin the explanation. First of all, I would like to look back on the Sixth Medium-Term Business Plan.

As you are all aware, our earnings deteriorated sharply, mainly in the steel business, mainly due to the effects of trade friction between the US and China and the spread of COVID-19.

As you can see here, the steel business was the only one in a very difficult situation. However, looking back, I believe that we have done what we can to establish a foundation to some extent, and one of the things we have done is to announce our individual target of the CO₂ emissions reduction for our steel business last year.

The other thing is that each company has been proactive in promoting digital transformation.

By operating company, JFE Steel struggled, but it reinforced manufacturing base spending a lot of money. Then, in March last year, it decided to implement structural reform by shutting down the upper process and hot-rolling production lines at Keihin district.

JFE Engineering is doing relatively well, and it has expanded its operation business and conducted 2 M&A transactions.

JFE Shoji acquired Cogent, a company in Canada, in order to strengthen its electrical steel sheet processing bases, and also promoted SCM* expansion. (*SCM: Supply Chain Management)



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Business environment during 7th mid-term business plan

Rapid and extensive change in social and economic conditions is surrounding JFE

Intensified global competition amid the ascendancy of China 

Increasing economic uncertainty due to US-China conflict 

Increasing geopolitical risk 

Decreasing domestic demand amid declining population 

Necessity to address climate change such as carbon neutrality 

Emergence of innovative new digital technologies 

Spread of COVID-19 

JFE aims to **rise to a new level by taking bold steps** to establish **a foundation for sustained, long-term growth**, signaling the beginning of **the most transformative period in the company's history**.

4

Next, the business environment for the Seventh Mid-term Plan is, needless to say, undergoing very rapid and drastic changes.

For example, global competition is intensifying with the rise of China. Uncertainty over the US-China conflict. Geopolitical risks. Domestically, the population will decrease, and domestic demand will decrease. In addition, carbon neutrality and other measures to address climate change, which is a very big issue for the steel industry. Progress in innovative digital technologies. Then there is the spread of COVID-19, which is still not under control.

We consider the seventh mid-term period to be the period of the greatest change since our founding, and have positioned this mid-term business plan as a 4-year period for establishing a strong management foundation for long-term sustainable growth and making a leap to a new stage.



Mid/long-term directions

JFE-HD

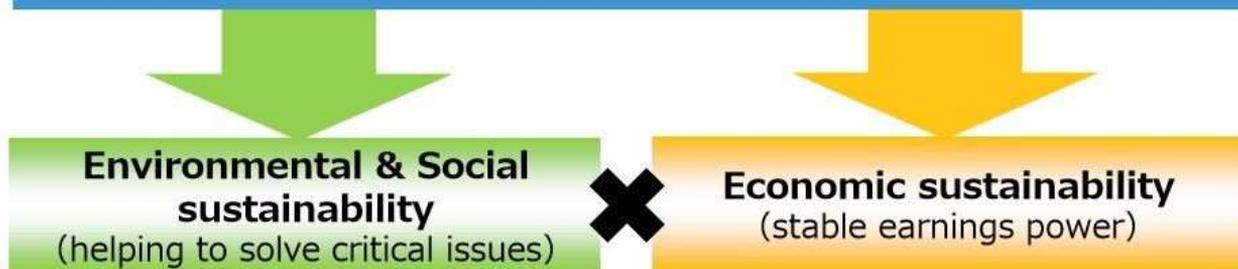
Biggest transformation in company's history aimed at achieving global success

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



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.

5

First, I would like to talk about the medium- to long-term direction of management.

JFE's corporate philosophy is to contribute to society with the world's most innovative technology. When we thought about the significance of the Group's existence, we realized that our mission is to become a company and existence that is indispensable for the sustainable development of society and the safe and comfortable lives of people.

However, considering the current situation, environmental and social sustainability is a very important factor after all.

The other thing is economic sustainability, namely, stable profitability. Without those, there is nothing we can do. We will achieve medium- to long-term economic growth for the Group and increase corporate value.



E JFE Group Environmental Vision for 2050

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

S Solve issues impacting society

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

G Enhance corporate governance

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

6

First, I'd like to talk about environmental and social sustainability.

E, in terms of environmental issues, especially the issue of carbon neutrality, we have formulated the JFE Group Environmental Vision for 2050. We have 4 major points in mind.

The first is that we aim to achieve carbon neutrality by 2050, which we think is an extremely important management issue.

The second is to take on the challenge of super-innovative technology.

The third is to improve corporate value by contributing to the reduction of CO₂ emissions and taking this as a business opportunity.

The 4th point is to reflect the philosophy of TCFD in our management strategy and to work systematically to solve the climate change problem.

S, social issues. First, safety and health management. For us in the manufacturing industry, safety first is a very important issue. Considering the fact that we have not been able to eradicate serious disasters, we are planning to invest about JPY10 billion a year in safety, not by relying on education alone, but by installing facilities to make the work environment safer.

The second is to facilitate employee participation. Diversity and inclusion, human resource development, and work style reform. We are considering a variety of measures here.

Third, we will contribute to the local community through our engineering business. We will talk more about this later.

In terms of respecting human rights in the supply chain, we are considering implementing human rights due diligence from fiscal 2021.

Regarding governance, we have been implementing various measures to further enhance corporate governance. The Compensation Committee and the Nomination Committee have started to consider how to apply non-financial indicators to various indicators such as investment decisions and executive compensation.



