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JFE Group
Sixth Medium-Term
Business Plan
(FY2018 - FY2020)

April 26, 2018

JFE Holdings, Inc.



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1. Review of Fifth Medium-Term Business Plan (FY2015 - FY2017)

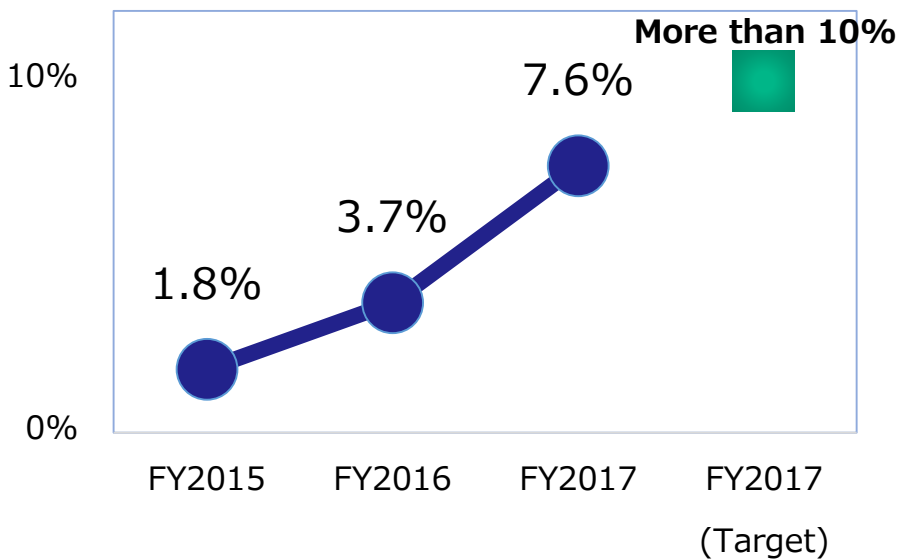




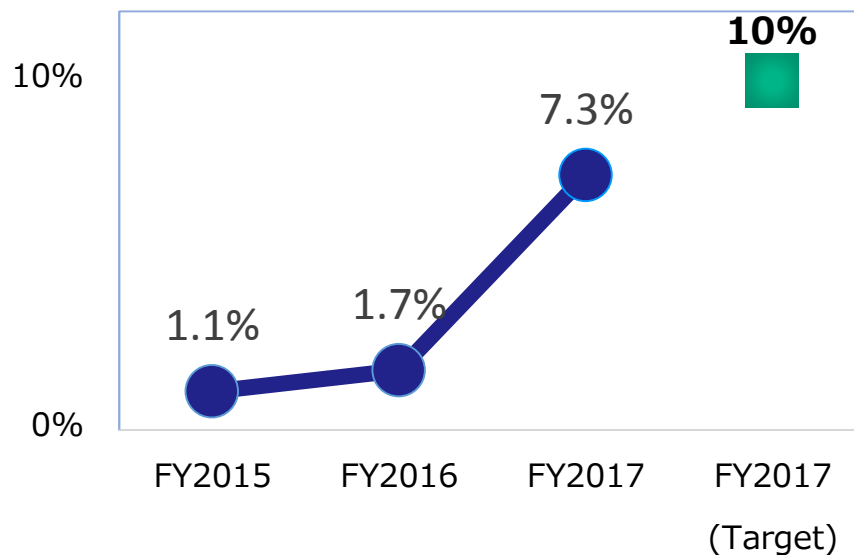
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Trend of financial indices 1

JFE Holdings (ROE)

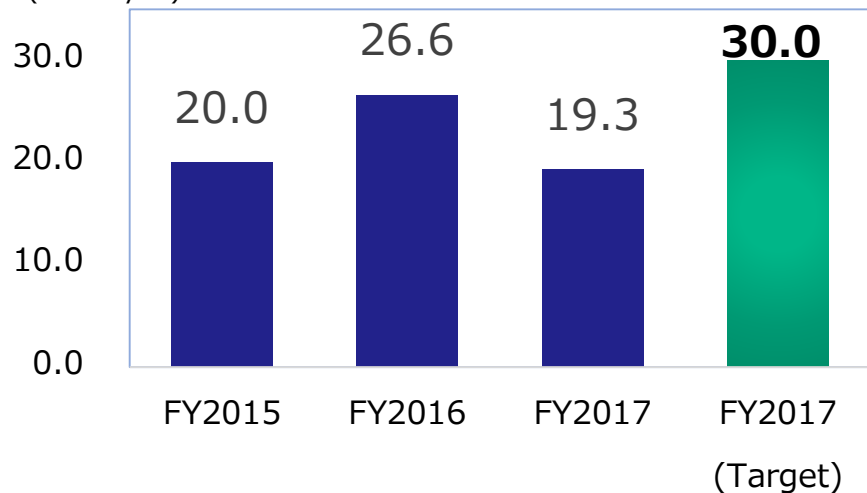


JFE Steel (ROS)



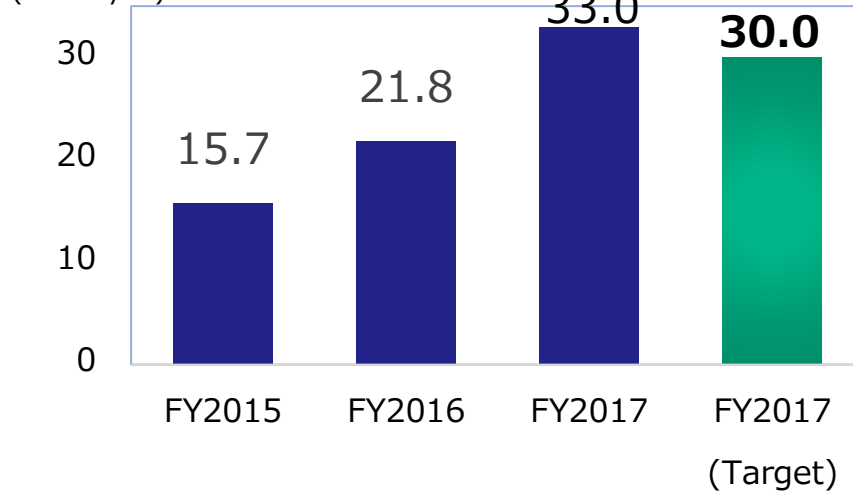
JFE Engineering (Ordinary Income)

