

TYO : 5401

OTC : NPSCY(ADR)



NIPPON STEEL

FY2021 2Q Earnings Summary

Nov. 2nd, 2021

NIPPON STEEL CORPORATION

Notes on this presentation material

Unless otherwise noted, all volume figures are presented in metric tons

Unless otherwise noted, all financial figures are on consolidated basis



Agenda

1. FY2021 2Q Earnings Summary and FY2021 Forecast

2. Business Environment

3. Supplementary Material for Financial Results

4. Topics

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Appendix 2. Medium- to Long-Term Management Plan: Rebuilding Domestic Steel Business

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Appendix 4. Related Indicators

FY2021.2Q Earnings Summary and FY2021 Forecast

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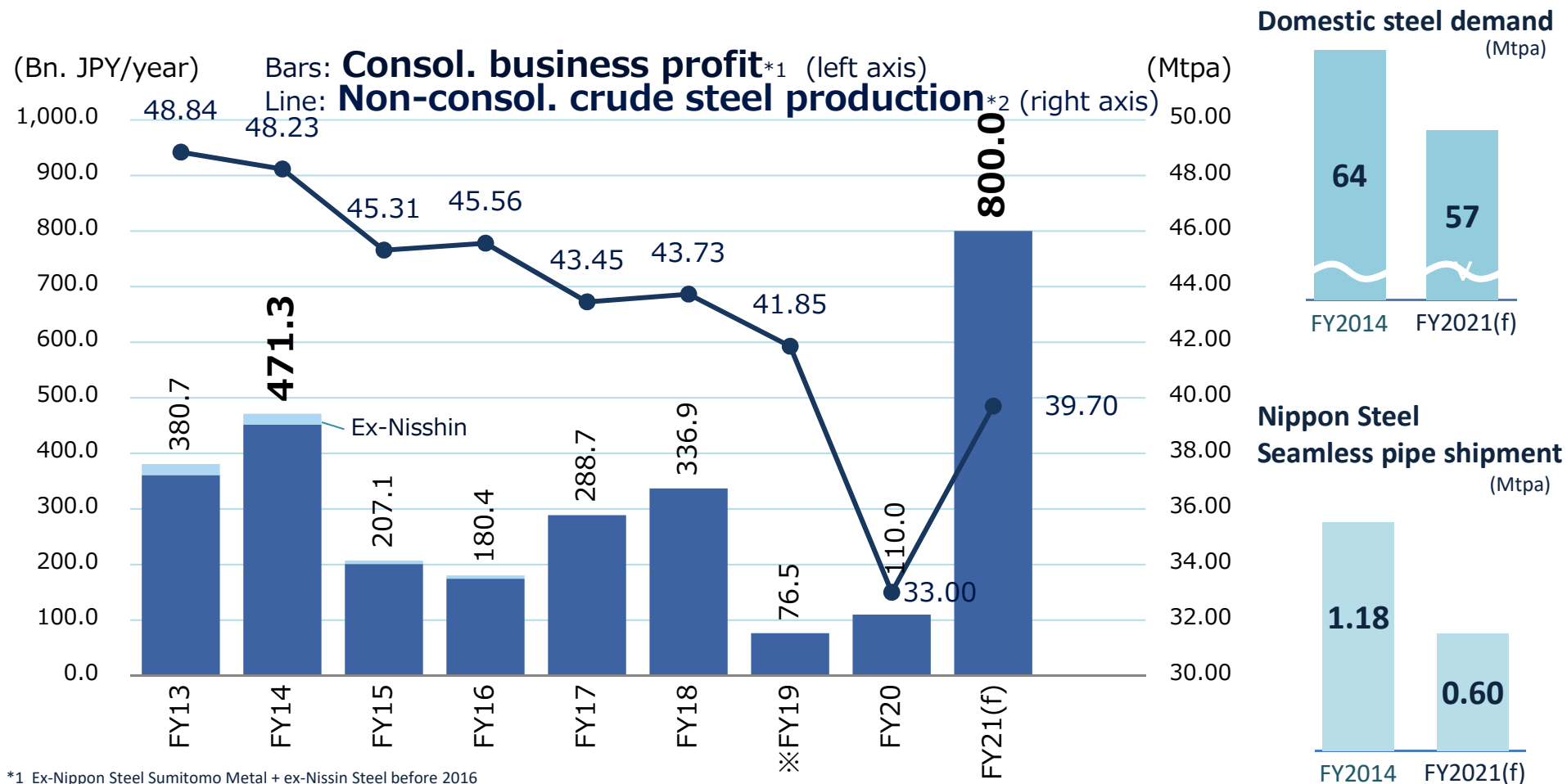
- Improvement of the profit structure (toward ROS target of approx. 10% announced in 2025 medium- to long- term management plan) is in steady progress with drastic cost reduction in the previous year (significant improvement of BEP), margin improvement in tied sales, selection and concentration of orders with limited integrated capacity, and earnings improvement in overseas group companies, etc.
- Consol. business profit in FY2021 is expected to reach a record high since the integration of ex-Nippon Steel and ex-Sumitomo Metals, much higher than the previously highest profit in FY2014, even in deteriorated business environment compared to that in FY2014.

Consol. business profit: FY2021(f) 800.0 bn. JPY, ROS approx. 12%, FY2021 1H result 477.8 bn. JPY
Non-consol. operating profit (excl. inventory valuation): FY2021(f) 210.0 bn. JPY, 1H 123.0 bn. JPY

	2H	FY2020	2Q	1H	Vs. FY2020 2H	Vs. forecast as of Aug. 3 rd	2H(f)	Vs. FY2021 1H	FY2021(f)	Vs. forecast as of Aug 3 rd
Non-consol. crude steel production (MMT)	18.36	33.00	10.05	20.23	+1.87	-0.27	Approx. 19.50	Approx. -0.73	Approx. 39.70	Approx. -0.30
Non-consol. steel shipment (MMT)	16.77	31.22	9.09	18.28	+1.51	-0.52	Approx. 17.90	Approx. -0.38	Approx. 36.20	Approx. -0.30
Revenue (Bn. JPY)	2,587.2	4,829.2	1,660.7	3,163.9	+576.7	+63.9	3,536.1	+372.2	6,700.0	+200.0
Consol. business profit (Bn. JPY)	216.5	110.0	260.8	477.8	+261.3	+127.8	322.2	-155.6	800.0	+200.0
ROS	8.4%	2.3%	15.7%	15.1%	+6.7%	+3.8%	9.1%	-6.0%	11.9%	+2.7%

Consol. Business Profit Trend

Expected to reach a record-high profit after integration of ex-Nippon Steel and ex-Sumitomo Metals, much higher than the previously highest profit in FY2014, even with low production and shipment volume in FY2021 due to decline in demand both of domestic steel products and seamless pipe along with harsh business environment.



*1 Ex-Nippon Steel Sumitomo Metal + ex-Nisshin Steel before 2016

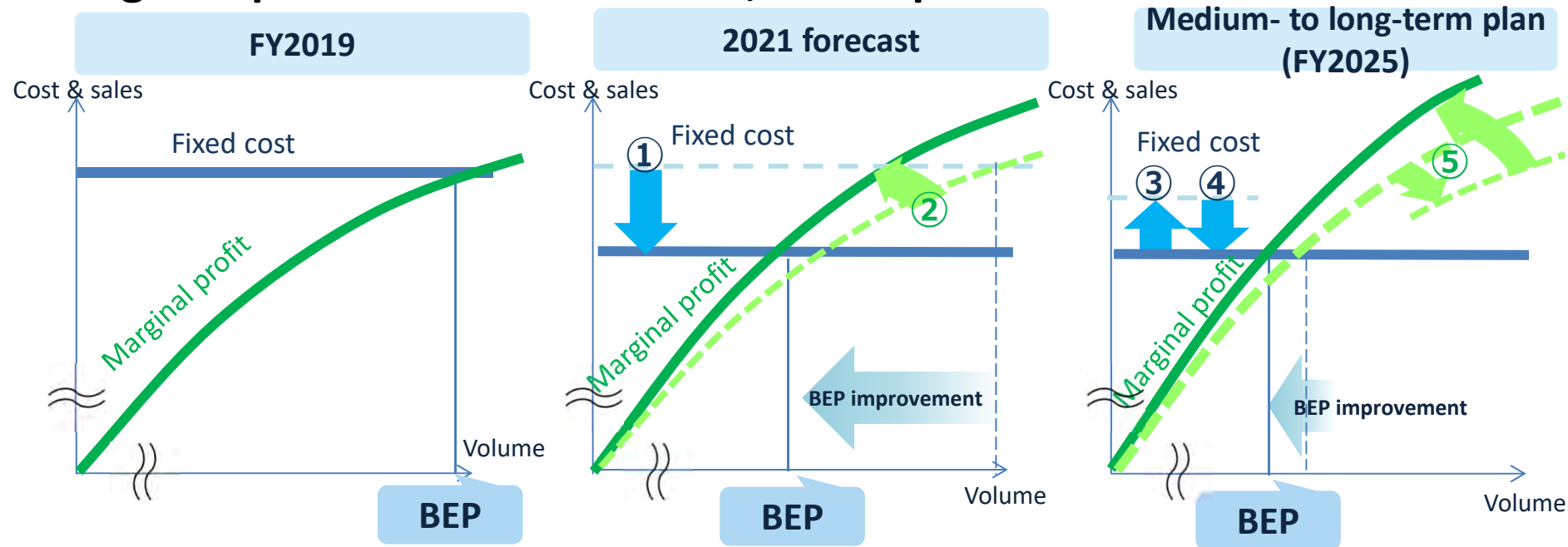
Consol. ordinary profit (JGAAP) before 2016, consol. business profit (IFRS) after 2017

*2 Ex-Nippon Steel Sumitomo Metal + Ex-Nisshin Steel Kure Works between 2013 – 2018

*FY2019 excl. impairment losses etc. (consol. business loss of (284.4) bn. JPY incl. impairment losses etc.)

Nippon Steel + ex-Nippon Steel Nisshin Kure Works in 2019

Drastic improvement of BEP in non-consol. steel business has been steadily progressed through production facility structural measures, margin improvement in tied sales, and sophistication of order mix 5



FY2019 -> FY2021(f)

Fixed cost reduction

①

Fixed cost reduction in cash basis

(incl. effect of structural measures)

Depreciation cost reduction (change to straight-line method, effect of impairment loss, etc.)

Marginal profit improvement

②

Margin improvement in tied sales

Spot steel price improvement

Sophistication of order mix (Selection of orders with limited and reduced production capacity)

Variable cost reduction

(incl. effect of structural measures)

2021(f) -> 2025 plan

③

Increase in depreciation cost

(Investment for sophistication of order mix and facilities etc., zero-carbon steel, and facility replacement)

④

Fixed cost reduction in cash basis

(incl. effect of structural measures)

⑤

Sophistication of order mix

(shift from commodities to high-grade product)

Margin improvement in tied sales

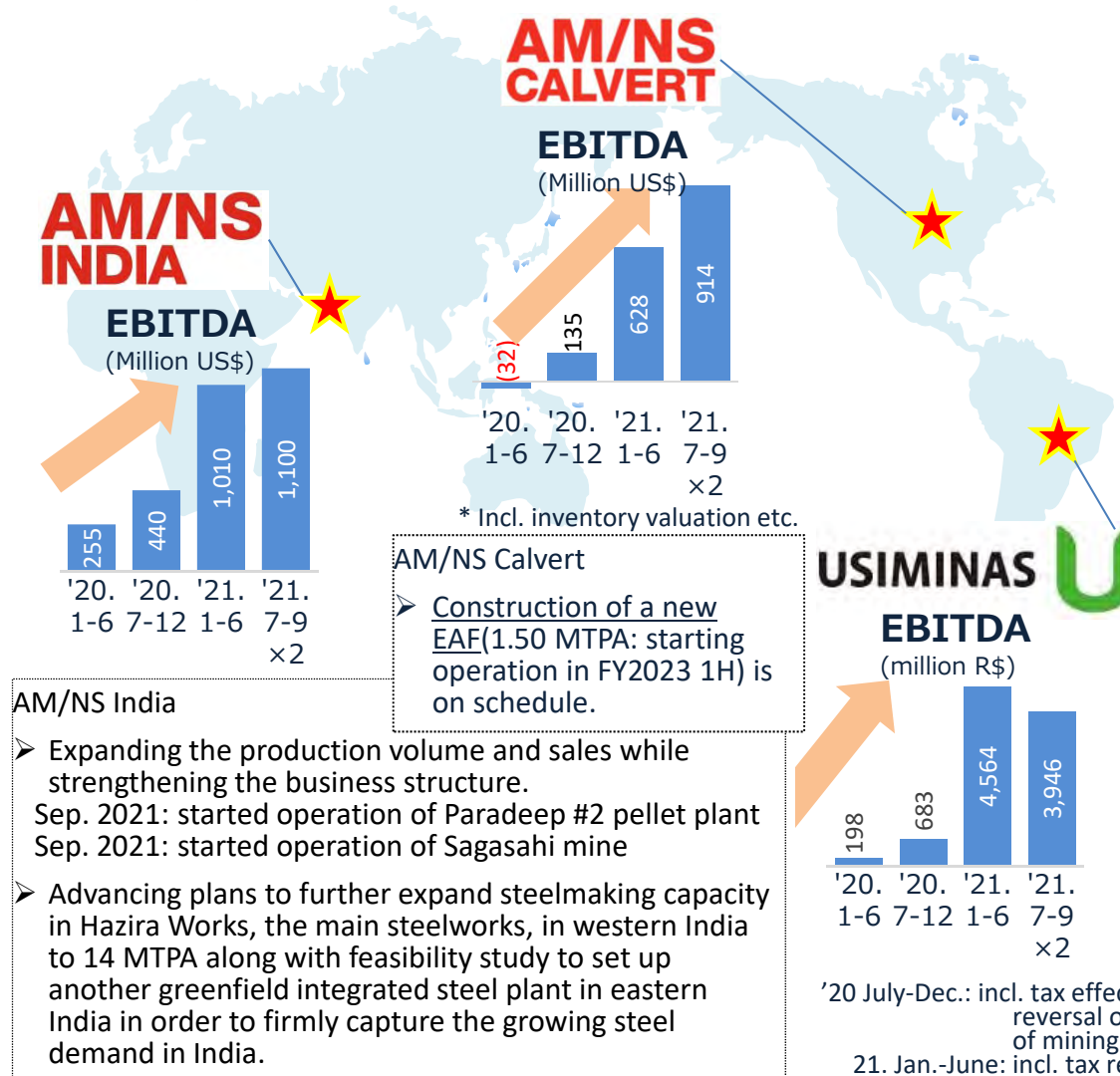
Variable cost reduction

(incl. effect of structural measures)

Deepening and Expansion of Overseas Businesses

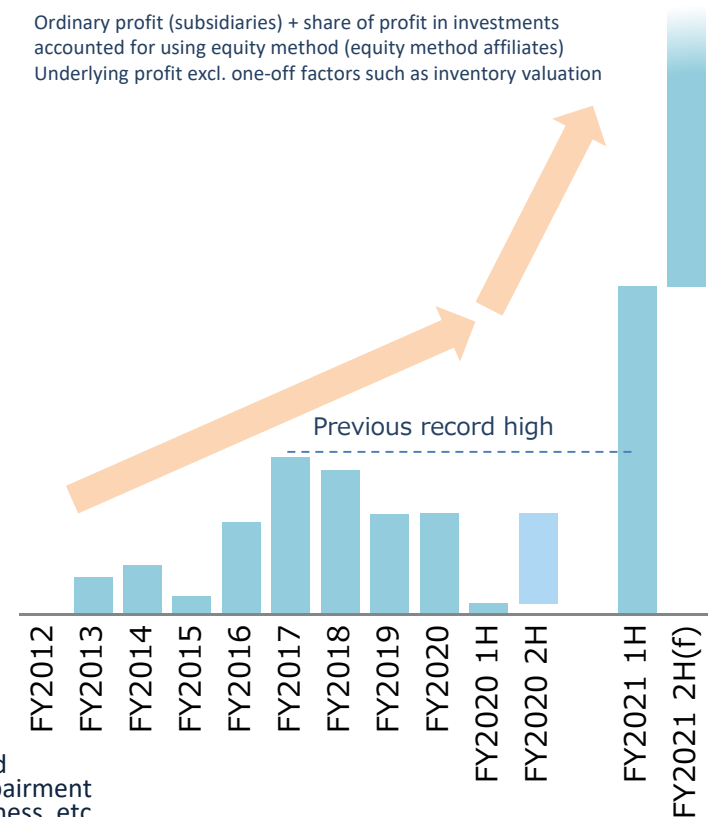
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Profit from overseas businesses in FY2021 is expected to reach a record-high due to the steady capturing of robust demand and completion of withdrawal from unprofitable businesses through thorough selection and concentration.