JFE Group Environmental Vision for 2050

JFE-HD



Toward Carbon Neutrality by 2050 JFE Group Environmental Vision for 2050

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

GX : Green transformation

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

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

2. **Carbon Neutrality by 2050**

① **Reduce CO₂ emissions at JFE Steel**

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

② **Expand contributions to CO₂ emissions reduction in society**

- Engineering business : Expand & develop renewable-energy power generation and carbon-recycling technologies. → **Targets to contributions to CO₂ emissions reduction**
- Steel business : Develop & market eco-products and eco-solutions.
- Trading business : Increase trading in biomass fuels, steel scrap, etc. and strengthen business in SCM for eco products.

SCM : Supply Chain Management

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

FY2024	12 Mt
FY2030	25 Mt

7

The first one is the JFE Group's Environmental Management Vision for 2050.

We are planning to hold a detailed briefing on this vision on May 25.

First of all, in terms of investment, in the Seventh Mid-term Business Plan, we are planning to spend JPY340 billion for the entire group as green transformation investment.

The next initiative in the Seventh Mid-Term Plan is to reduce CO₂ emissions from the Steel business. The plan is to reduce this by 18% by the end of this mid-term. Many companies have set targets for 2030 or 2050. We have created an action plan by accumulating investment plans to reduce CO₂ emissions by 18%, which have made by a CO₂ reductions project team under the direct control of the president.

Secondly, in our efforts to achieve carbon neutrality by 2050, we will take on the challenge of developing super-innovative technologies centered on carbon-recycling blast furnaces and CCUs to reduce CO₂ emissions in our steel business. I will explain more about this carbon recycling blast furnace later.

Also, the development of hydrogen ironmaking technology, which is now a global trend. Needless to say, we will also aggressively participate in this.

Second, we will expand our contribution to the reduction of CO₂ emissions in society as a whole. In our engineering business, we are implementing various renewable energy power generation projects such as solar power generation and geothermal power generation.

Based on the premise of how much CO₂ would be emitted if fossil fuels were used to generate electricity, we will count it as the amount of CO₂ reduction contribution and aim to reduce it by 12 million tons by FY2024 and 25 million tons by FY2030.

In the Steel business, we will reduce CO₂ emissions by providing eco-products, such as high-grade electrical steel sheets and high-tensile steel sheets. The eco-solution is to provide technologies to reduce CO₂.

The Trading business will contribute by expanding tradings in biomass fuels and steel scrap.

The third point is that this time we are making a new attempt to tackle the offshore wind power generation business on a group-wide basis.