(billion yen)



JFE Shoji Trade (Ordinary Income)

(billion yen)

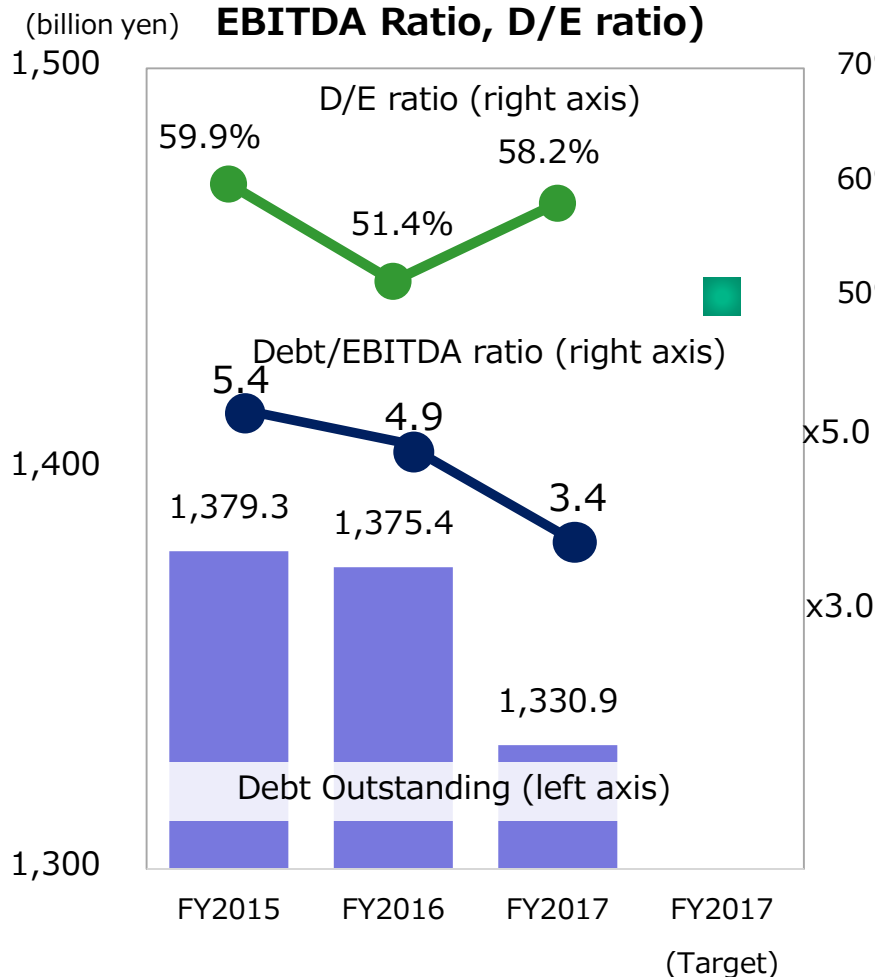




Trend of financial indices 2

JFE Holdings

(Debt Outstanding, Debt/EBITDA Ratio, D/E ratio)



- Debt / EBITDA ratio: Improved to **3.4 times**
- Debt outstanding: Decreased to **1,330.9 billion yen**
- D/E Ratio: Increased to **58.2%**

Refinanced to subordinated loan having lower capital component in March, 2018 owing to improvement of financial soundness

Ref. Cash Flow for the last three years

(FY2015 – FY2017)		(billion yen)
Source	Usage	
Net Income	Dividends	74.7
	Working Capital	32.9
	Capex, Investments	729.8
Depreciation		520.0
Asset Sales		242.1
	Repayment of Debt	170.8
		1,008.2
		1,008.2

■ D/E ratio = Debt outstanding / Shareholders' equity.
Debt having a capital component is deemed to be capital, as assessed by rating agencies.



Results of Fifth Medium-Term 【Steel Business 1】

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Strengthened domestic profit base for enhancing competitiveness and carried out investments for medium/long term growth

1 . Strengthened Domestic Manufacturing Base

Domestic Capital	<Planned>	<Results>
Investments :	650 billion yen	780 billion yen

※decision making basis

- Implemented large-scale renovation investments including coke ovens
- Decided the strategic investments ahead of the 6th mid-term
(New continuous casting machine at Kurashiki, No.3 coke oven renovation at Fukuyama)

2 . Cost Reductions

Achieved cost reductions target : +110 billion yen over 3 years

- **Renovation of coke ovens** ⇒ Improve self-sufficiency rate of coke used
Increase by-products gas recovered
- **Renewal of power plants** ⇒ Enhance energy-saving
- **New Kurashiki reheating furnace** ⇒ Improve energy efficiency



Results of Fifth Medium-Term 【Steel Business 2】

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3. Promoted overseas business