Trend of consol. business profit from overseas businesses

Ordinary profit (subsidiaries) + share of profit in investments accounted for using equity method (equity method affiliates)
Underlying profit excl. one-off factors such as inventory valuation



Consol. Business Profit Variance

7

*Prev. 2021(f)
as of Aug. 3rd*

*2021 1H
477.8*

*Prev. 2021 1H(f)
as of Aug. 3rd*

350.0

*2020 2H
216.5*

600.0

*2021(f)
800.0*

*2021 2H(f)
322.2*

*2021 1H
477.8*

*2021 1H
477.8*

(Bn. JPY)

Consol. Business Profit Variance

+261.3

+127.8

-155.6

+200.0

Volume

+27.0

-18.0

-15.0

-15.0

Steel prices, product mix, raw materials

+101.0

+61.0

~

+90.0

Cost reduction

+5.0

~

+5.0

~

Domestic group companies

-6.0

+18.0

-5.0

+15.0

Overseas group companies

+62.0

+13.0

-25.0

+30.0

Consol. inventory valuation

+122.0

+33.0

-60.0

+65.0

Non-steel businesses

-10.0

+7.0

-3.0

+5.0

Others

-40.0

+14.0

-53.0

+10.0

Additional Line Items, Net Profit

8

(Bn. JPY)	FY2020	1H	Vs. previous forecast as of Aug. 3rd	2H(f)	FY2021(f)	Vs. previous forecast as of Aug. 3 rd
Consol. business profit	110.0	477.8	+127.8	322.2	800.0	+200.0
Additional line items	(98.6)	(49.4)	-4.4	(30.6)	(80.0)	+10.0
Net profit (loss)*	(32.4)	298.7	+98.7	221.3	520.0	+150.0
EPS (JPY/share)	(35)	324	+107	241	565	+163

* Profit (loss) attributable to owners of the parent

<Additional line items>

FY2020: (98.6) bn. JPY

Losses on inactive facilities: (79.9) bn. JPY
(upstream facilities in Kokura Area (39.8) bn. JPY, Nippon Steel
Stainless Steel (Kinuura Plant to be shutdown, etc.) (25.1) bn. JPY, etc.)

Losses on sale of business: (18.7) bn. JPY
(loss on sale of VSB (23.6) bn. JPY, gain on sale of I/N Tek & Kote, etc.)

FY2021(f) additional line items: (80.0) bn. JPY

Losses on inactive facilities etc.: approx. (140.0) bn. JPY

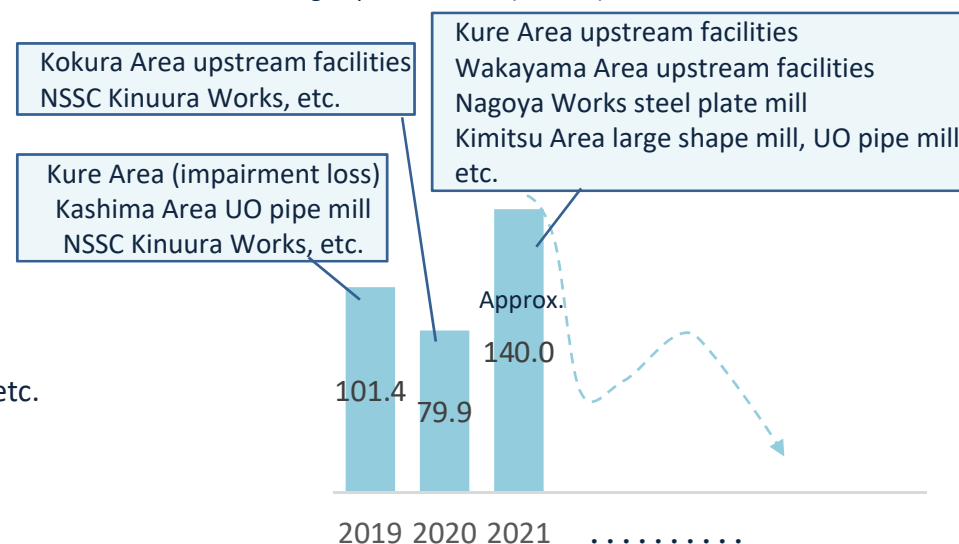
1H (81.3): Upstream facilities in Kure Area (50.3),
A series of upstream facilities in Wakayama Area (23.7) etc.

2H(f): Steel plate mill in Nagoya Works
Large-shape mill and UO pipe mill in Kimitsu, etc.

Gain on sale of land (ex-Tokyo Works) etc.

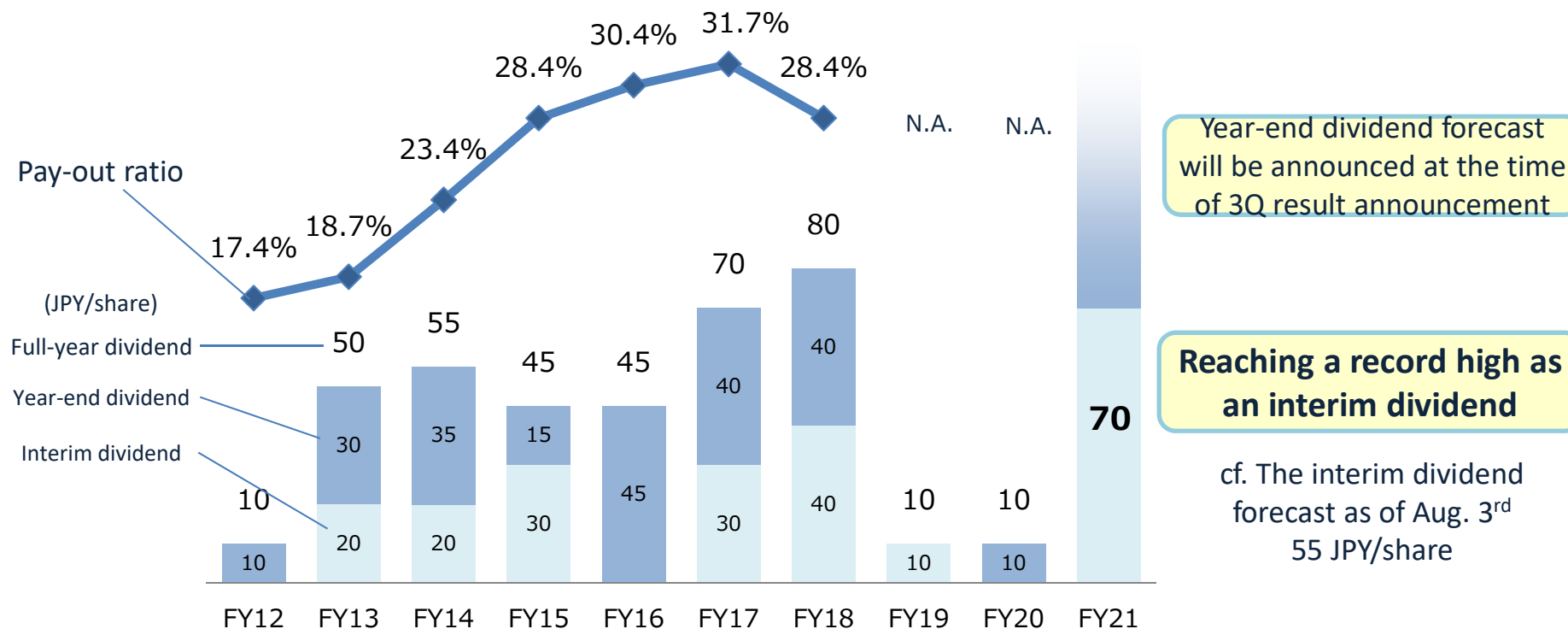
Cf. Losses on inactive facilities

including Impairment loss (in 2019) (bn. JPY)



Interim Dividend

9



In accordance with the improvement of the half-year performance and the forecast for the full fiscal year performance from those as of the previous announcement (Aug. 3rd), we have decided an interim dividend payment of 70 JPY/share (+15 JPY/share from the forecast), reaching a record high as an interim dividend.

We plan to determine the forecast for the year-end dividend distribution amount, with due consideration of forecasts for the full fiscal year performance, and to announce it at the time of the 3Q result announcement.

Initiatives in FY2021 and in Medium- to Long-Term

Steady improvement of operation performance

- 1) Stabilization of operations and facilities
- 2) Variable cost reduction with further improvement of operation efficiency

Tenacious negotiation with customers to realize fair appropriate steel prices in tied sales

Correction of steel prices in tied sales to secure fair appropriate margin on an international level has been realized to some extent so far by FY2021 1H and we are going to farther negotiate with customers to improve the prices from the following perspectives:

- 1) A fair allocation of cost burden for raw materials and commodities among players in the supply chain
- 2) Reflection in steel prices of our high value-added product qualities and solutions.

Improvement of the prices is needed for keeping our stable supply of, and R&D and investment in high-quality products which customers demand, and for initiatives to realize zero-carbon steel.

Proposal to change business practice in Japanese tied sales

<Currently> There are many contracts where prices are negotiated after shipping

<Proposal> Advancement of negotiation period and more efficient negotiation system to fix prices before order intake. We believe our proposal contributes to both customers and ourselves to forecast business environment and performances so that we can steadily tackle long-term and difficult management issues such as carbon neutrality, and our proposal is gathering customers' agreements.

We are also discussing shortened contract period etc. as a countermeasure against fluctuation of raw materials and commodities market prices.

We aim for early realization of new optimal contract system, taking into consideration the actual circumstances each customer is in.

Initiatives in FY2021 and in Medium- to Long-Term

- Steady Promotion of the Four Major Initiatives in the Medium- to Long-Term Management Plan -

Rebuilding domestic steel business	Concentrated production	Establishment of furtherly more profitable structure by steadily implementing production facility structural measures regardless of short-term upturn in business environment	Refer to P.57
		➤ <u>Effect of structural measures in FY2021: 20.0 bn. JPY/Y</u> (the accumulation of the effects so far: 55.0 bn. JPY out of 150.0 bn. JPY) ➤ Facilities terminated in FY2021 1H: upstream facilities in Kure Area, a series of upstream facilities in Wakayama Area, titanium welded pipe production line in Kyushu Works Oita Area, etc. ➤ Facilities to be terminated in FY2021 2H: steel plate mill in Nagoya Works, #1 CC, large shape mill, UO pipe mill in Kimitsu Area, etc.	
	Sophistication of facilities and order mix	Aggressive investments in strategic products and in cutting-edge facilities (remodeling of remaining facilities) which will promisingly contribute to the profit by taking advantage of our sophisticated technology	Refer to P.32
		➤ <u>An additional investment in electrical steel sheet (Hirohata #3) newly determined</u> Amount: approx. 19.0 bn. JPY (approx. 123.0 bn. JPY for all the series of investments including those already been announced and in progress) Capacity increase (NO+GO): approx. +50% (approx. +250% for high grade ESS) Full operation: in FY2024 1H ➤ Major CAPEX within FY2020.4Q~FY2022: Jan. 2021: 6CGL in Kimitsu Area, May 2021: #3 coke oven in Nagoya Works FY2022 1H: relining of #3BF in Nagoya, construction of an EAF in Hirohata Area	



Initiatives in FY2021 and in Medium- to Long-Term

- Steady Promotion of the Four Major Initiatives in the Medium- to Long-Term Management Plan -

Deepening and expansion of overseas business

Thorough selection and concentration of overseas businesses

Capturing global steel demand growth

- Profit from overseas businesses in FY2021 is expected to reach a record high.

Expansion of global crude steel capacity to 100 mtpa

- Promoting growth strategy such as capacity expansion in AM/NS India etc.

Challenge to Zero-Carbon Steel and contribution to carbon neutral society

Initiatives discussed and lead by zero-carbon steel project which was launched in Apr. 2021 toward development and practical implementation of breakthrough technologies in steelmaking process ahead of peers overseas

Refer to P.62

- OVAKO, our subsidiary in Europe, has succeeded in using hydrogen to heat semi-finished steel products and has started the construction of a carbon-free hydrogen plant. The reduction target of CO₂ emissions by 2030 is -80% (compared to that in 2015).

Refer to P.38

Quality improvement and line-up expansion of products which contribute and fit to carbon neutral society

- Review in product strategy in response to the accelerating decarbonization (= re-evaluation of business opportunities and risks)



Initiatives in FY2021 and in Medium- to Long-Term

- Steady Promotion of the Four Major Initiatives in the Medium- to Long-Term Management Plan -

DX strategy

Remote operation support utilizing IoT and AI, productivity improvement by visualization and predictive monitoring in facility maintenance, company-wide optimization of production control by centralized data management on order to manufacturing, etc.

Refer to P.37

- Application submitted for permission to use drones in steelworks following the deregulation

Improvement of financial healthiness

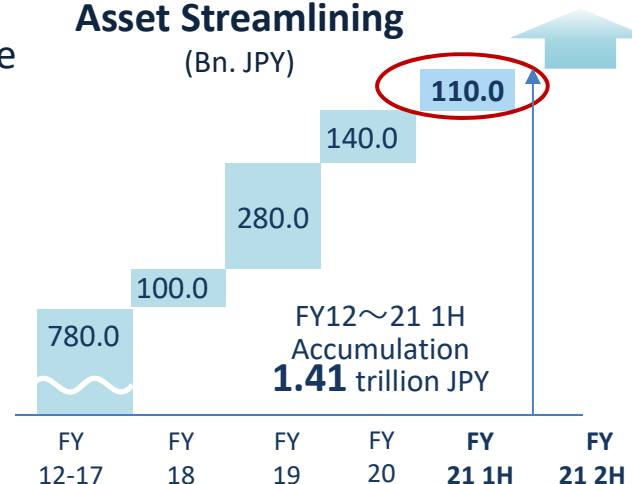
Generation of cash flow necessary for growth investment, while returning profits to shareholders as well, and establishment of healthier financial structure (targeted international credit ratings of “A”) preparing against possibly further deteriorated business environment in the future and for zero-carbon steel investment that will start in earnest after FY2025.