JFE Group's activities for Carbon neutrality

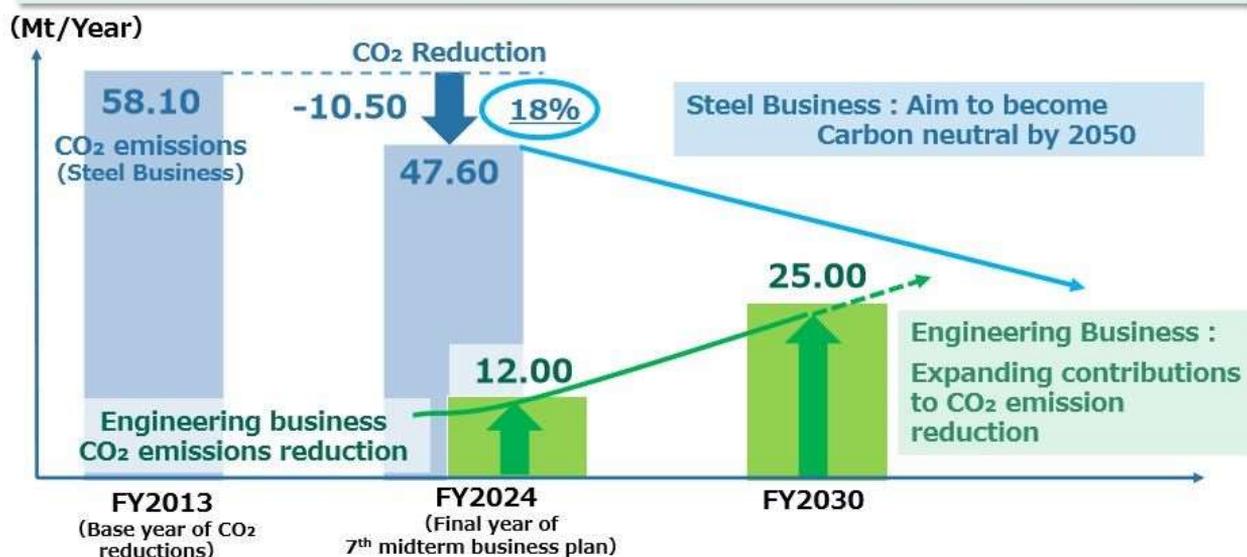
JFE-HD



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

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

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



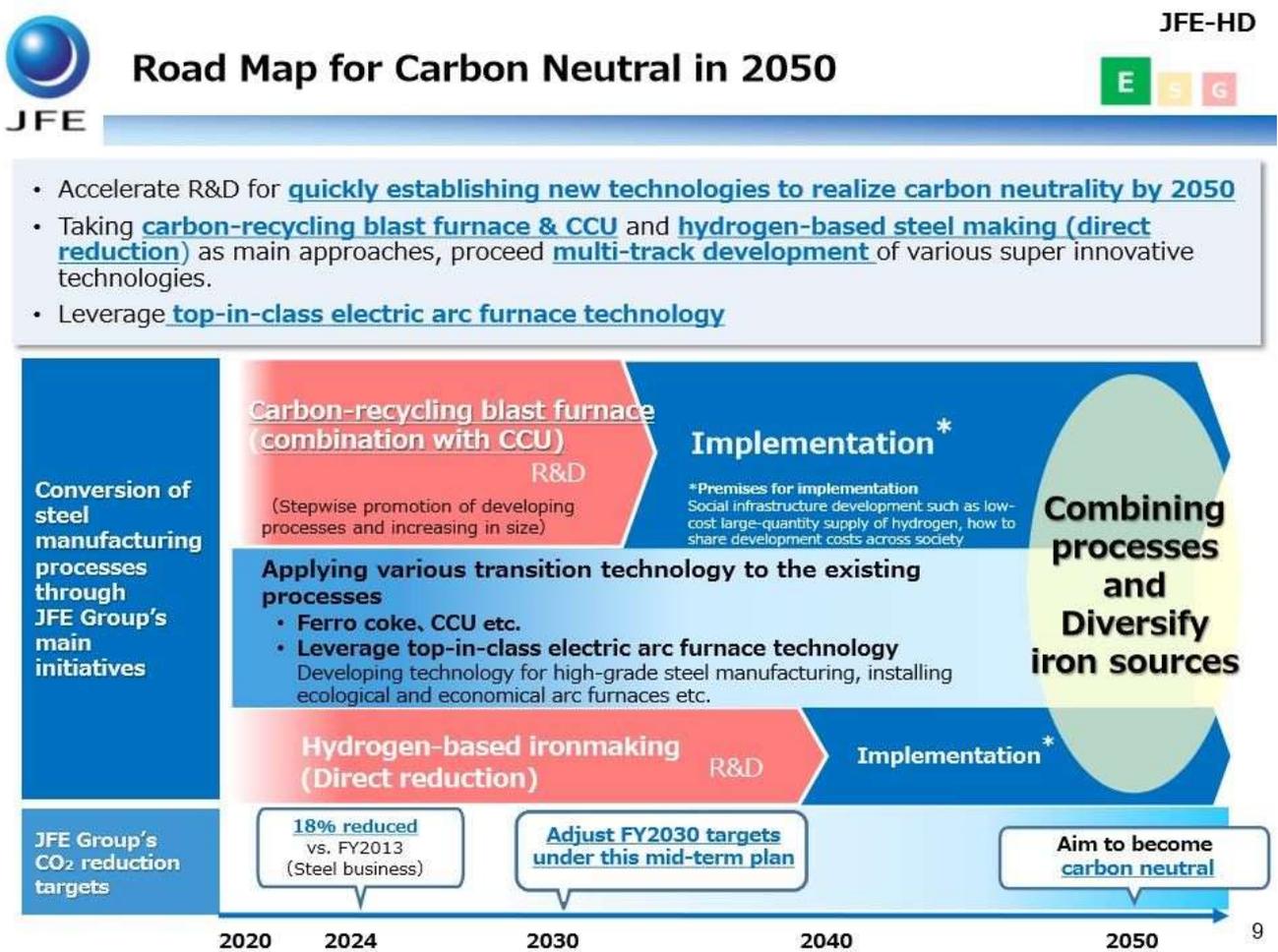
The following is a schematic representation of what I just talked about.

We are planning to spend JPY160 billion in the steel business alone as green transformation investment over the next 4 years.

We will spend JPY130 billion in the engineering business over 4 years.

The Steel business will reduce its CO₂ emissions by 18% from 58.1 million tons in FY2013 to 47.6 million tons in FY2024.

In the Engineering business, the amount of contribution to CO₂ emission reduction will increase from 12 million tons in FY2024 to 25 million tons in FY2030.



This is a roadmap for the development of the technology.

For an early establishment of new technologies to achieve carbon neutrality by 2050, first of all, as mentioned in the upper part of this page, we will aim at the implementation of the carbon-recycling blast furnace and CCU combination. This will be explained later.

In addition, as mentioned in the lower part of this page, we will promote the development of hydrogen-based ironmaking technology, which is now a trend in the world.

As mentioned in the middle of the page, we will apply various transition technologies to the existing processes, such as Ferro coke, which we have built a pilot plant for, CCU, and the electric arc furnace. Regarding electric arc furnace, we have an ecological and economical electrical arc furnace, called Eco-Arc, at the Sendai Works.

In any case, in order to achieve carbon neutrality, we will use various technologies in a multilinear and comprehensive manner.

As written below, we will reduce CO₂ emissions by 18% from the FY2013 level in FY2024. This is an accumulated number, as I told you earlier.

Next, for FY2030, last year we set a target of reducing CO₂ emissions by 20% or more. We don't intend to withdraw this target, but during the 7th mid-term period, we will adjust it based on progress in technological development.

The government has set a 2030 CO₂ emissions reduction target of 46% from the 2013 level. Taking this into consideration, we will carefully examine and announce our targets for FY2030 during the mid-term plan.

Ultimately, the goal is to become carbon neutral by FY2050.