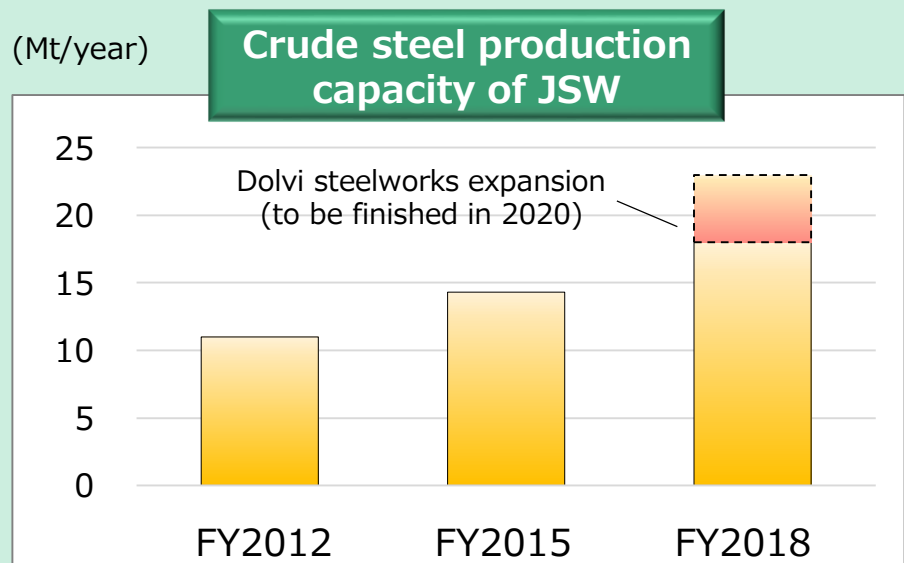
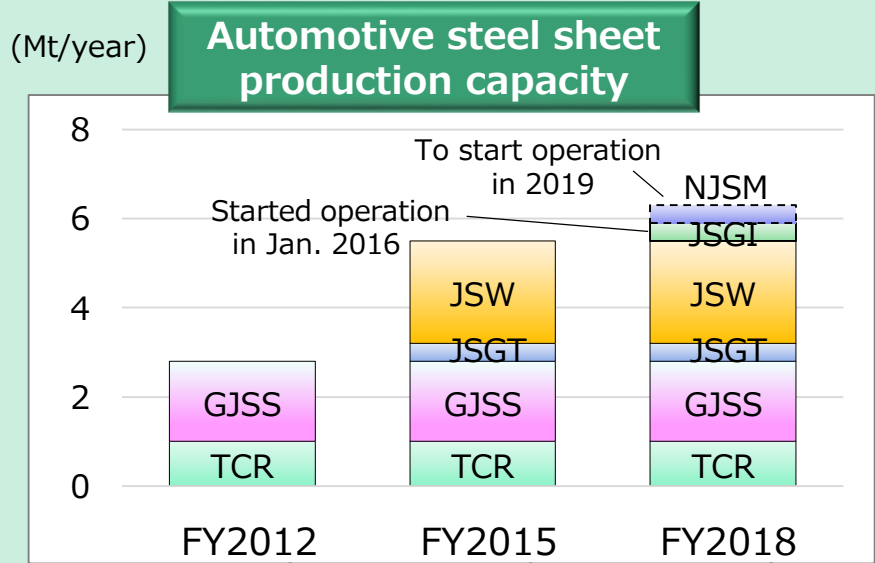
Expanded existing businesses and promoted new investments

•[GJSS\(CGL\)](#), [JSGT](#): almost reached full production by expansion of local production and keep in black

Existing
business
es

•[JSGI](#): started operation in Jan. 2016 and expanding production

•[JSW](#): Crude steel production capacity reached 18Mt/year. The local production of automotive steel sheet and electrical steel with technological support from JFE has been expanding.



New
Investments

•[FHS\(Vietnam\)](#) : secure overseas steel source and expand business in ASEAN region

•[NJSM\(Mexico\)](#) : establish production and delivery system of automotive steel sheets in NAFTA region

•[JFE MERANTI\(Myanmar\)](#) : target growing demand of high-grade steel for building use



Results of Fifth Medium-Term Business Plan 【Steel Business 3】

4. Reinforced technological development

R & D expenses (results) : + 8 % vs. previous medium-term

Process development

Started to build middle size pilot plant for practical use of ferro-coke

Product development

1.5GPa-Grade Cold-rolled Steel

Achieved the practical use of world's strongest ultra high-tensile cold-rolled steel sheet for automobile

Crack Arrest Steel Plate

Achieved the practical use of world's thickest plate with both arrestability and weldability

ECOGAL-Neo

Started production of ecological hot-dip Zn aluminum-based alloy-coated steel sheet with excellent corrosion resistance

Advanced IT

Establish Data-science project department to actively use AI, IoT technologies

5. Reorganization within JFE Group

•Business integration of facility maintenance and renewal

: JFE Plant Engineering Co., Ltd (Apr. 2016)

•Business integration of bars and wire rods business

: Integration of Bars and wire rods business in JFE Steel Bars & Shapes's Sendai works (Apr. 2017)

•Business integration of the small-diameter ERW pipe business

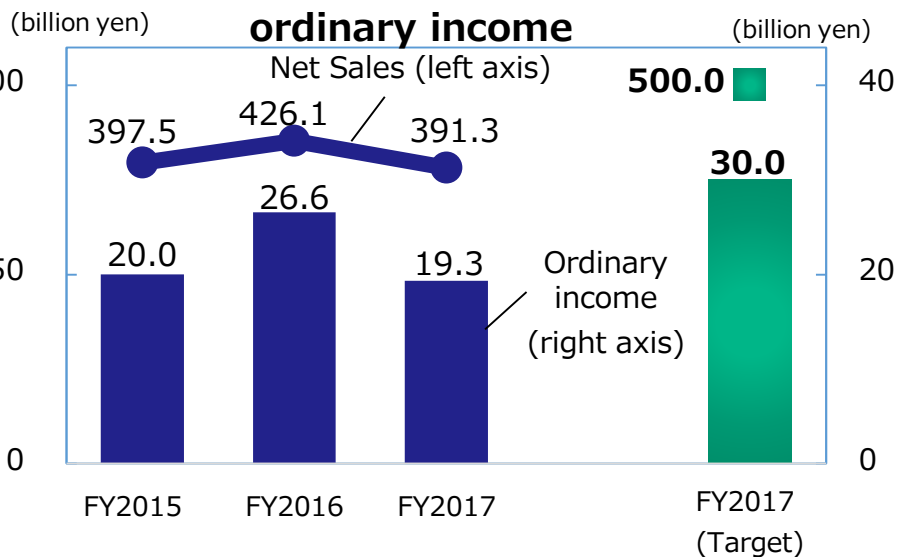
: JFE Welded Pipe Manufacturing CO., Ltd. (Apr. 2017)