- **Issuance of Convertible bond 300.0 bn. JPY**
To strengthen financial structure to continue to carry out agile and reliable growth strategy over the medium- to long-term.

Refer to P.40

- **Continuation of asset streamlining effort**
FY2021 1H result: 110.0 bn. JPY
Sales of ex-Tokyo Works lands and cross-shareholdings etc.
Additional asset streamlining in progress and are made going forward.

Asset Streamlining (Bn. JPY)





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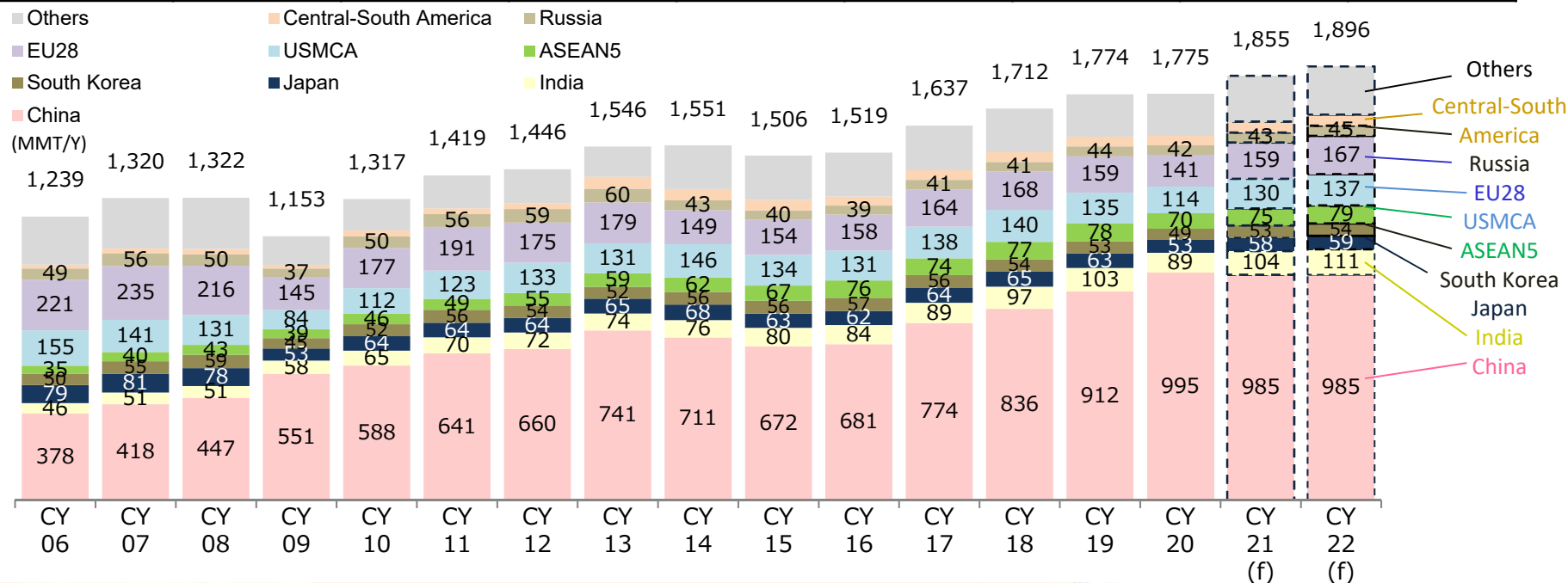
Appendix 4. Related Indicators

World Steel Demand

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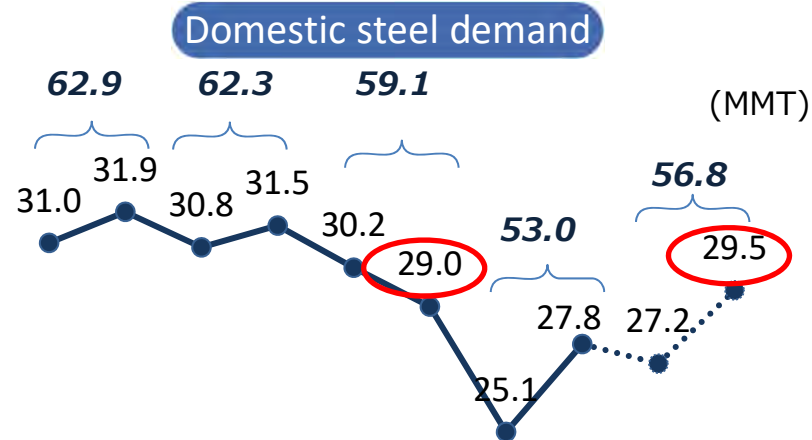
(Source: World Steel Association forecast as of Oct., 2021, apparent steel use)

MMT/Y	World	Japan	China	South Korea	ASEAN5	India	USMCA	EU28
CY2020	1,775	53	995	49	70	89	114	141
2019->20 change	+1	-11	+83	-4	-8	-13	-21	-18
vs previous year	+0.1%	-16.7%	+9.1%	-8.0%	-10.1%	-12.9%	-15.8%	-11.2%
CY2021(f) <i>vs as of Apr. 2021</i>	1,855	58	985	53	75	104	130	159
2020->21 change	+80	+5	-10	+4	+5	+15	+16	+18
vs previous year	+4.5%	+10.2%	-1.0%	+9.1%	+6.6%	+16.7%	+13.7%	+12.7%
CY2022(f)	1,896	59	985	54	79	111	137	167
2021->22 change	+41	+1	+0	+1	+4	+7	+7	+9
vs previous year	+2.2%	+2.1%	+0.0%	+1.5%	+5.4%	+6.8%	+5.4%	+5.5%



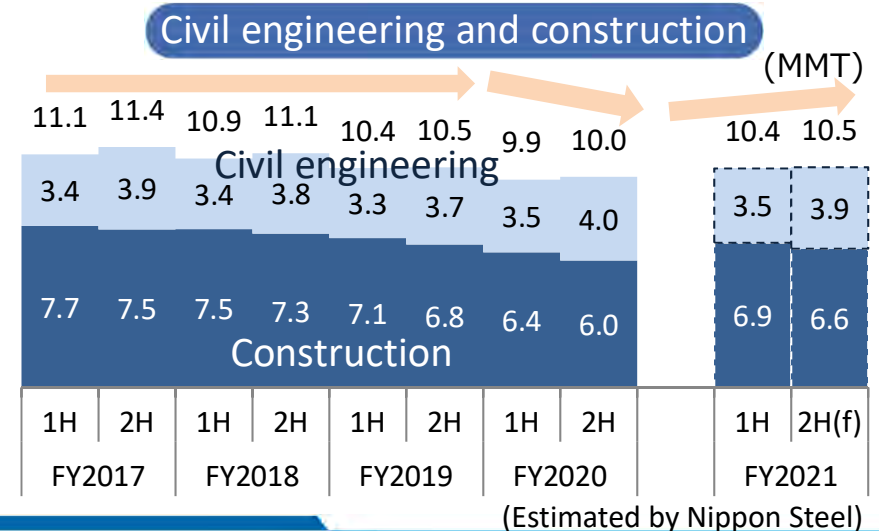
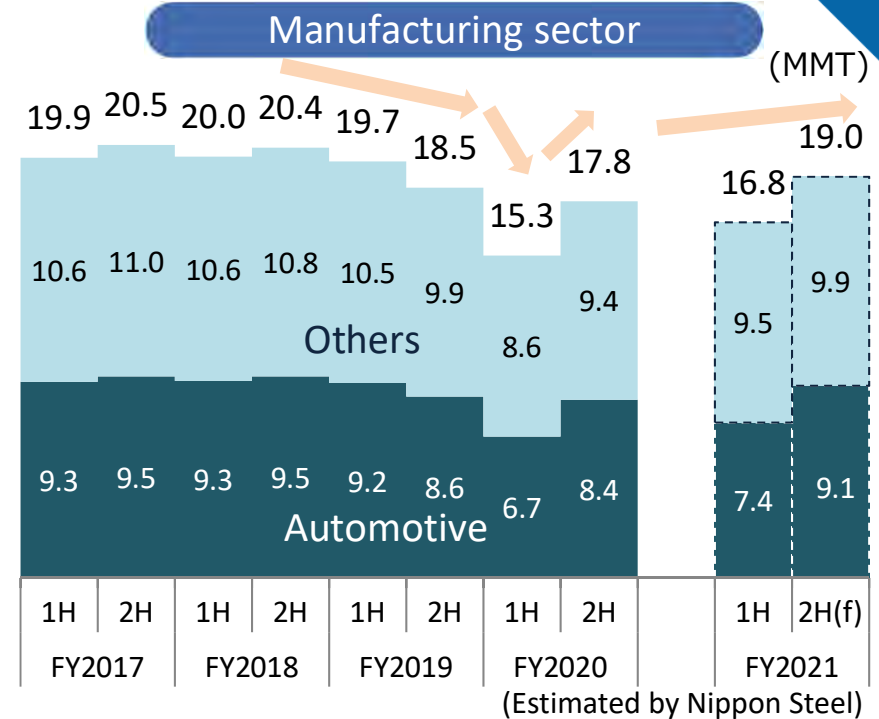
Domestic Steel Demand

- FY2019: Demand had been declining mainly in indirect exports in manufacturing sector
- FY2020: In 1H, the decline gathered speed due to COVID-19 impacts. In 2H, demand recovered to some extent.
- FY2021: Demand is expected to recover to 56.8 MMT/Y, and to the same level before pandemic (FY2019 2H) in 2H.



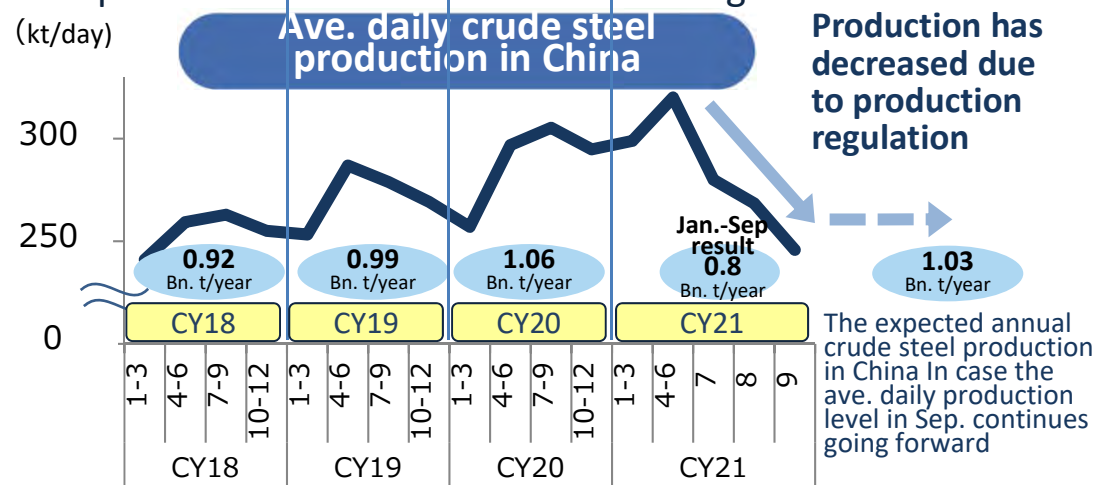
(Estimated by Nippon Steel)

1H	2H	1H	2H	1H	2H	1H	2H	1H	2H(f)
FY2017	FY2017	FY2018	FY2018	FY2019	FY2019	FY2020	FY2020	FY2021	FY2021

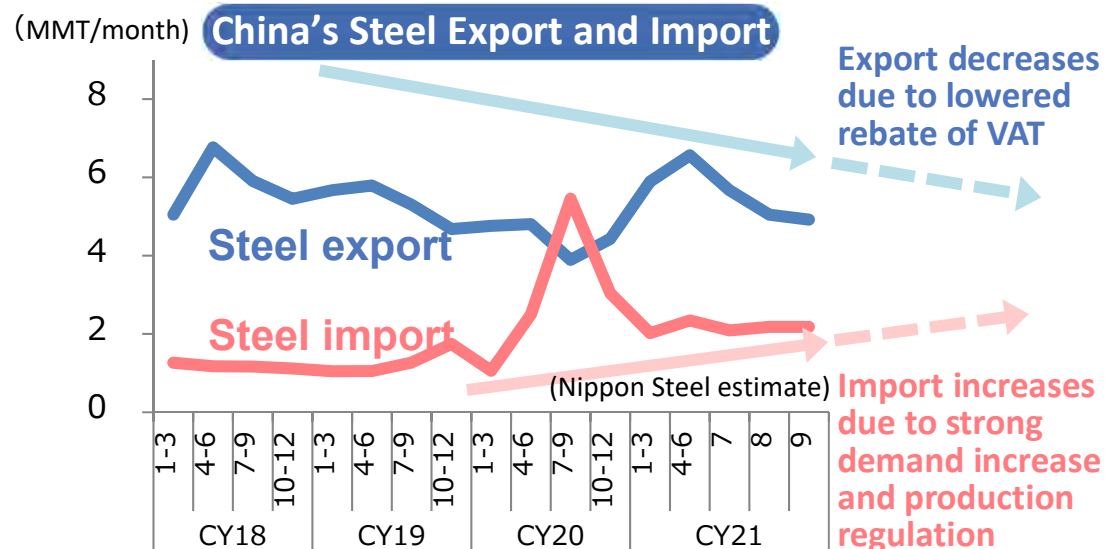


Steel S&D in China

- If steel production cutback in China encouraged by the government is realized successfully, the international steel market will become even tighter since the steel production in China accounts for 60% of the world's production.
- As long as strong demand in China continues, the current high level of international steel market price is expected to continue for the time being.



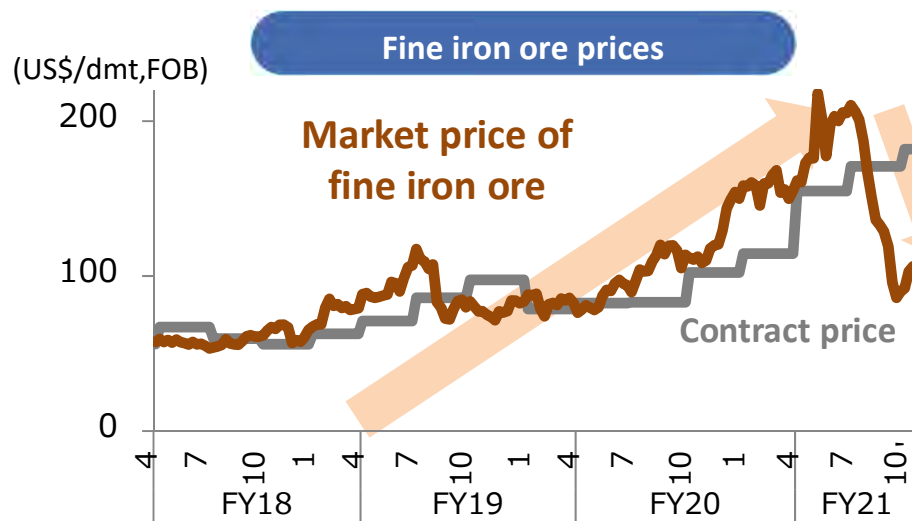
- Chinese government announced and is implementing production cutback and another inspection on production capacity reduction.
- Some provinces and cities have mentioned production cutbacks in 2H.
- In addition, energy saving programs by local governments have been reinforced; operations restricted in steel industry as well as in other industries.