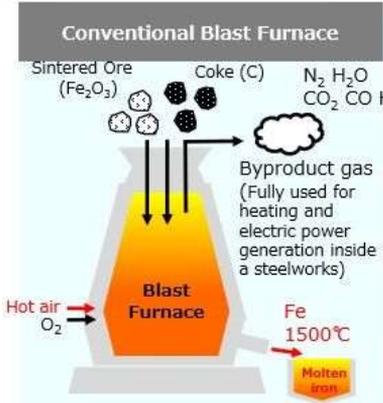
Carbon-recycle Blast Furnace



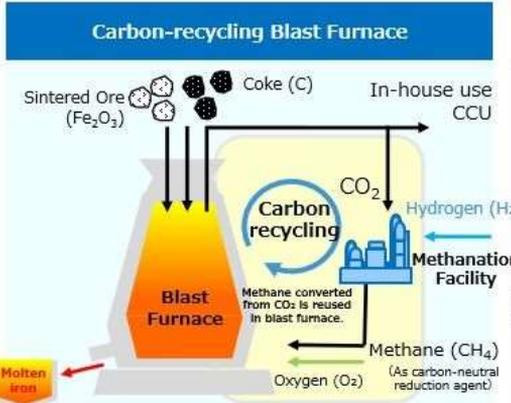
JFE Steel

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

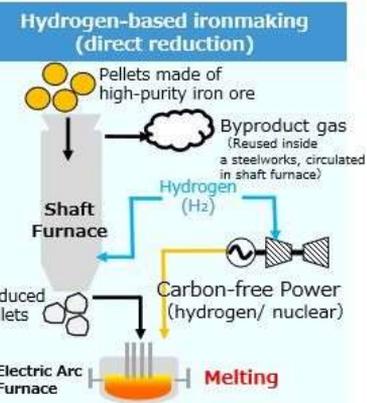
Conventional Blast Furnace



Carbon-recycling Blast Furnace



Hydrogen-based ironmaking (direct reduction)



	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)

Next is the carbon-recycling blast furnace.

This is a diagram of 3 concepts.

On the left is the conventional blast furnace, in the middle is the carbon-recycling blast furnace, and on the right is the world's mainstream hydrogen-based ironmaking.

The carbon-recycling blast furnace is still in the research and development stage, but it is a system that draws the emitted CO₂ in byproduct gas into the blast furnace as reducing agent through methanation using hydrogen.

Not all of it can be drawn into the blast furnace by methanation, so if it is reused within the plant or utilize CCU system, CO₂ emissions will be further reduced.

One big advantage is that the blast furnace and other existing facilities can be used as they are.

In other words, in the case of hydrogen ironmaking, there are many unknowns, and we have to consider various issues such as capital investments and conversion of production processes, including downstream processes, but for the carbon-recycling blast furnace, it is possible to use existing ironmaking and steel making processes and conventional raw materials..

Although this is JFE's own technology, we hope that it will be developed throughout Japan. We hope to complete the demonstration experiment by 2027.



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

JFE-HD



- 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.



JMU: Japan Marine United Corporation (equity method affiliate)

11

Another area that we are trying to focus on is the offshore wind power business.

As you can see here, the main company is JFE Engineering. We are currently looking into the possibility of commercializing the manufacture of monopiles, which are seabed-anchored foundation structures for offshore wind turbines.

We are considering whether JFE Engineering can manufacture monopile, which is one of our focuses in this plan, while in Europe, various offshore wind companies, such as Sif, manufacture ,monopile,

Heavy, extra-thick steel plates are applied for monopile structure. Such plates are suitable for monopoles because they have fewer welding points, and we can increase productivity. JFE Steel will supply the steel products by producing in No.7 continuous casting machine which will start operation in Kurashiki District. And JFE Shoji will create these supply chains.

In addition, it is said that the next step after the seabed-fixed structure will be a floating type. The floating type will be manufactured by JMU, our equity method affiliate. Then they will also build work vessels for offshore wind. We are considering if we can maximize the resources of the entire group by doing this.

Ultimately, we would like to explore the possibility of entering the realm of operation and maintenance of built offshore wind turbines.



Social sustainability : Safety management, HR issues

JFE-HD



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

12

Next is social sustainability.

In terms of safety, we have not been able to achieve zero serious accidents. Therefore, we will increase efforts to prevent accidents by installing facilities themselves. We are planning to invest about JPY10 billion/year in

safety for the group in the seventh mid-term. We will promote multifaceted safety and health management using the latest IT technology.

With regard to facilitating employee participation, we intend to work on diversity and inclusion, human resources development, and workstyle reforms in order to strengthen the competitiveness of the entire Group.



Social sustainability : Contribution to Regional Societies through Engineering Business

JFE Engineering



- 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)



13

Next, I would like to talk about the contribution of the engineering business to the local community in the area of social sustainability. We will realize a kind of circular economy by contributing to the local community with a view to future combined services of local production and local consumption of energy, such as food recycling and regional PPS.

I will take Smart Energy Kumamoto as one of the examples. After the big earthquake in Kumamoto in 2016, we consulted with Kumamoto City, and JFE Engineering and Kumamoto have formed a company called Smart Energy Kumamoto. Smart Energy buys the electricity generated by waste power generation and provides that electricity to public facilities.

However, this alone is not enough for disaster prevention, we built our own power lines and send electricity to disaster prevention centers near Kumamoto City even in times of emergency. Storage batteries will also be installed in public facilities to provide power even in the event of a blackout.

This is how we can live in harmony with the community. This is a way to create a form that is resistant to disasters. JFE Engineering has deployed this system in 6 locations nationwide.



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**

14

Next is economic sustainability.

We would like to establish sufficient profitability and a stable financial base for aggressive management for mid- to long-term growth. The big thing here is that the domestic steel business is shifting from quantity to quality, and we are aiming for quality issues, quality competitiveness, and earnings per ton.

Then, I will proceed with my explanation of the promotion of growth strategies, the promotion of DX strategies, and the execution of effective investments based on selection and concentration, while maintaining financial soundness.