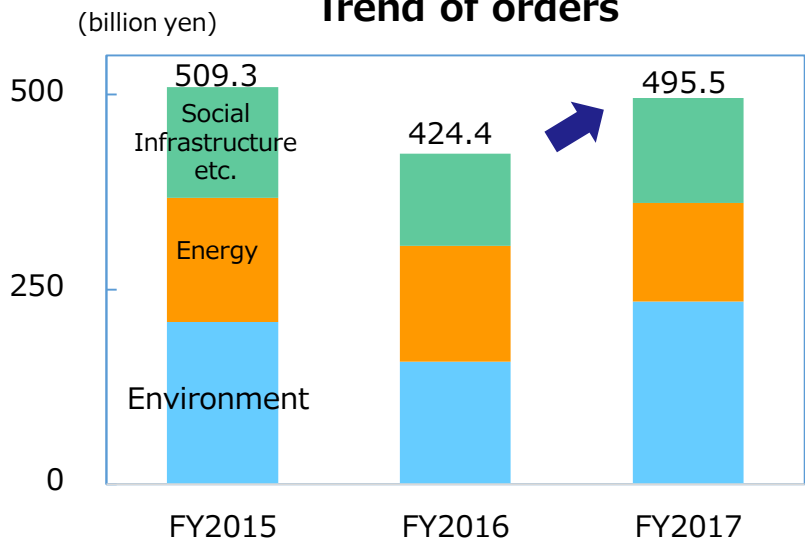
Results of Fifth Medium-Term 【Engineering business】

Ordinary income in FY2017 decreased with one-off items, in addition to decrease with decrease in orders of the previous year. The company couldn't achieve Fifth Medium-Term target, but orders recovered in FY2017.

Trend of net sales and ordinary income



Trend of orders



(*)EPC : Engineering, Procurement and Construction

Main achievement in Fifth Medium-Term

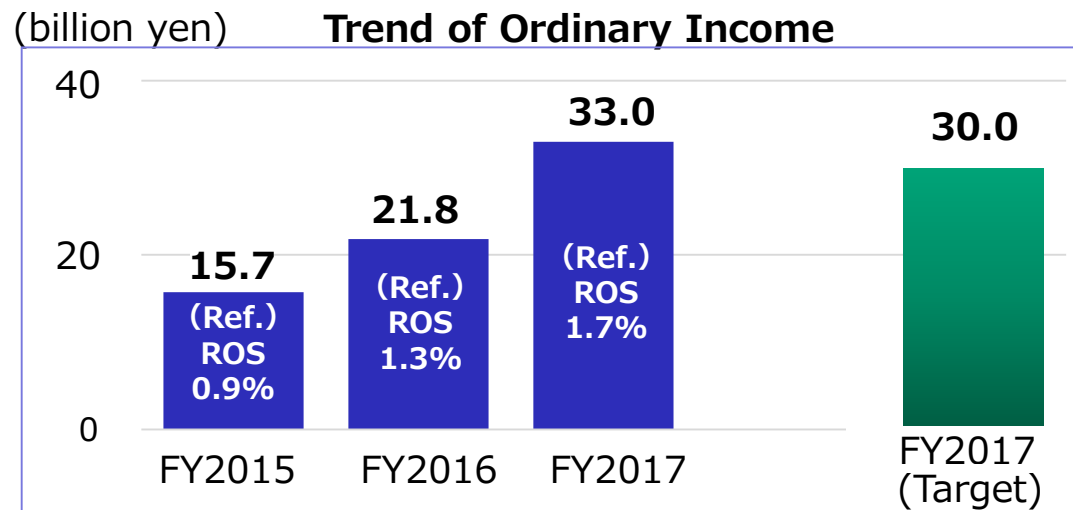
- Focused on operations projects in Environment and Energy category in addition to existing EPC(*) activities
- Increased lineups of power plant in renewable energy business
- Increased the production capacity of J&M Steel Solutions (10→30 thousand ton / year)



Results of Fifth Medium-Term 【Trading Business】

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In FY2017 JFE Shoji Trade achieved ordinary income target planned through improving profitability, expanding sales volume and recovering of steel sales price etc.



Main achievement in Fifth Medium-Term

Domestic

- Optimized of processing and distribution networks through operational reorganizations and strengthened supply chain
(Investments in "Ohmi Sangyo" , Acquisition of "JFE Shoji Electrical Steel" etc.)

Overseas

- Improved profitability of group companies including Kelly Pipe in USA and coil centers in China and ASEAN region
- Promoted investments in overseas including electrical steel processing business and CGL project in Myanmar etc.



Strengthen business structure for sustainable growth

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Initiatives to strengthen governance system

Oct. 2015

- Establishment of JFE Holdings, Inc. Basic Policy on Corporate Governance
- Establishment of Nomination Committee and Remuneration Committee

FY2015

- Start of the evaluation of the effectiveness of the Board of Directors

Jun. 2017

- Review of the composition of the Board of Directors and the Audit & Supervisory Board with the evaluation of the effectiveness

① Increased diversity to activate and deepen discussion

- Increased number of Outside Directors who have background of technology-company CEO or background of lawyer
- President of Engineering business and president of Trading business were named Directors

② Further increased neutrality and transparency

- A majority of the Audit & Supervisory Board is Independent Outside Members. (3 out of 5)

③ Deepened discussions related to strategic directions

JFE Group's sustainable growth and increasing the Group's value over the medium/long term

2. Sixth Medium-Term Business Plan (FY2018 - FY2020)





Business environment recognition

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Opportunities

【Capture structural changes and social needs】

Trends of lighter vehicles and the shift to EVs

Continuous economic growth in developing countries

Demand for domestic infrastructure renovation

Development of PPP (public-private partnerships)

Deregulation of electric power and gas service

**Prevention of global warming
Establishment of resources recycling societies**

Risks

【Response to environment changes】

Decrease in domestic population

(decrease in steel demand, labor shortage)

Increased volatility of resource prices

Growing protectionism

Re-expansion of supply demand gap of steel



Sixth Medium-Term Business Plan 【Group-wide measures】

- (1) Pursue growth with leading-edge technologies that meet social trends**
- (2) Continue to expand domestic profit base and strengthen manufacturing capabilities**
- (3) Advance overseas business and expand overseas profit base**
- (4) Strengthen business structure for sustainable growth**
 - a. Continuously address ESG issues
 - b. Recruit diverse human resources and create workplaces where they can demonstrate their full potential

【Financial Targets】

Capital efficiency	ROE 10%
Financial standing	A-grade rating by international credit agencies

【Total Investment】 (3 years / decision making basis)

Total investment	Around 1 trillion yen
Domestic investment	Around 900 billion yen
Overseas investment	Around 100 billion yen



(1) Performance and profitability targets of JFE Holdings (Entire Group)

The goal is to achieve the targeted levels stably over the three-year term (average basis), rather than pointing exclusively to the plan's final year.