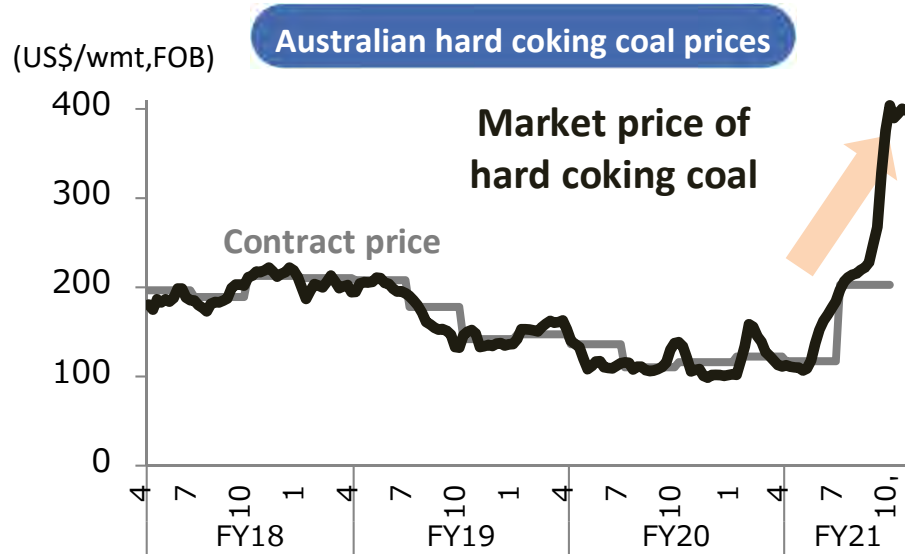
- Rebate of VAT has been lowered since May.
- Normal export tariffs started to be imposed to pig iron and ferrous-chrome from Aug. (Previously, the lowered export tariff rates were applied.)

Raw Material Prices

- Raw material prices have been fluctuating largely recently.
- It is necessary to pay close attention to the policies and their effects in China, which has a great influence on the international markets.



- Currently, S&D of iron ore is loosen and its market spot prices dropped due to decline in crude steel production in China led by the government's rigid production cutback policy and supply recovery in major iron ore producing countries.
- Going forward, the iron ore demand would be lower in 2H than that in 1H due to China's production cutback policy including environmental measures along with Beijing Olympic Games.



- China's domestic coal market has been tight due to the ban on Australian coal imports and the tightened safety regulation in domestic coal mines.
- Demands were gravitated towards non-Australian coal (from US, Canada, etc.) and those prices soared.
- Currently, Australian coal prices are also rising, but it is necessary to pay close attention to whether China's published policies would stabilize the coal prices such as crude steel production cutbacks, approval to domestic coal mines for increasing production, and coal price intervention by the government, etc.

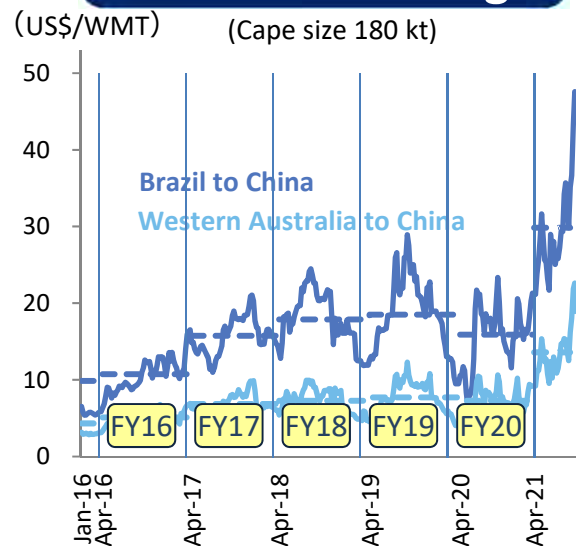
Commodity Prices Hike

(Dot lines = each fiscal year's average)

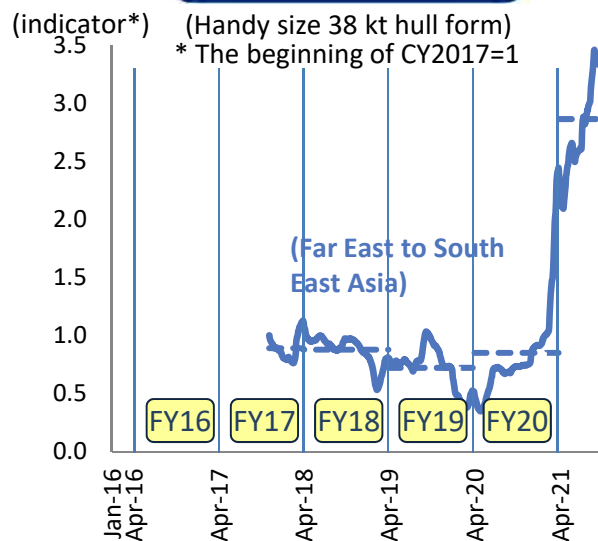
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Prices of commodities including freight costs are rising recently.

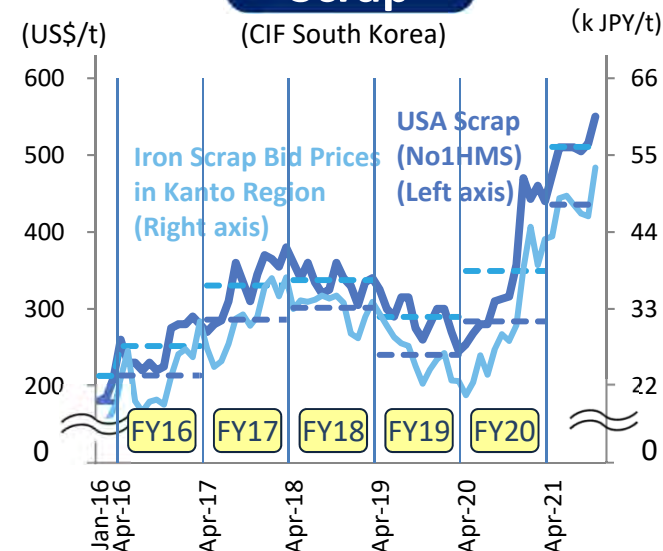
Raw Material Freight



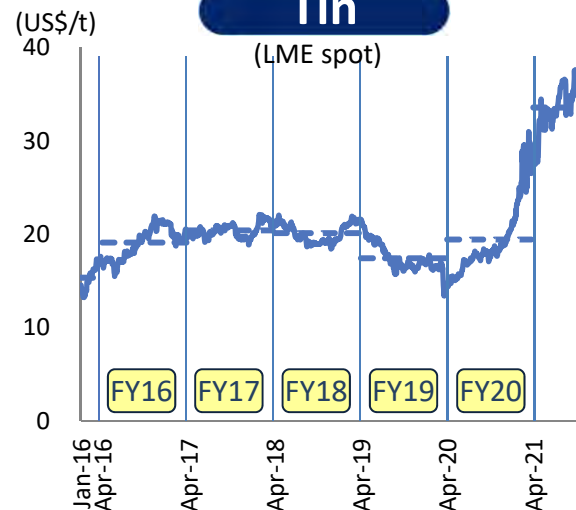
Export Freight*



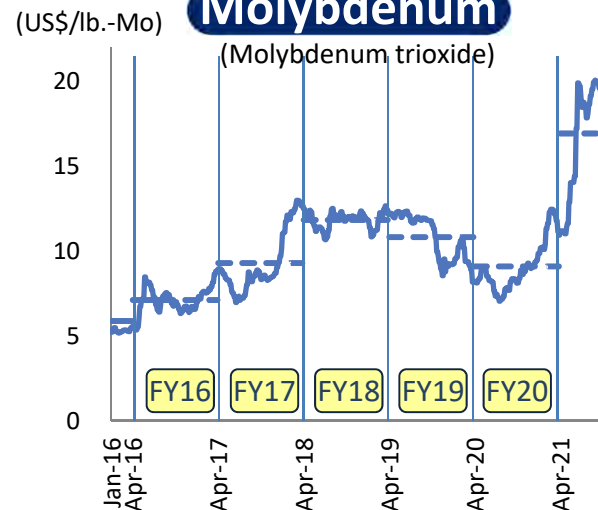
Scrap



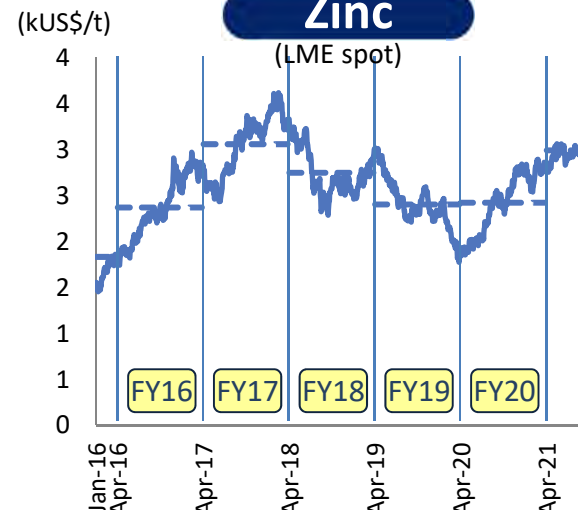
Tin



Molybdenum



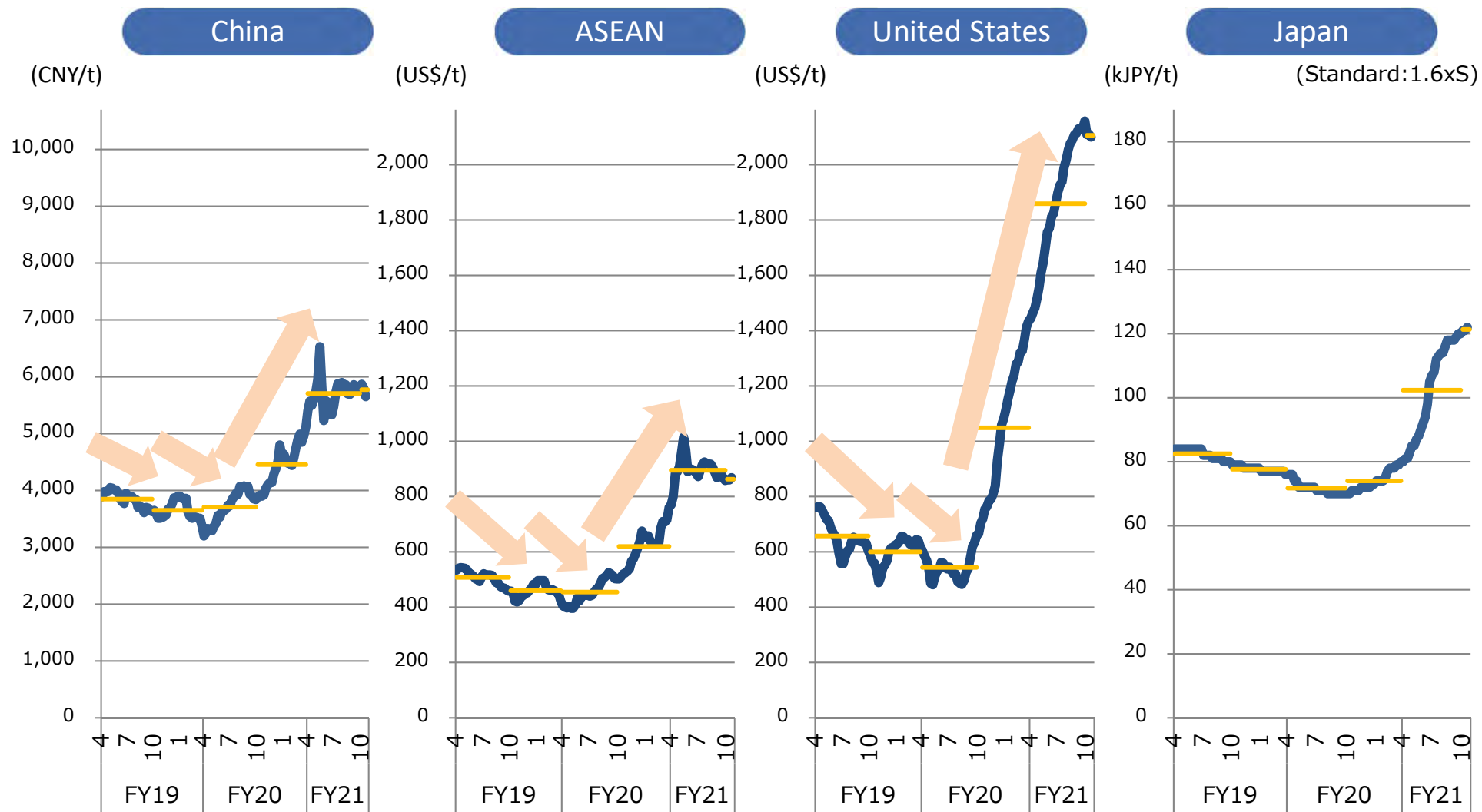
Zinc



Source : LME, Bloomberg, Japan Metal Daily, Nippon Steel estimates

HRC Prices

Reflecting the tight S&D of steel products worldwide and the ongoing high prices of raw materials, the market steel prices have risen and are staying high.