7th mid-term business plan <Steel Business>

JFE

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

Main initiatives

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

**Targets
FY2024**

Per-ton profit 10,000yen/ton*
(Segment profit 230.0 billion yen)

*Segment profit / unconsolidated sales volume in tons

Cf. 2H of FY2020 (actual)

- Per-ton profit 6,000 yen/ton
- Segment profit 70.8 billion yen

Equipment & Business Investment :
1,080 billion yen 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%)¹⁵

By shifting from quantity to quality, we are aiming for the world's top level of profit per ton of steel.

The main measures are transition to a lean robust business structure by shifting from quantity to quality, and to expand and accelerate the growth of overseas business by providing solutions that utilize knowledge, skills, and data.

In addition, we will strengthen our manufacturing base through digitalization, implement new growth strategies, and promote innovation to achieve carbon neutrality, with a revenue target of JPY10,000 per ton of steel. By multiplying this by the non-consolidated steel shipment volume, the company is aiming for a segment profit of JPY230 billion.

As stated in the lower part of the table, we are considering capital investment of JPY1.08 trillion.

As you can see on the right side, we plan to make 40% of our strategic investments in GX, DX, and cutting-edge equipment whereas it was only 20% during the 6th mid-term business plan. Rather, we have been focusing on the investment to maintain the functions, which accounted for 50% of the total investment in the sixth mid-term plan, but this time we will narrow it down to 30%.



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

JFE Steel

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	Expand margins and achieve stable profit
<ul style="list-style-type: none"> • Cost reductions: 120 billion yen 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 <ul style="list-style-type: none"> • Greatly reducing fixed costs • Lowering breakeven points • Introduce new technologies through DX <ul style="list-style-type: none"> • Improve production efficiency and yields • Greatly improve labor productivity • Ensure quality competitiveness by improving product quality, production efficiency and our delivery 	<ul style="list-style-type: none"> • Increase mix of highly value-added products* to an unprecedented 50% <small>*Products that offer technological advantages, are recognized by customers for their value added and have greater earnings power than commodity products.</small> • Product-mix enhancements by focusing on selective concentration in priority fields <ul style="list-style-type: none"> • 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

We will improve per-ton profit by fixed cost reduction and increase of high value-added products ratio. In terms of ensuring cost-quality competitiveness, we will reduce costs by JPY120 billion over the next 4 years and increase labor productivity by 20%. We will reduce the number of personnel from 16,000 to 13,000.

We are also aiming to secure qualitative competitiveness by introducing new technologies and improving quality and delivery through DX.

The right side, we will expand margins and secure stable earnings. We want to raise the ratio of high value-added products to half. In addition, we will enhance product mix. We will increase the production capacity of non-oriented electrical steel sheets, increase the production capacity of heavy, extra-thick steel plates for offshore wind power generation, and ensure a stable supply of high-tensile materials for automobiles.

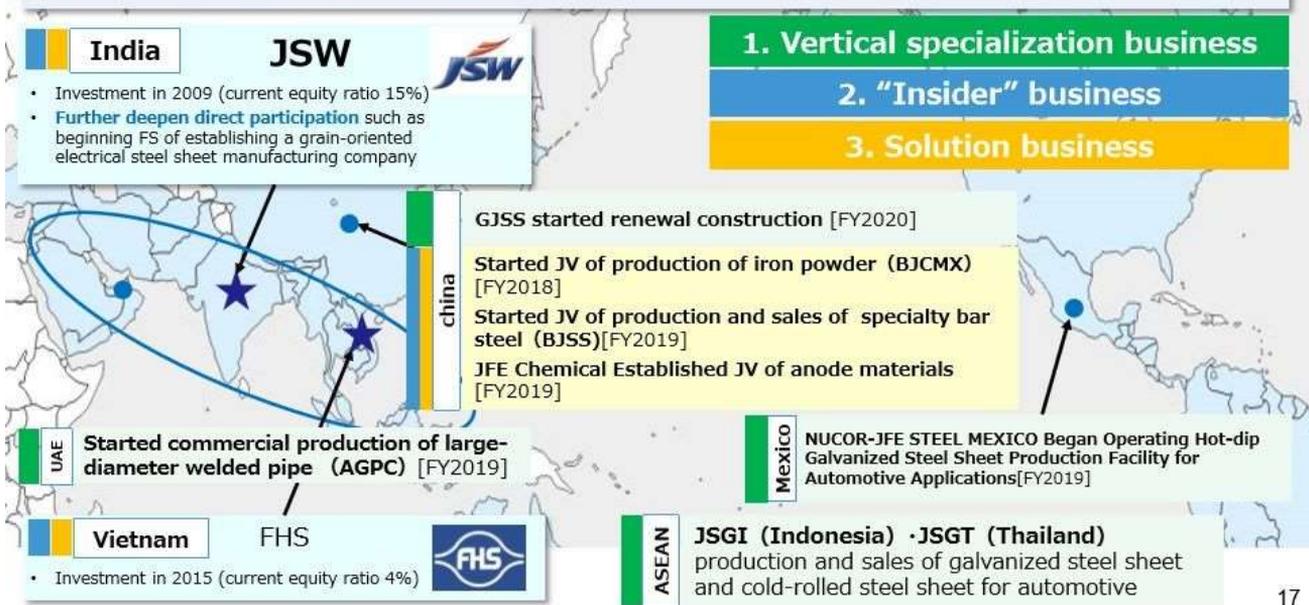
Also, we will be drastically revising our selling prices. In the future, we will specialize in high value-added products, so we will receive a proper evaluation from customers and aim for sales prices commensurate with the value.