	6 th medium-term plan targets (average basis)	<Ref.> FY2017 Actual
Consolidated ordinary income	280.0 billion yen/year	216 .3billion yen
Net profit attributable to owners of the parent	200.0 billion yen/year	144.6 billion yen
Debt/EBITDA ratio	Around 3 times	3.4 times

(2) Returns to shareholders

	6 th medium-term plan targets	5 th medium-term plan
Dividend payout ratio	Around 30%	Around 25-30%



Performance and profitability targets by segment

JFE

(3) Targets of ordinary income by business segment

The goal is to achieve the targeted levels stably over the three-year term (average basis), rather than pointing exclusively to the plan's final year.

	6 th medium-term plan targets (average basis)	<Ref.> FY2017 Actual
Steel business (JFE Steel)	220.0 billion yen/year	198.8 billion yen
Engineering business (JFE Engineering)	30 billion yen/year	19.3 billion yen
Trading business (JFE Shoji Trade)	35 billion yen/year	33.0 billion yen

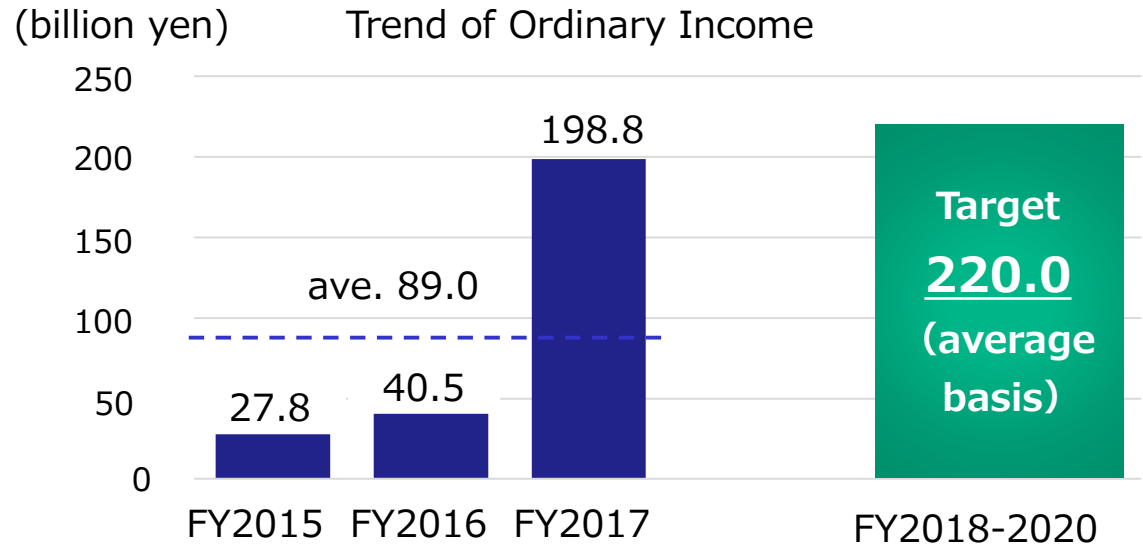


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Sixth Medium-Term Business Plan 【Steel Business】

Profitability
Target

Consolidated ordinary income : 220billion yen/year (average basis)



Main Measures

- a. Pursue growth through leading-edge technologies
- b. Strengthen production capabilities
- c. Pursue overseas business to shore up long-term growth
- d. Implement sales and product lineup strategies to address customer needs
- e. Realize the full potential of human resources and workplace

Pursue growth through leading-edge technologies

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1. Product development focusing on priority fields

<Priority fields>

- ① **Automobiles** : Technologies for lighter vehicles and EVs
- ② **Infrastructure materials** : Technologies for highly efficient construction
- ③ **Energy** : Technologies suited to severe environments

2. Environmentally friendly production technologies

- Develop technologies of **ferro-coke**
- Develop technologies of **Iron making process by hydrogen reduction, separation and recovery of CO2** (COURSE50)

3. Proactive use of advanced IT

- **Data-science** technologies (AI, IoT, Big data)
- **Robotics** technologies

Research & development
outlays

110 billion yen over 3 year

(+10% vs. previous medium-term)



Strengthen production capabilities

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Heavy investment in West Japan Works, the source of competitive advantage

Domestic capital investment **Around 850 billion yen** over 3 years (10% vs. previous mid-term)

※decision making basis

1. Investments to increase capacity and maximize performance particularly in West Japan Works

- New continuous casting machines at Kurashiki
- Increase capacity of downstream mills etc.

2. Strategic investments focusing on upstream processes to pursue cost advantage

- Enhance sintering capacity including No.3 sintering plant at Fukuyama
- Investments to facilitate the use of cheaper raw materials etc.

3. Planned investments for renovation

- Renew upstream facilities
(Blast furnace at Kurashiki, No.3 coke oven at Fukuyama etc.)
- Renew utility facilities including energy plant etc.

4. Strategic investments for improving product mix

- Focus around priority fields
(Automobiles, Infrastructure, Energy)

5. Continuous investments for the information systems

- Actively deploy leading-edge technologies including AI, IoT and revamp steelworks information systems

Crude steel production : stable at 30 million tons (standalone)

Cost reductions:

+105 billion yen over 3 years
(+3,500yen per crude steel production)

- Investment recovery
- Reduction of pellet purchased through expansion of sintering plants
- Expansion of a usage of cheaper raw materials

Improve product mix



Pursue overseas business to shore up long-term growth

Expand the local production and improve profitability of overseas business

Prioritized Business Field	Asia			NAFTA	MENA
	China	Southeast Asia	Southwest Asia		
Automobiles Adopt for global procurement	• GJSS(CGL) • JJP (Automotive pipe) • BJCMX (Iron powder)	[Thailand] • JSGT(CGL) [Indonesia] • JSGI(CGL)	[India] • JSW	[Mexico] • NJSM(CGL) [USA] • AK Steel	To start operation in 2019
Infrastructure Target in growing Asia	To start operation in 2018	[Vietnam] • J-Spiral (Steel pipe pile) • A&J (Building material processing) • GECOSS VN (Lease of steel for temporary works) [Myanmar] • JFE MERANTI (flat steel for building and construction)	Dolvi steelworks expansion (To be finished in 2020)		[Egypt] • Kandil (CRM, CGL) To start operation in 2018
Energy Localization in demand region	• BHNK No.2.blast furnace To start operation in 2018	[Singapore] • JFE – TC	[USA] • CSI • Benoit	[UAE] • AL GHARBIA (Linepipe)	
Overseas BF		[Vietnam] • FHS	Mining interests (Australia) • Byerwen Coal (coal mine)		To start shipment in 2018