(Adjustment page)



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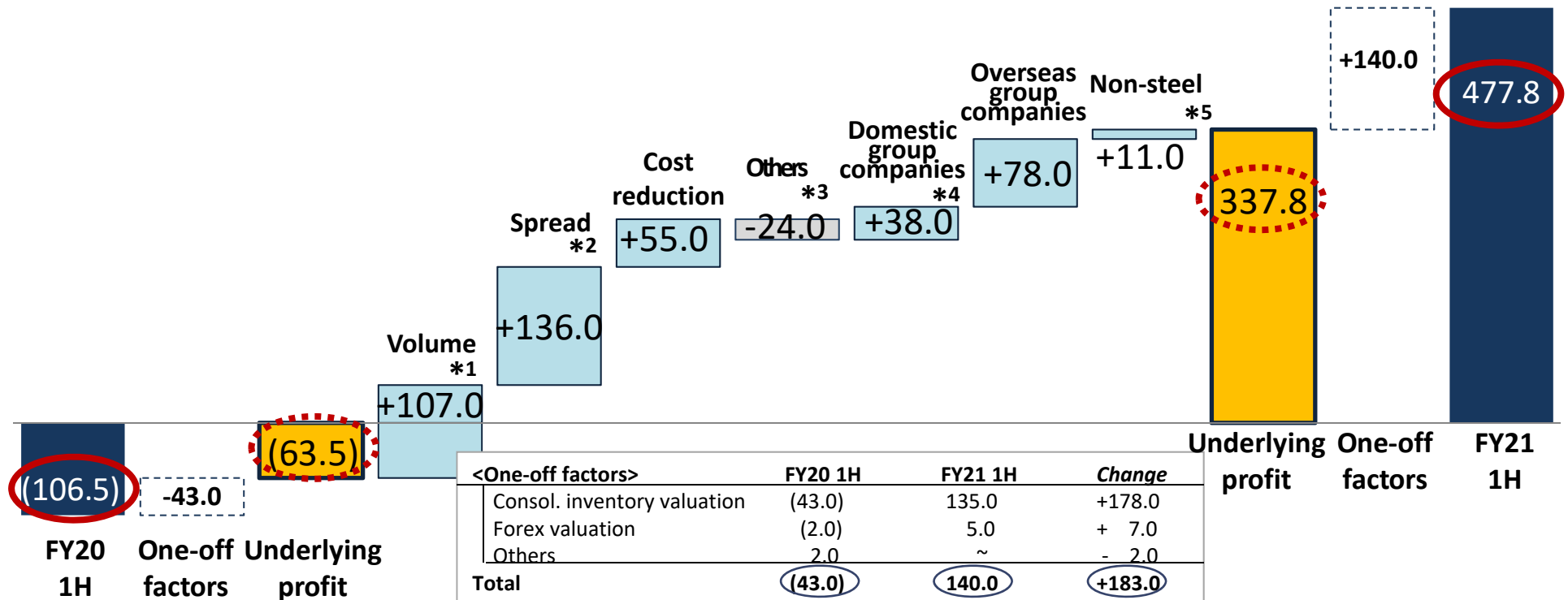
Appendix 4. Related Indicators

Business Profit Variance (FY20 1H vs. FY21 1H)

23

(Bn. JPY)	FY20 1H [A]	FY21 1H [B]	Change [A→B]
Business Profit	(106.5)	477.8	+584.3
<Underlying Profit>	<(63.5)>	<337.8>	<+401.3>
Steel	(116.7)	448.2	+564.9
Non-steel	14.2	25.2	+11.0
Adjustment	(3.9)	4.3	+8.2

- *1 Crude steel production: +5.59 MMT (14.64-> 20.23)
Steel shipment: +3.83 MMT (14.46-> 18.28)
- *2 Incl. carry over +73.0 (-2.0->71.0)
- *3 Incl. increase in depreciation cost -14.0
- *4 Improve: Re-rollers, Stainless steel, operational supports, Sanyo Special Steel, etc.
- *5 Engineering -10.1, Chemicals & Materials +17.1, System Solutions +4.0

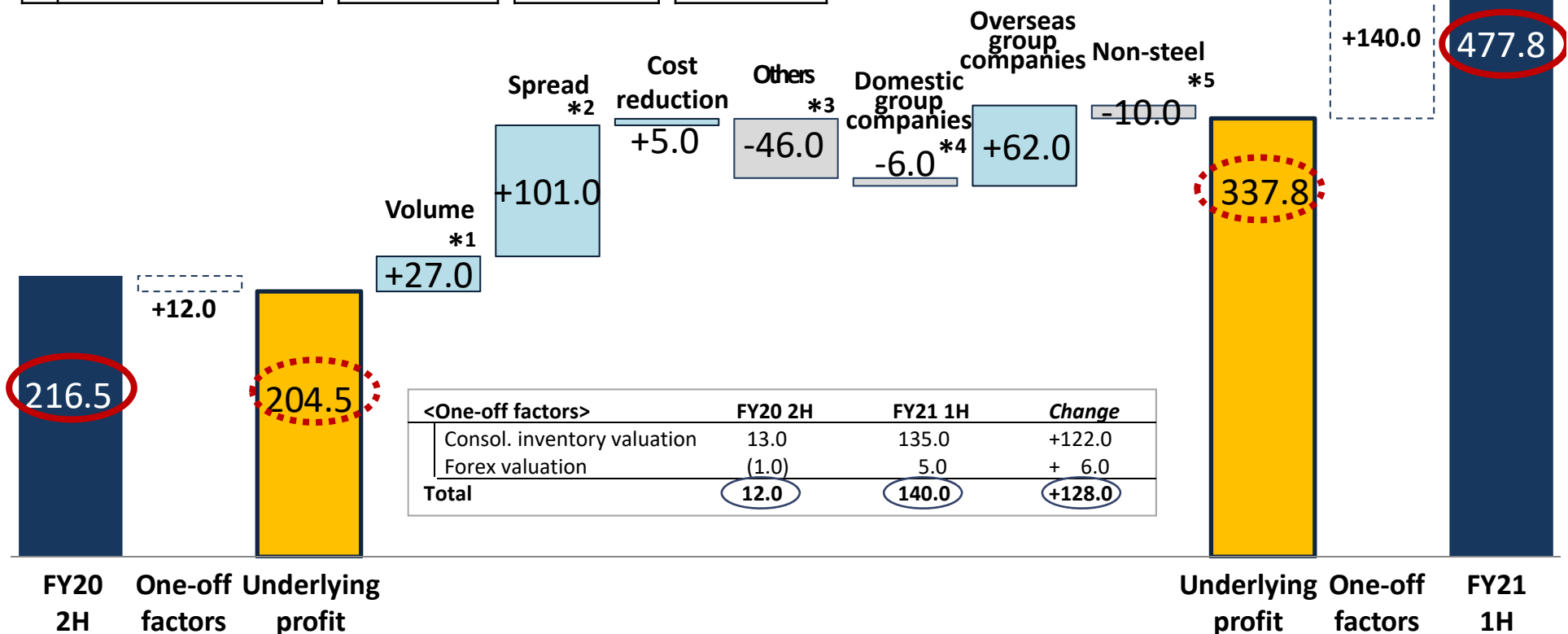


Business Profit Variance (FY20 2H vs. FY21 1H)

24

(Bn. JPY)	FY20 2H [A]	FY21 1H [B]	Change [A→B]
Business Profit	216.5	477.8	+261.3
<Underlying Profit>	<204.5>	<337.8>	<+133.3>
Steel	180.2	448.2	+268.0
Non-steel	35.0	25.2	-9.8
Adjustment	1.2	4.3	+3.1

- *1 Crude steel production: +1.87 MMT (18.36-> 20.23)
Steel shipment: +1.51 MMT (16.77-> 18.28)
- *2 Incl. carry over +48.0 (23.0->71.0)
- *3 Incl. increase in depreciation cost -10.0
- *4 Improve: Sanyo Special Steel, EAFs, etc.
Deteriorate: operational supports, etc.
- *5 Engineering -13.4, Chemicals & Materials +2.3,
System Solutions +1.3

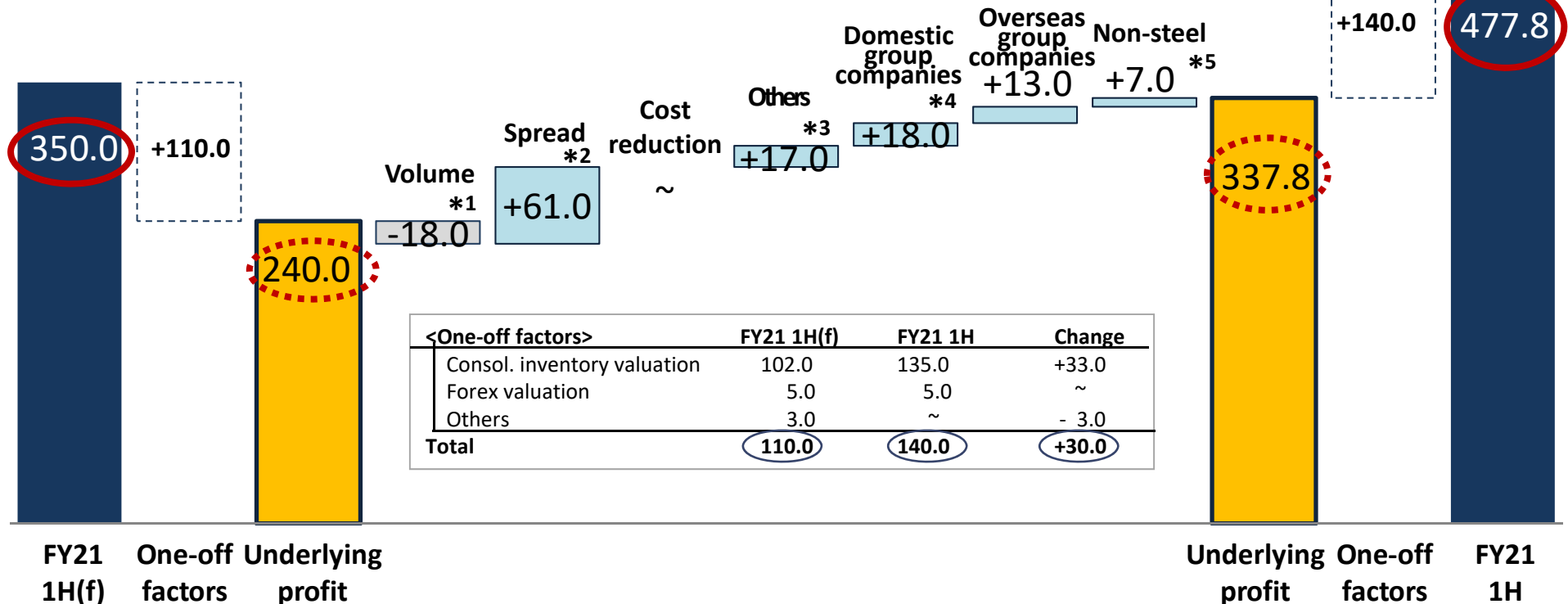


Business Profit Variance (FY21 1H(f) vs. FY21 1H)

25

(Bn. JPY)	FY21 1H(f) [A]	FY21 1H [B]	Change [A→B]
Business Profit	350.0	477.8	+127.8
<Underlying Profit>	<240.0>	<337.8>	<+97.8>
Steel	340.0	448.2	+108.2
Non-steel	18.5	25.2	+6.7
Adjustment	(8.5)	4.3	+12.8

- *1 Crude steel production: approx. -0.27 MMT (approx. 20.50-> 20.23)
Steel shipment: approx. -0.52 MMT (approx. 18.80-> 18.28)
- *2 Incl. carry over +1.0 (70.0-> 71.0)
- *3 Incl. decrease in depreciation cost +3.0
- *4 Improve: Re-rollers, operational supports, Sanyo Special Steel, EAFs, etc.
- *5 Engineering -2.9, Chemicals & Materials +6.0, System Solutions +3.6

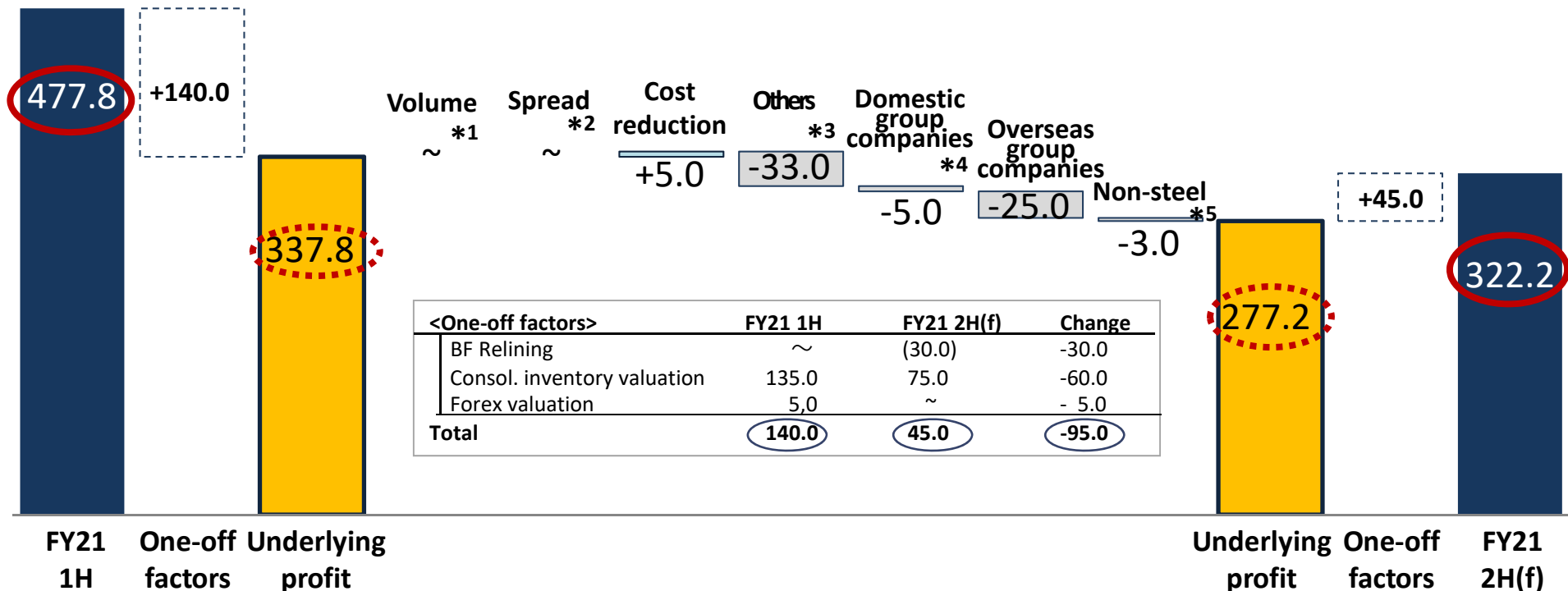


Business Profit Variance (FY21 1H vs. FY21 2H(f))

26

(Bn. JPY)	FY21 1H [A]	FY21 2H(f) [B]	Change [A→B]
Business Profit	477.8	322.2	-155.6
<Underlying Profit>	<337.8>	<277.2>	<-60.6>
Steel	448.2	311.8	-136.4
Non-steel	25.2	22.8	-2.4
Adjustment	4.3	(12.3)	-16.6

- *1 Crude steel production: approx. -0.73 MMT (20.23->approx. 19.50)
Excl. one-off factor: approx. -0.33 MMT (20.23->approx. 19.90)
- Steel shipment: approx. -0.38 MMT (18.28->approx. 17.90)
Excl. one-off factor: approx. +0.02 MMT (18.28->approx. 18.30)
- *2 Incl. carry over +22.0 (71.0->93.0)
- *3 Incl. increase in depreciation cost -10.0
- *4 Deteriorate: Sanyo Special Steel, re-rollers, operational supports, EAFs, etc.
- *5 Engineering +5.8, Chemicals & Materials -6.0, System Solutions -2.2