Expand and Accelerate Overseas Business

JFE

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



We will accelerate and expand the growth of our overseas business.

The first is the expansion of returns from vertical specialization business. This is the area marked in green, which is mainly related to automobiles.

The second one is the local integrated production business, which is marked in blue and mainly consists of JSW in India and FHS in Vietnam.

As for the third point, the development of a solution-based business model, we are aiming to triple the earnings from this business model in FY2024 compared to FY2020. The areas are marked in yellow, which include mainly JSW in India and FHS in Vietnam, and businesses in China such as the iron powder and bar steel businesses as well as the battery business of JFE Chemical.



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

*CO₂ reductions effect resulting from expanding EV/HEV



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

Released May 7, 2021

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

<Demand forecast of G/O>

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



I think the most notable strategy of improvement of product mix is the strategy for electrical steel sheet.

Firstly, we are going to increase our production capacity for non-oriented electrical steel sheets in Kurashiki district, with a total investment of about JPY49 billion, doubling the manufacturing capacity for high-grade non-oriented electrical steel sheets compared to the current level.

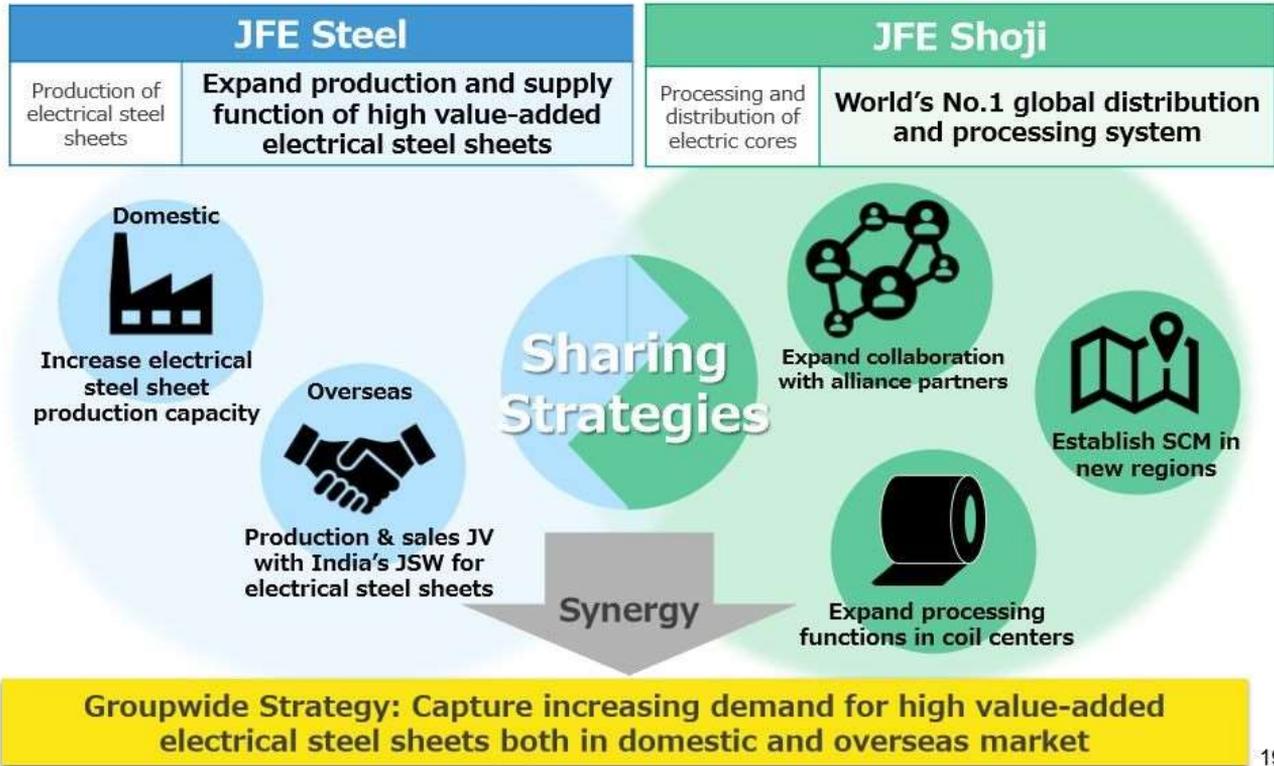
On the right is the content of today's news release. We have signed a memorandum of understanding with JSW regarding the FS, of a joint venture for grain-oriented electrical steel sheets.

In India, the demand for grain-oriented electrical steel sheets is expected to increase, and we will conduct the feasibility study. We would like to work together with JSW by providing our high-grade technology related to the demand for electric steel sheets.



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

JFE-HD



19

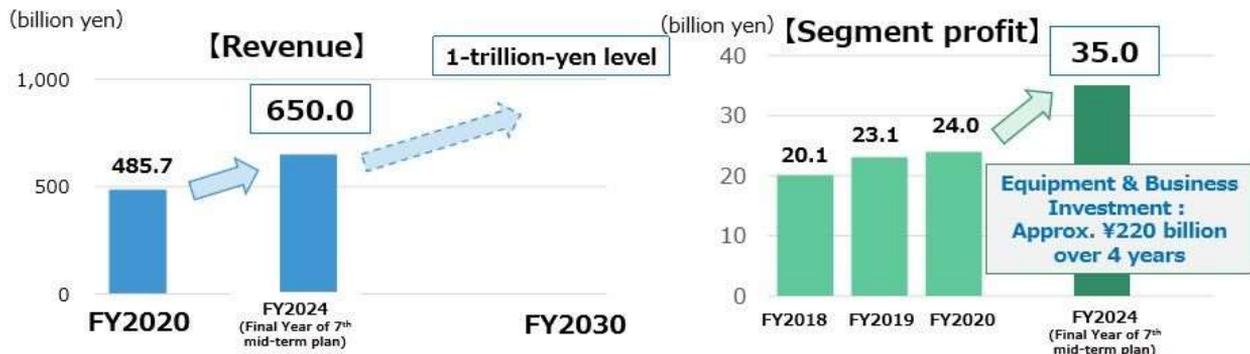
This is the group's strategy for electric steel sheet.