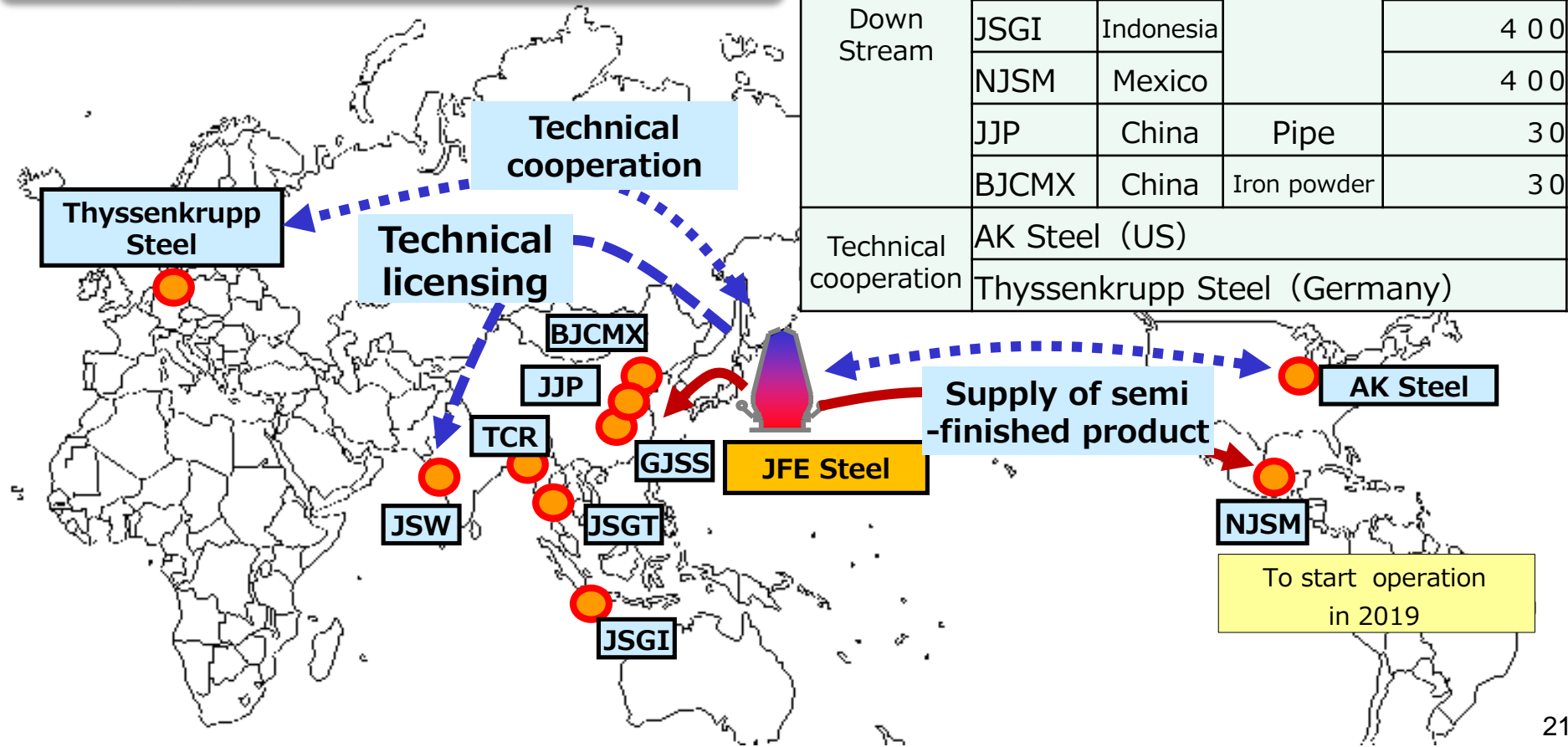


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Overseas business (Automobiles)

Strengthen global supply system through starting up NJSM (Mexico) and expand the production and improve profitability of existing businesses

Segments	Company	Country	Products	Capacity (000t/year)
Integrated steelworks	JSW	India	Plate	2,300
Down Stream	GJSS	China		1,800
	TCR	Thailand		1,000
	JSGT	Thailand		400
	JSGI	Indonesia		400
	NJSM	Mexico		400
	JJP	China		Pipe
	BJCMX	China	Iron powder	30
Technical cooperation	AK Steel (US)			
	Thyssenkrupp Steel (Germany)			