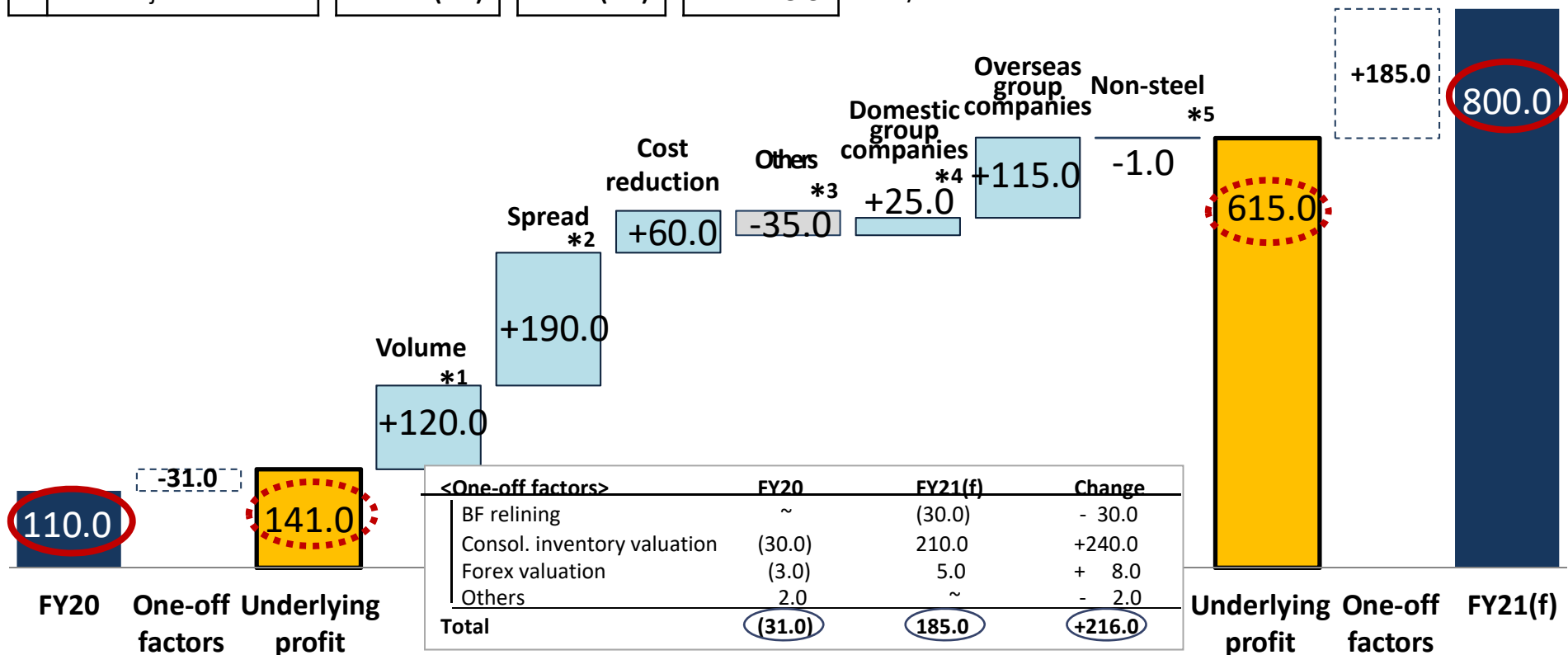


Business Profit Variance (FY20 vs. FY21(f))

27

(Bn. JPY)	FY20 [A]	FY21(f) [B]	Change [A→B]
Business Profit	110.0	800.0	+690.0
<Underlying Profit>	<141.0>	<615.0>	<+474.0>
Steel	63.5	760.0	+696.5
Non-steel	49.2	48.0	-1.2
Adjustment	(2.7)	(8.0)	-5.3

- *1 Crude steel production: approx. +6.70 MMT (33.00->approx. 39.70)
Excl. one-off factor: approx. +7.10 MMT (33.00->approx. 40.10)
Steel shipment: approx. +4.98 MMT (31.22->approx. 36.60)
Excl. one-off factor: approx. +5.38 MMT (31.22->approx. 36.60)
- *2 Incl. carry over +143.0 (21.0->164.0)
- *3 Incl. increase in depreciation cost -35.0
- *4 Improve: Stainless steel, Sanyo Special Steel, operational supports, Re-rollers, EAFs, etc.
- *5 Engineering -17.7, Chemicals & Materials +13.4, System Solutions +3.1

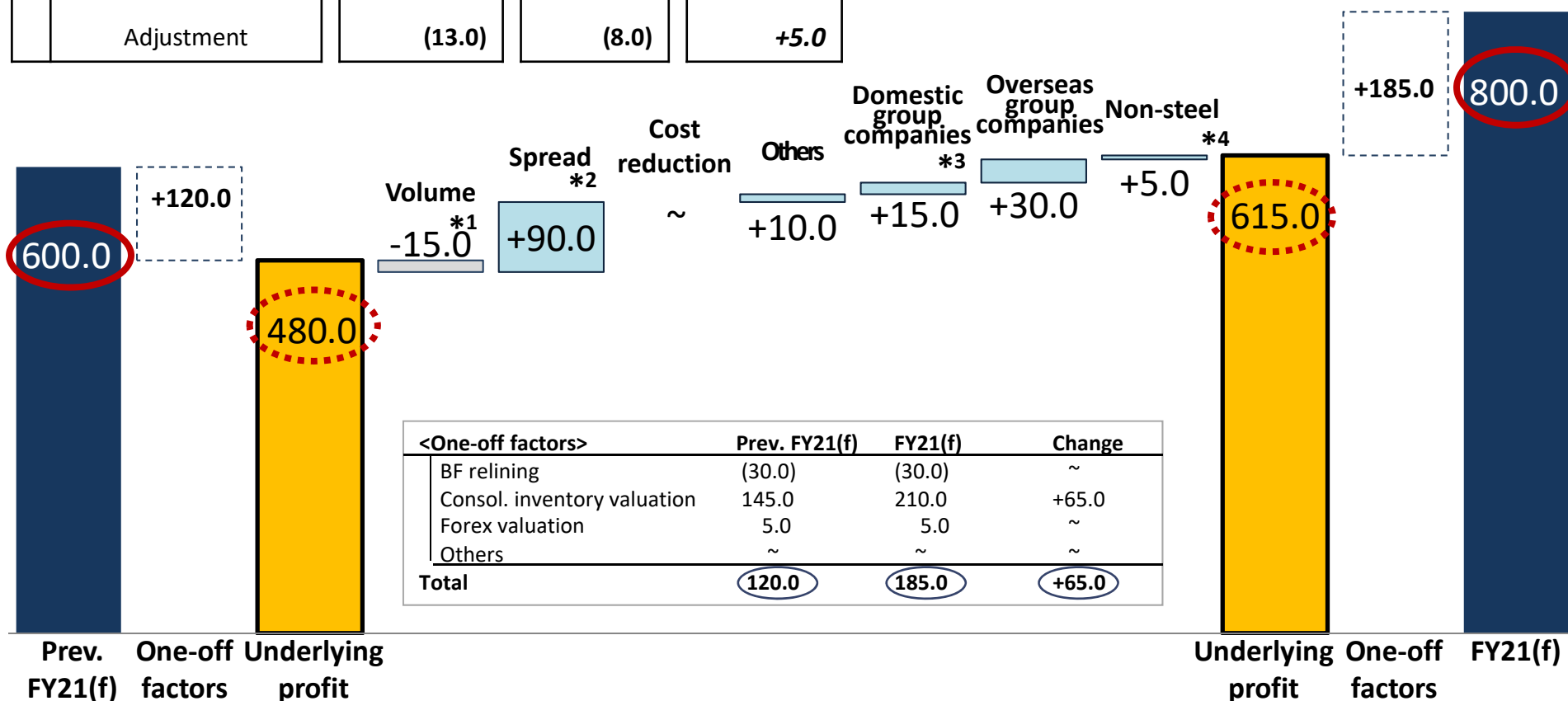


Business Profit Variance (Prev. FY21(f) as of Aug 3rd vs. FY21(f))

28

(Bn. JPY)	Prev. FY21(f) [A]	FY21(f) [B]	Change [A→B]
Business Profit	600.0	800.0	+200.0
<Underlying Profit>	<480.0>	<615.0>	<+135.0>
Steel	570.0	760.0	+190.0
Non-steel	43.0	48.0	+5.0
Adjustment	(13.0)	(8.0)	+5.0

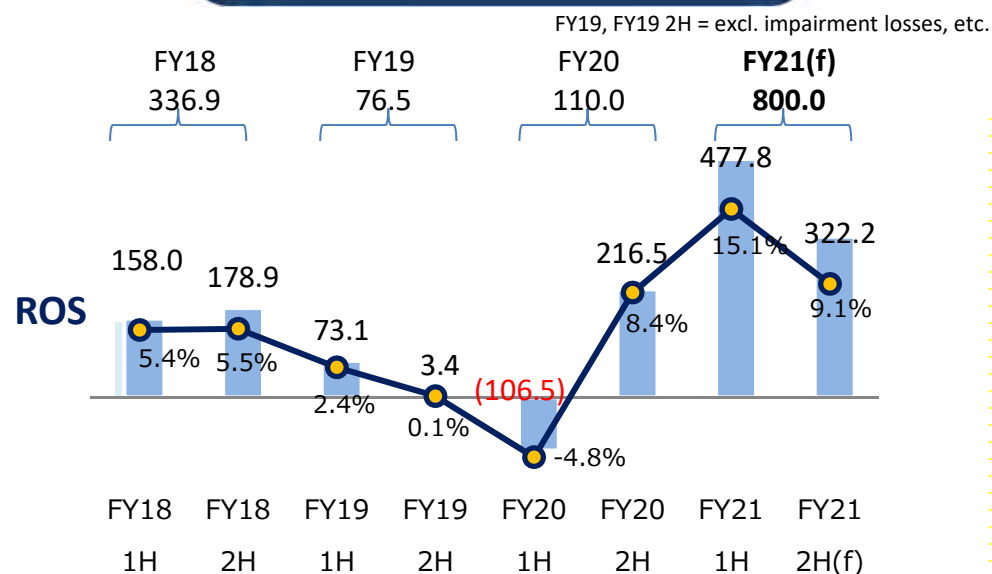
- *1 Crude steel production: -0.30 MMT (approx. 40.00->approx. 39.70)
Steel shipment: approx. -0.30 MMT (approx. 36.50->approx. 36.20)
- *2 Incl. carry over +38.0 (126.0->164.0)
- *3 Improve: Re-rollers, operational supports,
Sanyo Special Steel, EAFs, etc.
- *4 Engineering -4.0, Chemicals & Materials +7.0,
System Solutions +2.0



Key Indicators (bn. JPY)

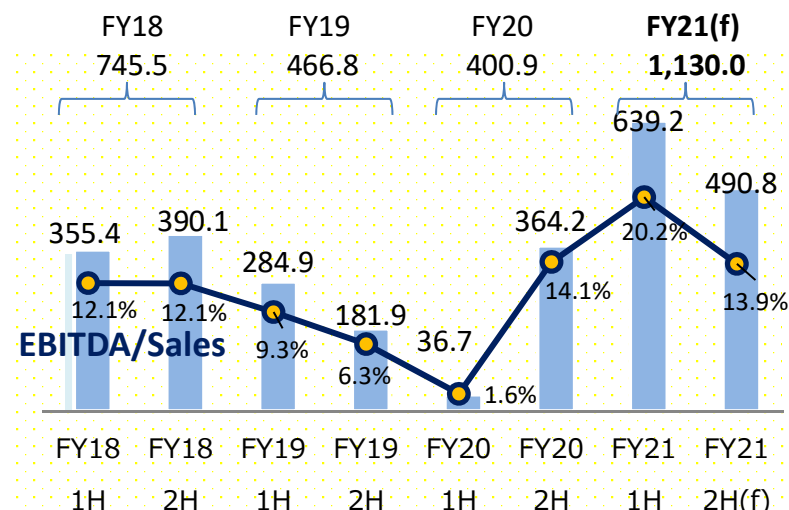
29

Business profit

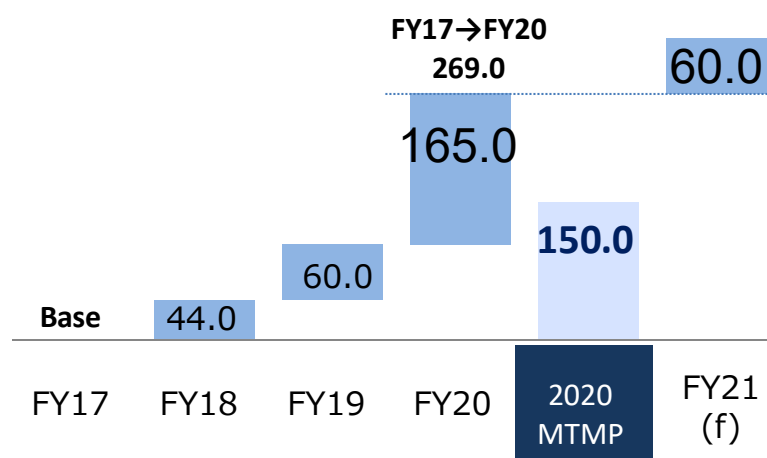


EBITDA

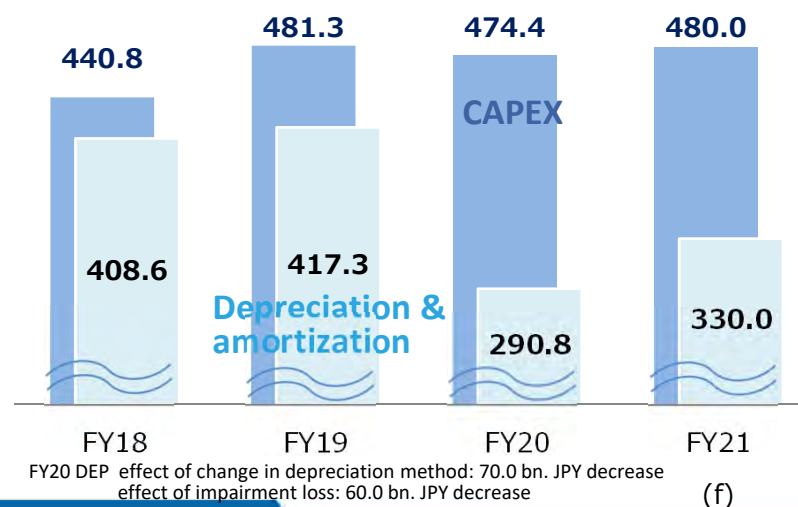
Business profit + DEP + amortization + impairment loss