The slide depicts the initiatives of JFE Steel and JFE Shoji. JFE Steel will expand its domestic manufacturing facilities and proceed with the FS of the JV with JSW. JFE Shoji will create a global distribution and processing system. We will utilize the synergy effects of JFE Steel and JFE Shoji to capture the growing demand for high-grade electrical steel sheets in Japan and overseas on a group-wide basis.

7th mid-term business plan <Engineering Business>

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

Targets FY2024	<ul style="list-style-type: none"> • Revenue 650.0 billion yen • Segment Profit 35.0 billion yen
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Main initiatives	<ol style="list-style-type: none"> 1. Enhance mid/long-term priority areas (See next page) Waste to Resources, Carbon-neutral business, Combined utility service, Core infrastructure 2. Expand overseas business enhance EPC competitiveness, engage in ODA, pursue M&A synergies in chemical plant field, participation in local business in environmental, water and recycling fields 3. Promote DX initiatives
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20

Next is about the engineering business.

In the engineering business, we aim to achieve sales revenue of JPY1 trillion by FY2030.

For the final year of the mid-term business plan, we aim for sales revenue of JPY650 billion and segment profit of JPY35 billion.

The priority measures, as written below, are to strengthen the areas of medium- and long-term initiatives, which I will discuss on the next page. The priority fields of the engineering business are different from the previous classification, focusing on the fields that will grow in the future with an awareness of the SDGs.

We will also expand our overseas business and promote DX.

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**:

<p>Waste to Resource FY2024 revenue target ¥290 billion</p> <ul style="list-style-type: none"> • Establish stable profit base in domestic environment business • Priority investment and expansion of domestic market in recycling business* <small>*Food, Plastic, Incineration and Power generation</small> 	<p>Carbon Neutral FY2024 revenue target ¥80 billion</p> <ul style="list-style-type: none"> • Put priority in renewable energy (offshore wind-power generation, biomass power plant, solar power plant, geothermal power plant etc.) • Develop carbon neutral technologies. 
<p>Combined utility services FY2024 revenue target ¥20 billion</p> <ul style="list-style-type: none"> • Shift to comprehensive business model, including for efficient operation of facilities to contribute to energy savings and decarbonization 	<p>Core infrastructure FY2024 revenue target ¥260 billion</p> <ul style="list-style-type: none"> • 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.

For waste to resource business, the sales revenue target for FY2024 is JPY290 billion.

Carbon neutral business aims sales revenue target of JPY 80 billion for FY2024. It refers to businesses such as offshore wind power generation, biomass power generation, and solar power generation.

Combined utility services business aims sales revenue target of JPY 20 billion for FY2024. This business is rooted in the local community. We are considering a business that will handle the entire process of setting up and operating water, sewage, electricity, gas, recycling and other services in the local community.

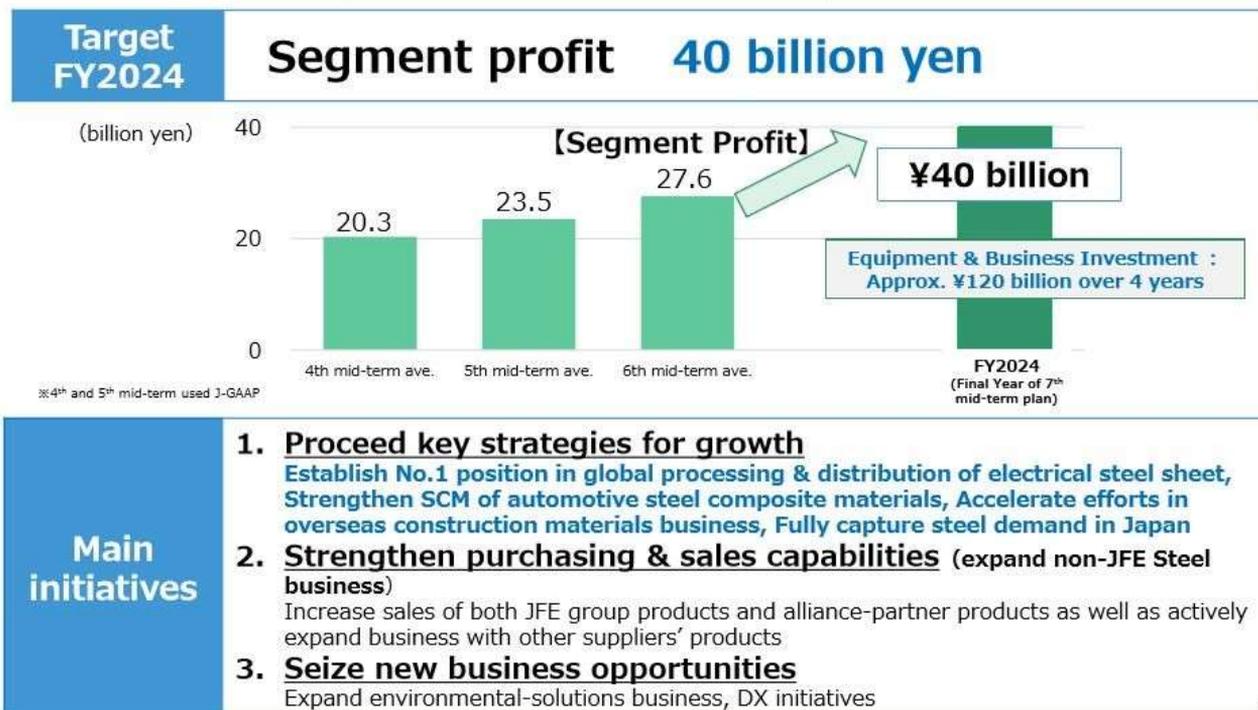
Core infrastructure business aims sales revenue target of JPY 260 billion for FY2024. This refers infrastructure development, such as bridges