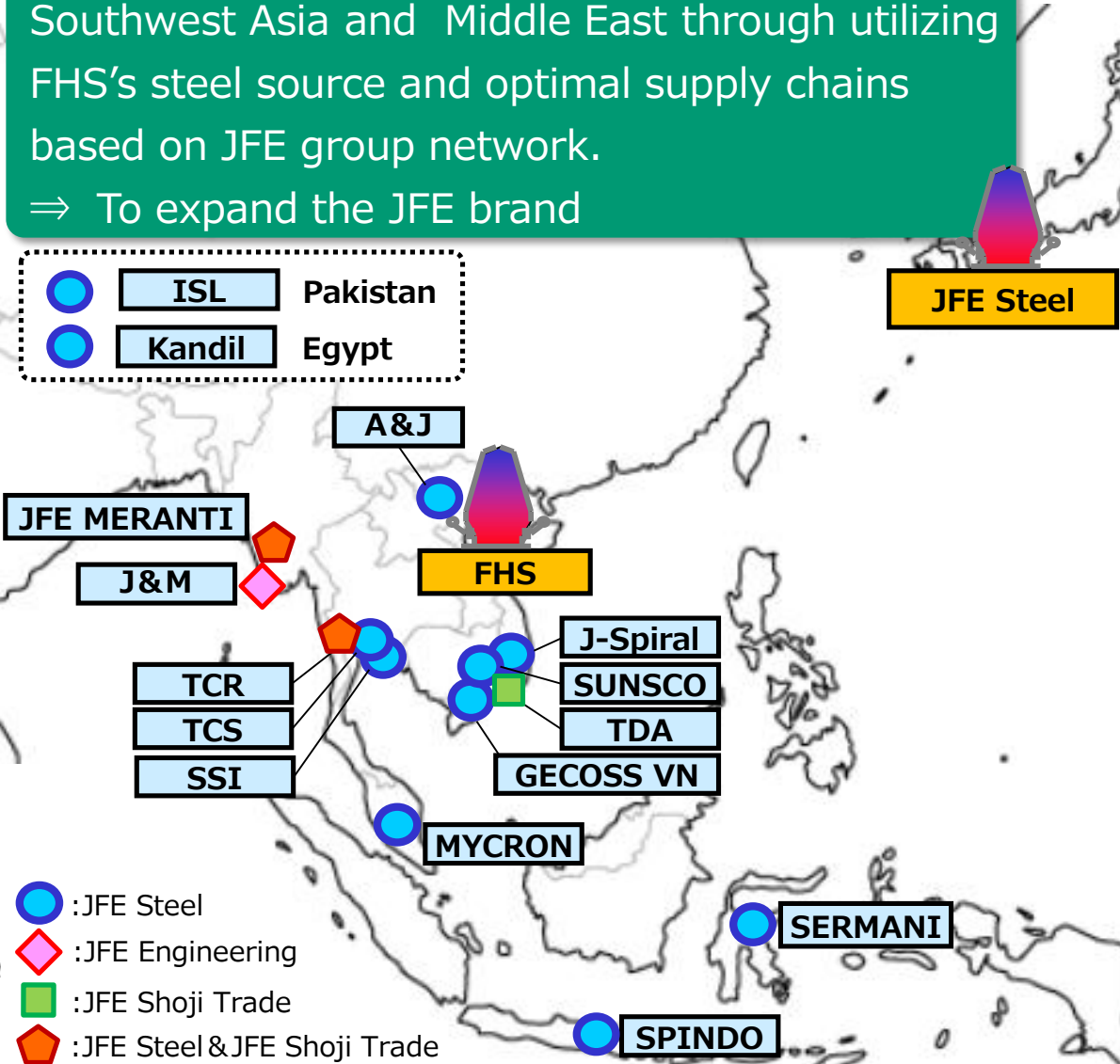


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Overseas business (Infrastructure)

To capture the growing demand in ASEAN, Southwest Asia and Middle East through utilizing FHS's steel source and optimal supply chains based on JFE group network.
 ⇒ To expand the JFE brand

-  **ISL** Pakistan
-  **Kandil** Egypt



Upstream (Steel source)

■ FHS (Formosa Ha Tinh Steel)

Crude steel production capacity:

7 million tons/year (1st phase)

Blast furnace





- No.1 : started operation in May 2017
- No.2 : to start operation in 2018

• Production of slab, billet, hot rolled coil, bar and wire

Supply of slab, HRC

Main downstream(investments)

- **J-Spiral:** steel pipe pile, steel pipe sheet pile
- **JFE MERANTI:** galvanized sheet, color coated sheet
- **SUNSCO:** galvanized sheet, steel pipe
- **MYCRON:** cold rolled steel sheet
- **TDA:** cold rolled steel sheet galvanized sheet,
- **SSI:** hot rolled steel sheet

-  :JFE Steel
-  :JFE Engineering
-  :JFE Shoji Trade
-  :JFE Steel&JFE Shoji Trade



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Implement sales and product lineup strategies
to address customer needs

JFE Steel

**“JFE Steel aims to become a global steel supplier that
steadily create new value grows with its customers”**

Customer's value creation needs

【Priority fields】

Automobiles

Infrastructure

Energy



**Integrate product
development and
sales practices**

**Expand
global
production**

**Strengthen
production
capabilities**

Ultra high-tensile steel
Technical support for
Multi-material



Deliver solutions

Electrical steel



Steel pipe pile



Line pipe



**Enhance profitability
through the brand value
improvement**

**Expand the
JFE brand**

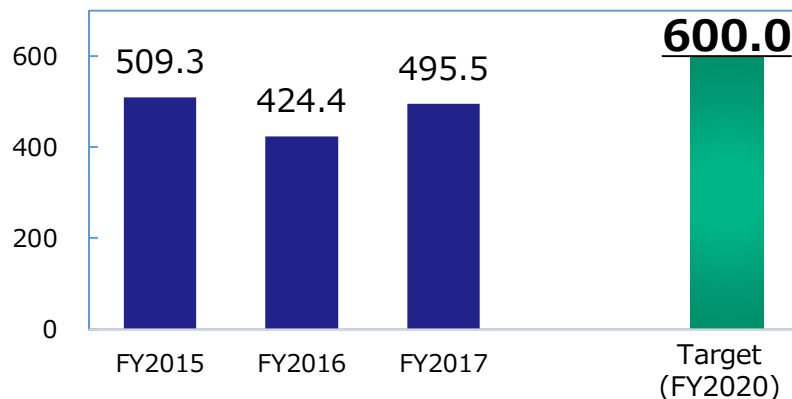


Sixth Medium-Term Business Plan 【Engineering business】

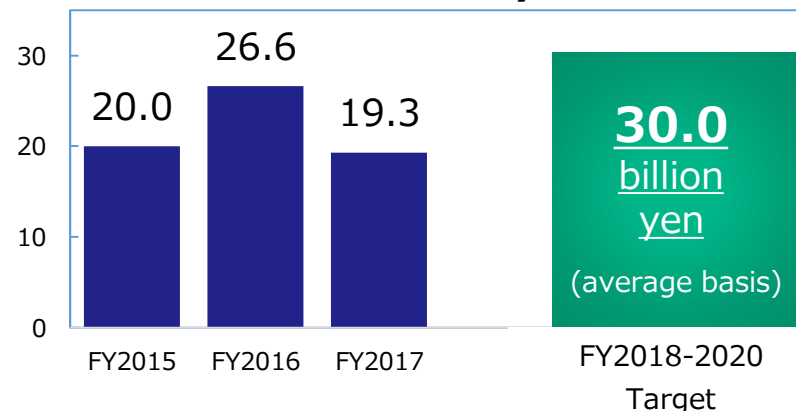
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Expand operations projects and tighten project management to enhance earnings**Targets**Orders : **600.0 billion yen** (FY2020)Ordinary income : **30.0 billion yen** (average basis)

(billion yen)

Trend of orders

(billion yen)

Trend of ordinary income**Main Measures**

- ①Expand operations projects
- ②Develop and expand sales of new products
- ③Achieve profitability in overseas business
- ④Improve productivity and institute workstyle reforms



Expand foundations for stable earnings

JFE

Strengthen and expand “Operations projects” encompassing operations & maintenance activities, in addition to existing engineering, procurement and construction activities.