Cost reduction



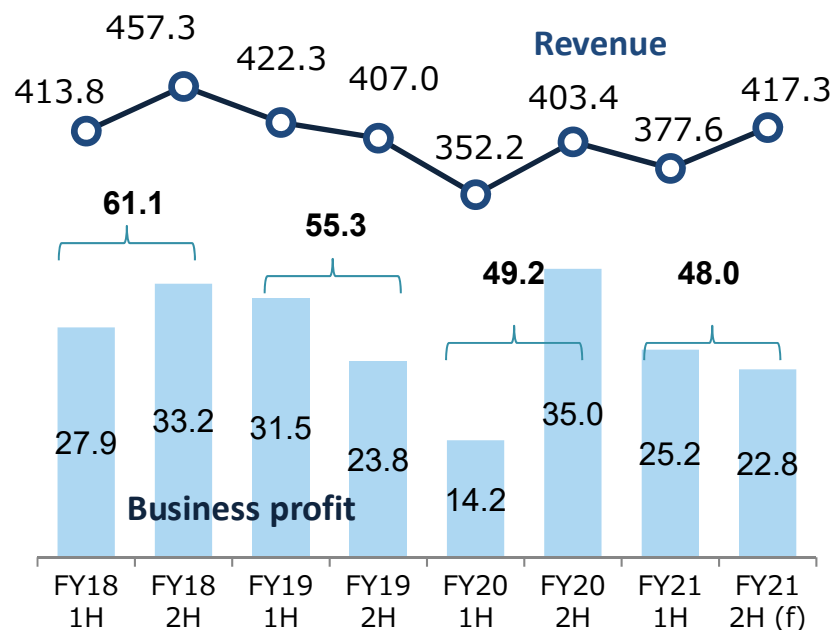
CAPEX & Depreciation



Non-Steel Businesses

Revenue & Business Profit

(3 non-steel businesses total) (bn. JPY)



Engineering & construction	FY20		FY21		FY20→ FY21(f)	Prev. FY21(f)→ FY21(f)
	1H		1H	Prev. FY21(f)		
Revenue	151.5	324.4	123.8	280.0	-44.4	+0.0
Business profit	7.2	17.7	(2.9)	4.0	-17.7	-4.0
Chemicals & Materials	FY20		FY21		FY20→ FY21(f)	Prev. FY21(f)→ FY21(f)
	1H		1H	FY21 prev. (f)		
Revenue	78.9	178.6	122.5	250.0	+66.4	-5.0
Business profit	(3.6)	7.6	13.5	14.0	+13.4	+7.0
System Solutions	FY20		FY21		FY20→ FY21(f)	Prev. FY21(f)→ FY21(f)
	1H		1H	FY21 prev. (f)		
Revenue	121.7	252.4	131.2	265.0	+17.6	+5.0
Business profit	10.6	23.9	14.6	25.0	+3.1	+2.0

Segment	FY2020 vs. FY2021(f)
Engineering & Construction	The revenue and profit are expected to decrease due to a cyclical drop in sales for large-scale construction project in environment and energy sectors such as in waste to energy business, and surging fuel cost in electricity retail business. On the other hand, orders intake are expected to be robust, such as in environment and energy sectors, large-scale construction of offshore wind power mills and overseas offshore projects, urban infrastructure sector and steelworks sector, etc.
Chemicals & Materials	The revenue and profit are expected to increase due to the recovery of demand and prices of needle coke ahead of forecast, improving market prices of chemicals, and improving sales of functional and composite materials.
System Solutions	While working on medium-term growth measures, NS Solutions is aiming to increase revenue and profit by steadily capturing needs for DX investment mainly from platformers and Nippon Steel as well, for response to regulation change in financial sector, for digital workplace solutions from customers in IT infrastructure sector, and for IT outsourcing, etc.



Agenda

1. FY2021 2Q Earnings Summary and FY2021 Forecast

2. Business Environment

3. Supplementary Material for Financial Results

4. Topics

Appendix 1. Progress of Management Strategy Measures

Appendix 2. Medium- to Long-Term Management Plan: Rebuilding Domestic Steel Business

Appendix 3. Carbon Neutral Vision 2050

Appendix 4. Related Indicators

Electrical Steel Sheets - Investment Details -

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Electrical steel sheet

Grain-oriented electrical steel sheet (GO) is used for “iron cores” in transformer for power plants. Non-oriented electrical steel sheet (NO) is used for “iron cores” in motors and power generators of electrical vehicles and various electrical devices.

Electrical steel sheet is an energy-saving material that exhibit good magnetic properties, controlled of its direction of iron crystals so that energy loss (iron loss) is minimized.

Decided to make an additional investment at Setouchi Works Hirohata Area in order to respond to growing demand and higher grades of electrical steel sheets mainly for electric power plants and eco-cars. Through the series of investments announced so far, we will establish a system to stably supply products of the world's top quality.

Amount of investment

Kyushu Works Yawata Area

- #1 46.0 bn. JPY (Published on Aug. 1st, 2019)
- #2 10.0 bn. JPY (Published on May 8th, 2020)

Setouchi Works Hirohata Area

- #1 14.0 bn. JPY (Published on Nov. 1st, 2019)
- #2 35.0 bn. JPY (Published on Nov. 6th, 2020)

- #3 **19.0 bn. JPY (Published on Nov. 2nd, 2021)** → **2) Investment newly determined**
- Total 123.0 bn. JPY**

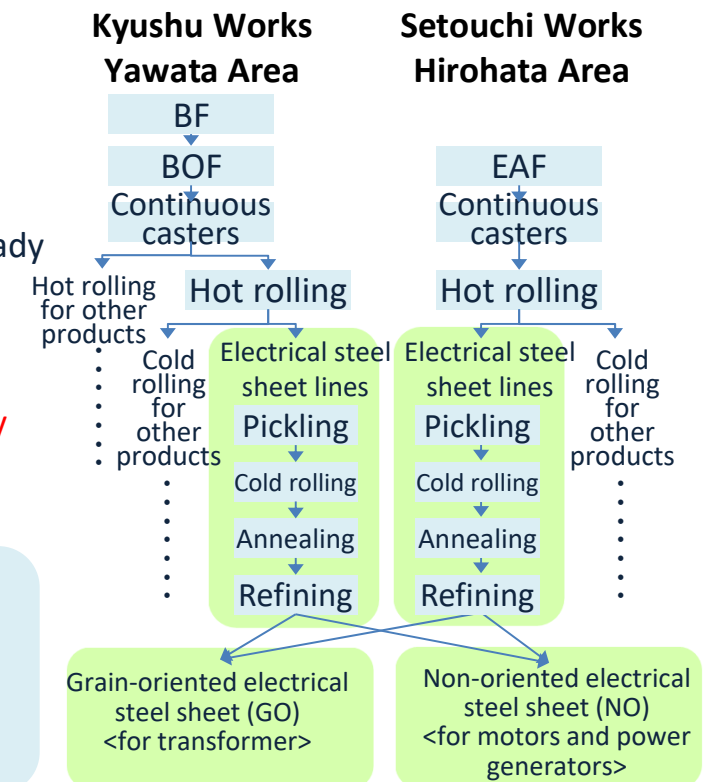
1) Investments already in progress
Full operation from 2023 1H

2) Investment newly determined
Full operation from 2024 1H

1) + 2) Capacity increase
Up about 1.5 times (NO+GO),
Up about 3.5 times (high-grade NO+GO)

Target facilities

Remodeling/ new installation of electrical steel sheet lines such as pickling, cold rolling, annealing, refining, transportation, etc.



Electrical Steel Sheet – Demand Growth and Quality Sophistication³³

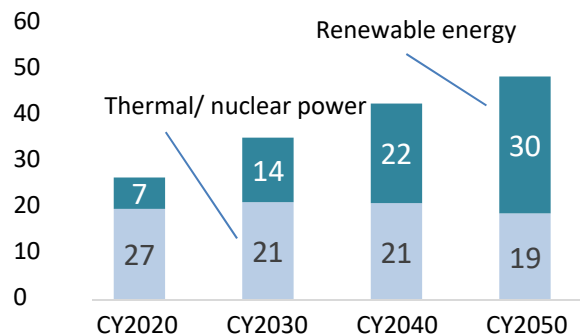
Demand growth

GO
(Grain-oriented)
for transformers



Outlook for world electricity generation

(PWh, estimated by Nippon Steel)



Quality sophistication

Tightening regulation of electric transformer efficiency

High-grade GO is essential to improve electric transformer's efficiency
→ Demand for high-grade GO is expected to steadily grow.

Figures in parenthesis : Regulatory requirement for energy loss (iron loss) ratio improvement
* Numbers for to be are estimation by Nippon Steel

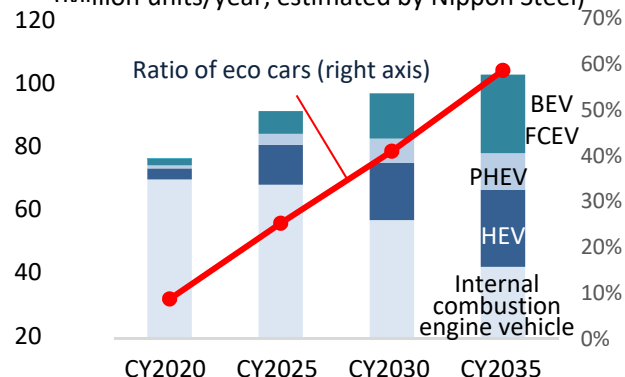
Area	Regulation	As Is	To Be
Japan	Top Runner	Tier 2 [vs. level 1 Reg. +7%]	Tier 3 [vs. level 2 Reg. +10%]
EU	Eco-design	Tier 1 [vs. before regulation +40%]	Tier 2 [vs. level 1 Reg. +10%]

NO
(Non-oriented)
for motors and power
generators



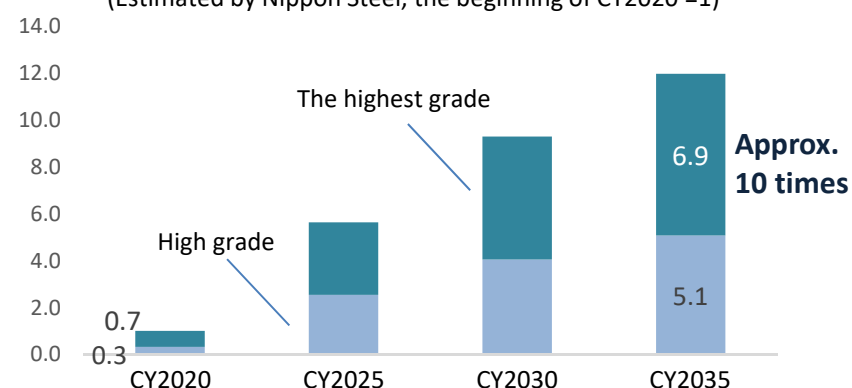
Outlook for world finished auto production

(Million units/year, estimated by Nippon Steel)



World demand outlook for electrical steel sheets for autos

(Estimated by Nippon Steel, the beginning of CY2020 =1)



Although global demands for transformers and eco-cars have temporarily declined due to COVID-19 pandemic, environmental regulations for transformers and autos are being tightened world-wide, and the demands for high-efficiency transformers and eco-cars are expected to dramatically grow in the medium to long term.

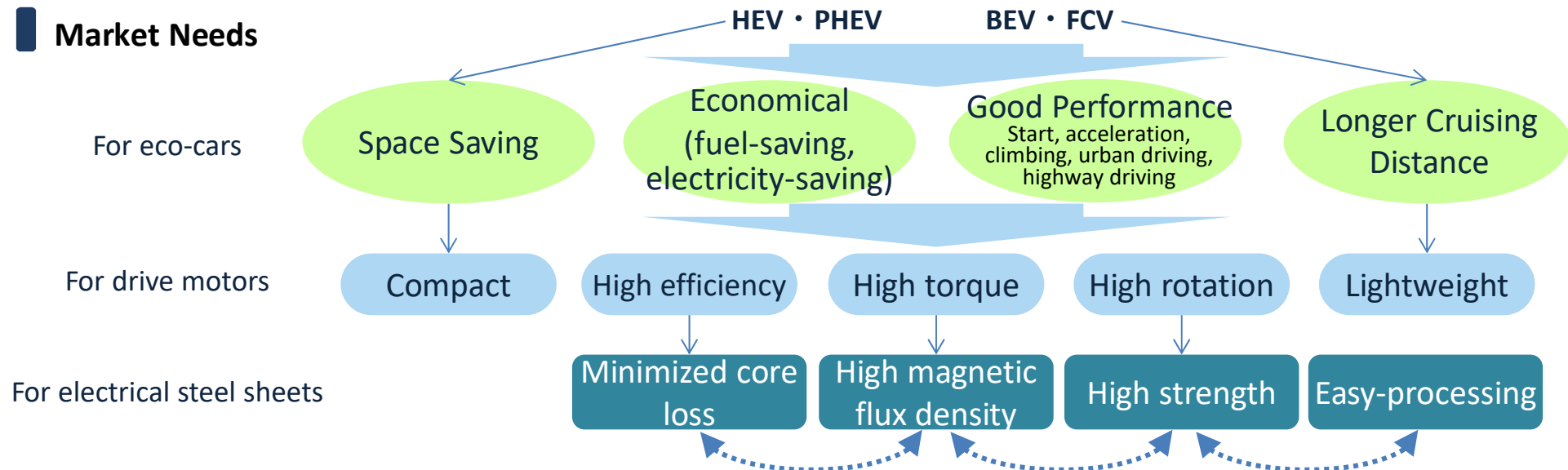
Electrical Steel Sheets

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– Market Needs and Our Strategy for Non-oriented ESS For Autos

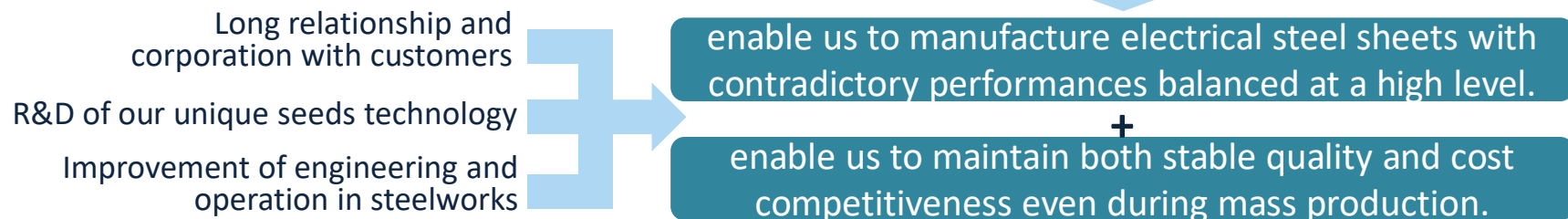
In long term perspective, eco-cars will spread and needs for improving the performance of eco-cars will increase to reduce CO₂ emission.

Market Needs



The required improvements in performance conflict with each other and it is difficult to achieve all at the same time.

Our Actions



We are further improving manufacturing capacity and quality of the highest grade non oriented electrical steel sheets, which contribute to higher performance of eco-cars, and thus contribute to reduction of CO₂ emission.

Topics - Sophistication of Order Mix -

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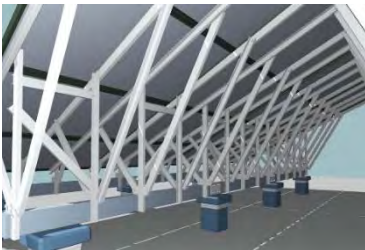
Sales launch of ZEXEED™, a new coated steel with high corrosion resistance, twice higher than conventional high corrosion resistant coated steel sheets and ten times higher than normal coated steel sheets

High durability and reduced life cycle cost due to excellent corrosion resistance

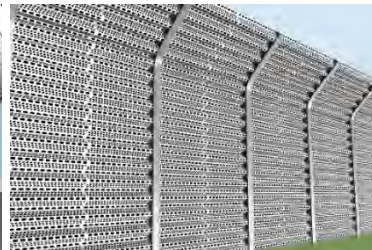
Contribution to various social needs

- ◆ Process and labor saving against population decline
- ◆ For national resilience, countering aging infrastructure
- ◆ For renewable energy project in corrosive environment like coastal area, hot and humid area, etc.