Through these fields, we set a sales revenue target of JPY650 billion for FY2024.



7th mid-term business plan <Trading Business>

Establish growth foundation by enhancing SCM



Next is the trading business.

The Trading business is targeting a segment profit of JPY40 billion in FY2024. The 3 priority measures are as follows.

We want to establish the number 1 position in the global processing and distribution of electrical steel sheets. We will also strengthen SCM for automotive steel products. We will make efforts in overseas construction materials business. We will thoroughly capture domestic steel demand.

Then, in terms of strengthening our purchasing and sales capabilities, we want to expand transactions with non-JFE Steel related companies.

We will also respond to new business opportunities, such as offshore wind power.

Trading Business's Main initiatives

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

<p>Strengthen SCM of Automotive steel</p> <p>Enhance SCM for high-tensile steel both in overseas and domestic market to increase sales of JFE's strategic products</p>	<p>Fully Capture steel demand in Japan</p> <p>Increase earnings by enhancing JFE Group's presence through expansion of function (quality) and additional trading (quantity)</p>
<p>Further collaboration with JFE Steel both in domestic and overseas market</p> <ul style="list-style-type: none"> 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. 	<p>Strengthen processing and distribution in domestic steel business</p> <ul style="list-style-type: none"> 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 <p>Pursue the best sales structure by sharing strategies with JFE Steel in the domestic market, which is the most critical</p>
 <p>Strengthen SCM along with groupwide optimum business across four-pillar regions</p>	
<p>Accelerate efforts in overseas construction materials business</p> <ul style="list-style-type: none"> In ASEAN and North American regions, expand trading in this sector and collaborate with local companies to strengthen business foundations. 	<p>Expand non-JFE Steel business</p> <ul style="list-style-type: none"> 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

Main initiatives.

This is a specific description of the strengthening of SCM for steel products for automobiles, the thorough capture of domestic steel demand, the acceleration of overseas construction materials business initiatives, and the expansion of transactions other than those related to JFE Steel.



JFE

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

JFE Steel		JFE Engineering	
Use digital technology to streamline production operations and implement new growth strategies		Digitalize entire business and provide new digital services to customers.	
Target	Labor productivity: 20% improve* <small>*FY2024 structural reform 13%+ DX effects etc.</small>	Target	Design efficiency: 20% increase in FY2024
Investment	115 billion yen over 4 years	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**

This slide shows strategies of digital transformation.

We are focusing on 3 areas, innovative productivity improvement, transformation of existing businesses, and creation of new businesses, and our current focus is on innovative productivity improvement.

Over the next 4 years, the entire group will invest JPY120 billion, JPY115 billion of which will be invested in the Steel business.

As you can see below, steel wants to strengthen its competitiveness by converting its entire manufacturing process into a cyber-physical system. It will increase production efficiency, dramatically improve labor productivity, and improve yields ratio. It will Improve quality and delivery, and increase customer satisfaction. We will also use this to expand our solutions business as a growth strategy.

For the engineering business, we aim to increase design efficiency by 20%.

We will also invest in Shoji to promote better customer service and other activities. I think it will be a little while before we can commercialize the existing businesses that run throughout the entire Group.



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

JFE-HD

- 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.

25

We will invest to strengthen our competitiveness and to build a stable revenue base, as one of effective investments based on selection and concentration, while maintaining financial soundness.

Putting all of this together, we are looking at JPY1.45 trillion in capital investment, investment and financing as a whole in order to strengthen our competitiveness and maintain stable profit base,.

Capital investment is JPY1,200 billion, of which JPY340 billion is for green transformation and JPY120 billion for DX. We will also spend JPY250 billion on business investment and loans.

As a source of funds for this money, we will review assets and businesses that contribute little to earnings to secure the necessary investment funds, with the goal of generating JPY200 billion in cash.

Our policy for returning profits to shareholders will be the same as in the sixth medium-term term, with a payout ratio of 30%.



Main Financial Data and Performance & Profitability Targets

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

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

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

The table below summarizes the above. For the entire group, consolidated business profit target is JPY320 billion, target for profit attributable to owners of the parent is JPY220 billion, and ROE target is 10%. Target for Debt/EBITDA is about 3 times and D/E is about 70%.

By operating company, the Steel business targets a segment profit of JPY230 billion and a profit per ton of JPY10,000, while the Engineering business targets sales revenue of JPY650 billion and a segment profit of JPY35 billion. The Trading business targets segment profit of JPY 40.0 billion.

The target for dividend payout ratio is 30%.

That is all.

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