Orders of Operations project : +40% (FY2020)

Expand public-private partnerships

(waste treatment, water-processing businesses etc.)

Expand energy services

(electric power, gas, steam supply businesses)

Promote consultative-solutions model that draws on **a diverse array of energy sources**



Waste incineration



Water treatment



Solar power generation



Biomass power generation



Global Remote Center



AI Solutions



High-efficiency waste-to-energy plants

Develop new products

Improve profitability of overseas business

JFE

- **Strengthen global engineering operations** by accelerating localization and focusing on areas where the company has competitive advantages such as waste-to-energy, water-processing plants and bridges.
- Expand orders and enhance profitability through **customizing the strategy to each regional characteristics**.

Standardkessel Baumgarte Holding GmbH (Germany)

- Focus on projects of large sized furnace in Europe and Asia.
- Transfer its part of engineering operation to Pune Engineering Centre

J&M Steel Solutions Co., LTD (Myanmar)

Expand overseas orders as one of the largest production capacity bases for steel structure in South East Asia

JFE Engineering Corporation (Japan)

Pune Engineering Centre (India)

The base for management and design of overseas projects

JFE Techno Manila, Inc. (Philippines)

The base for design of overseas projects

Cost reduction with making the most of the overseas engineering bases (around 600 peoples)

Sixth Medium-Term Business Plan 【Trading Business】

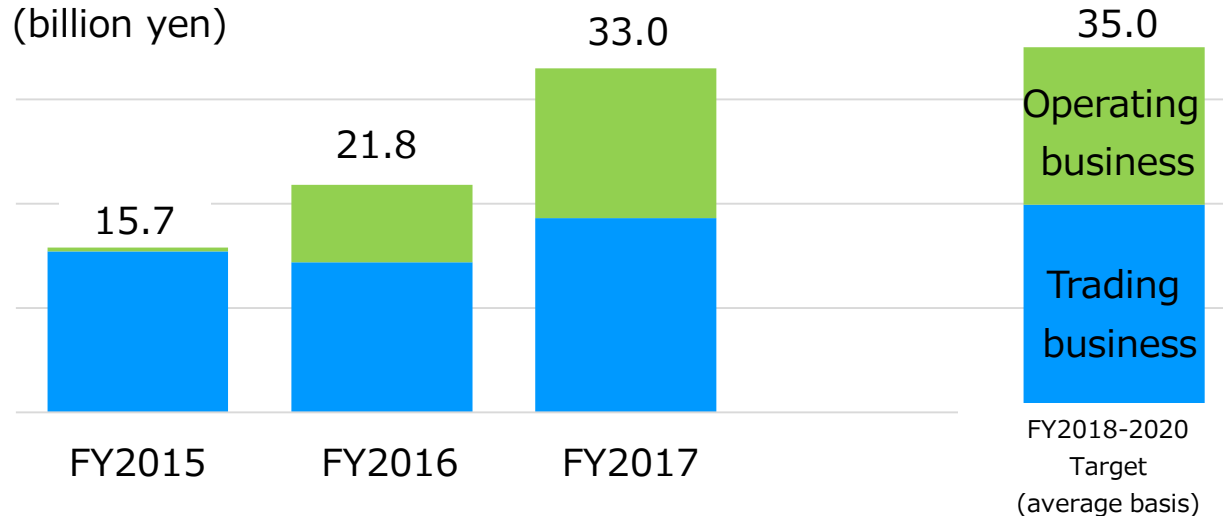


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Build a stable profit base and enhance profitability of trading and operating activities

Profitability Target

Ordinary Income : **35 billion yen** (average basis)



Main Measures

- ① Build a stable profit base (Trading business and Operating business)
- ② Strengthen global/regional strategies
(Japan, Americas, China and ASEAN)
- ③ Build operational foundations
(Develop core personnel and utilize advanced IT)



Enhance profitability of trading and operating business

JFE

Strengthen Four-region structure (Japan, Americas, China, ASEAN) centering on Japan

➤ **Deepen coordination with headquarters, production sectors and overseas offices**

	Japan	China	Americas	ASEAN	Others
Trading business	Fully utilize JFE group resources (FHS, JFE MERANTI MYANAR, JSW etc.)				
	Expand business outside of the JFE group (Fully utilize the knowledge and know-how based on trading with JFE group)				
	Expand sales of raw materials and equipment sectors				
Operating business	Strengthen downstream business				
	Building materials and pipe processing	Electrical steel processing			
	Processing and distribution	Strengthen processing and distribution business			
	Food and Electronics				
	Expand business areas	Strengthen building material sector			
	M&A				



Strengthen business structure for sustainable growth 1

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Address ESG issues

Continuing activities

Environmental	Continue to reduce environmental loads
Social	Create workplaces where our diverse workforce can demonstrate its full potential
Governance	Activities to enhance the transparency and fairness of Group management Step up information disclosure through engaging in two-way communication with stakeholders



New initiatives

- **Set key performance indicators (KPIs)** for CSR priorities and work to attain these goals
- Introduce **an executive pay scheme** linked to medium/long-term financial performance
- Issue **an Integrated Report** to enhance communication

Strengthen business structure for sustainable growth 2



Recruit diverse human resources and create workplaces where they can demonstrate their full potential

(1) Recruiting outlook

JFE Steel	830 people per year
JFE Engineering	150 people per year
JFE Shoji Trade	60 people per year

(2) Promote Diversity

- Make the most of diverse human resources including women and non-Japanese
- Develop various supporting system for balanced lifestyles



(3) Pursue work style reforms

- Institute health-conscious management practices
- The proactive use of advanced IT
(data-science technologies, robotics technologies, robotic process automation)
- Carry out operational reforms through the revamping of information systems





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