Solar panel stand



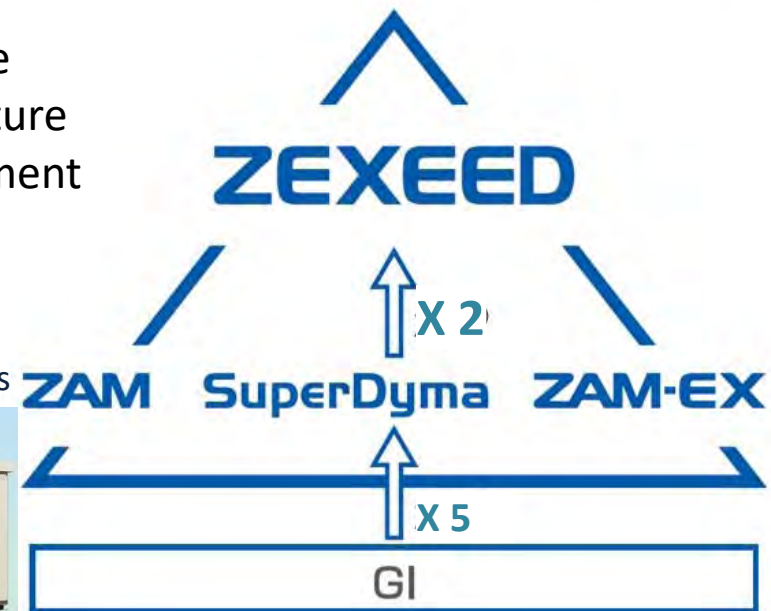
Wind fence/ snow fence



Boxes for switchboards



NIPPON STEEL
CORROSION RESISTANT COATED STEEL



Topics - Sophistication of Order Mix -

36

Our NSafe™-FORM-SS, a new sheering press forming technology that enables application of ultra-high-tensile strength steel to difficult-to-press forming parts, has been adopted by an automaker.

Achieved **the world's first application of 1,180MPa class high-tensile strength steel to front side members**, which are difficult-to-form parts.

Contribution to quality improvement of auto parts

- ◆ Vehicle weight reduction
- ◆ Improvement in press forming productivity by lowering press load
- ◆ Material saving by improving yield rate

Conventional technology



New sheering press forming technology (NSafe™-FORM-SS)



Going forward, we will continue proposals for expanding the application of the NSafe™-FORM series to cold press forming of over 1470 MPa class ultra-high-tensile steel, and for application of hot stamping method for ultra-high-strength members of 2.0 GPa level.

Following the deregulation of drone use in steelworks, Kansai Works Wakayama Area submitted a comprehensive application for permission to use drones in the area.

Applications will be submitted sequentially at other steelworks.

Through the Japan Iron and Steel Federation, deregulation of drone utilization in steelworks has been realized under certain conditions.

The sites of steelworks are vast and there are many high-rise structures, so there are many places where drones can effectively applied

- ◆ Inspection at flight altitude previously regulated (150m or more)
- ◆ Automatic inspection of very long roads, railroads, belt conveyers, etc.
- ◆ Inspection of revetments and seaside equipments without installing scaffolding or boats

High-rise structure
(#2 BF in Wakayama Area)



Vast site
(Panoramic view of Wakayama Area)



Advantages to apply drones

- ✓ Drastic reduction of labor and cost
(No necessity of scaffolding or boats, automation of inspection, etc.)
- ✓ Safety improvement and social distancing
- ✓ Improvement of inspection performance
- ✓ Data collection for DX promotion

Engagement to Carbon Neutrality by OVAKO

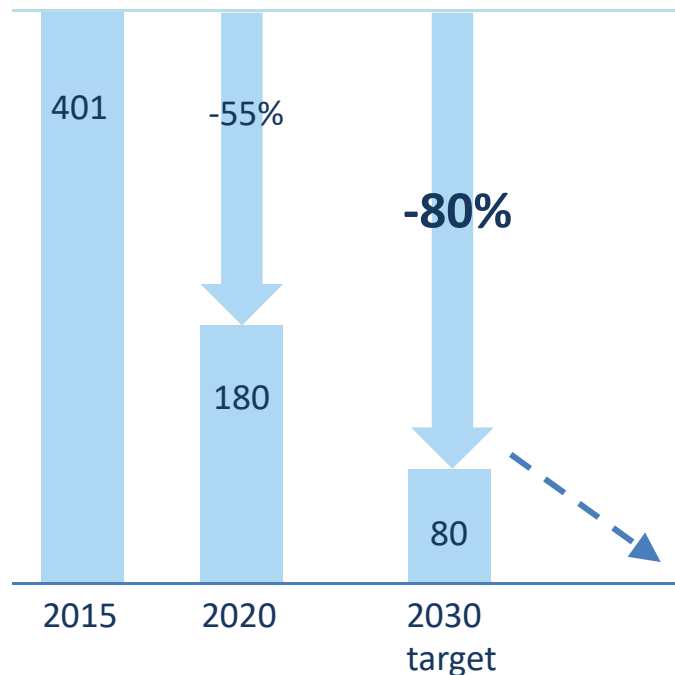
38

Ovako has set a policy to reduce 80% of CO₂ emissions in the manufacturing process by 2030 compared to that in 2015 by using hydrogen for heating steel and fossil-free hydrogen initiative.

OVAKO

The roadmap to reduce CO₂ emissions

Scope1+2 kt-CO₂/year



Apr., 2020

First in the world to heat steel using hydrogen

Ovako became the first steelmaker in the world to succeed in heating steel prior to rolling, using hydrogen generated from carbon free electricity, at Hofors mill in Sweden.

Ovako's hydrogen heating technology has no negative effect on quality and will enhance the possibility to wholly eliminate CO₂ emissions in the heating process, reduction of 20 kt-CO₂/year.



June, 2021

Fossil-free hydrogen initiative

In June 2021, Ovako began construction of a water electrolysis hydrogen plant producing carbon free hydrogen at Hofors mill. This construction of Sweden's largest carbon free hydrogen facility has been realized with the support of the Swedish Energy Agency and the collaboration with key industrial players in Sweden and Norway such as Volvo Group.

This plant is scheduled for completion by the end of 2022.

Topics - ESG

39

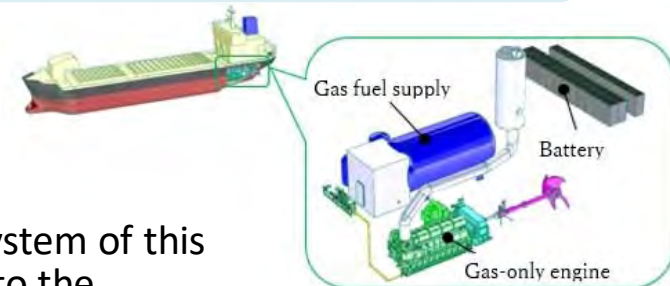
Our OCTG pipes and “NSMAX™-GR-PS,” a special connection for oil well pipes newly developed, been adopted for an EOR research project

- Our OCTG pipes and “NSMAX™-GR-PS,” a special connection for oil well pipes newly developed, have been adopted for the drilling of new wells at INPEX Minamiaga Field Office (Agano, Niigata prefecture), where INPEX and JOGMEC have started joint research for the verification testing of the enhanced oil recovery technology (EOR) using CO₂. We will promote the expansion of the production of the NSMAX™-GR-PS, which is capable of meeting diversifying needs, looking ahead to capturing international demand.



Agreement to construct a vessel with a hybrid propulsion system using a gas-only engine and a battery

- We plan to construct a vessel with a hybrid propulsion system combining a gas-only engine and a battery as the replacement of the limestone carrier "Shimokita Maru" owned by NSU Naiko. The vessel is to be in operation in Feb-2024.
- The CO₂ emission reduction effect of introducing the propulsion system of this vessel is 23.56% (about 30% at normal load operation) compared to the conventional vessels of the same type.



Steel plates for building structures were given EcoLeaf Environmental Labels

- Our steel plates for building structures were given EcoLeaf labels first for steel plates in Japan.
- We have acquired a total of 17 EcoLeaf environmental labels for our products, and our core products used for structural building components are now all certificated.



Sustainable Management
Promotion Organization

Issuance of Convertible Bonds 300.0 bn. JPY

(announced on Sep. 16th, 2021)

Cash required in the medium- to long-term management plan

Investment plan during FY2021- 25	CAPEX	2,400 bn. JPY/5 Years
	Business investment	600 bn. JPY/5 Years
	DX investment	100 bn. JPY/5 Years

Minimum R&D cost and CAPEX required for the time being to develop zero-carbon steel by 2050



Aims of CB issuance

To fund for cash requirement by the end of Mar. 2026; some parts of the investment plan and repayment/ redemption for existing loans and bonds

To strengthen financial structure to continue to carry out agile, reliable and sustainable growth strategy

Advantages of CB issuance

- Diversification of funding and increased flexibility in future financing strategies
- Further capital increase when converted to shares
- Minimization of financing cost

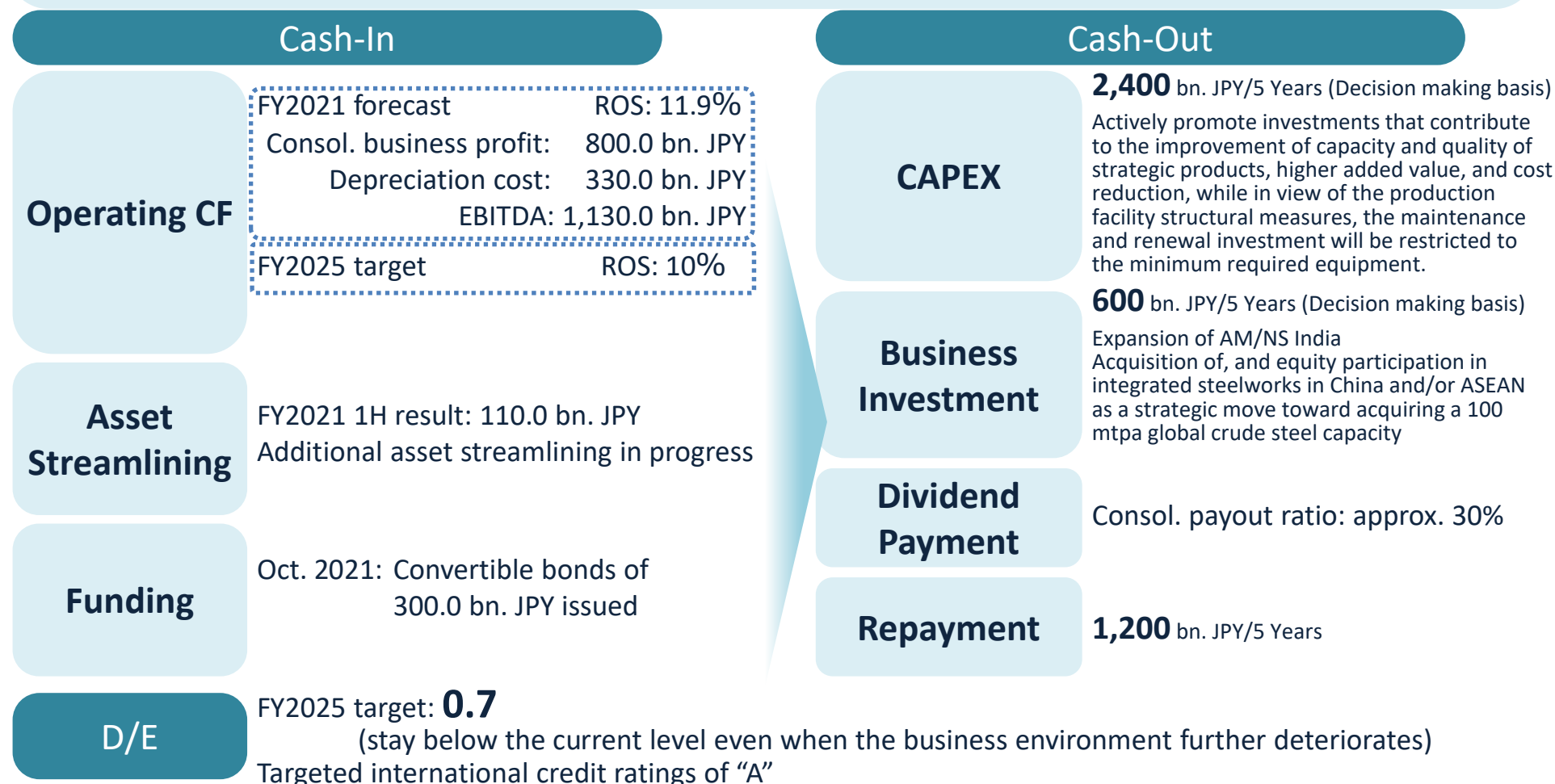
CB Outlines

To save leverage capacity to keep agility in carrying out growth strategy

	Amount	The date of issuance	The dates of maturity	Conversion prices as of Sep. 17 th Announcement ⇒ Adjusted conversion prices reflecting FY21 interim dividend	Note
3 Years	150.0 bn. JPY	Oct. 4 th , 2021	Oct. 4 th , 2024	2,884 JPY ⇒ 2,786.3 JPY	
5 Years	150.0 bn. JPY		Oct. 5 th , 2026	3,022 JPY ⇒ 2,919.6 JPY	Early redemption may be made by 130% call option attached

Cash Flows in the Medium- to Long-term Management Plan

Aim to generate cash flow necessary for growth investment, while returning profits to shareholders as well, and establishment of healthier financial structure (targeted international credit ratings of “A”) preparing against possibly further deteriorated business environment in the future and for zero-carbon steel investment that will start in earnest after FY2025.



Award for Excellence in Corporate Disclosure

Received Award for Excellence in Corporate Disclosure in Steel/Non Ferrous Metal Industry Category from Securities Analysts Association of Japan (SAAJ) Two Years in a Row

- In the “management’s involvement in investor relations” area, we received the highest rating and were recognized that top management offered information more frequently than before and that our top message is clear and expressing our management strategy honestly and frankly.
- We were highly evaluated for our medium- to long-term management plan and Carbon Neutral Vision 2050, sufficient explanation for the progress and specific measures to achieve them along with the disclosure of non-financial information in our integrated report that would lead to the enhancement of medium- to long-term corporate value.
- The ratings improved in four criteria from the previous year, resulting in our receipt of the 2021 Award for Excellence in the industry category.



2020 Award for Excellence
in Corporate Disclosure

— Industries —

SAAJ The Securities Analysts
Association of Japan



2021 Award for Excellence
in Corporate Disclosure

— Industries —

SAAJ The Securities Analysts
Association of Japan

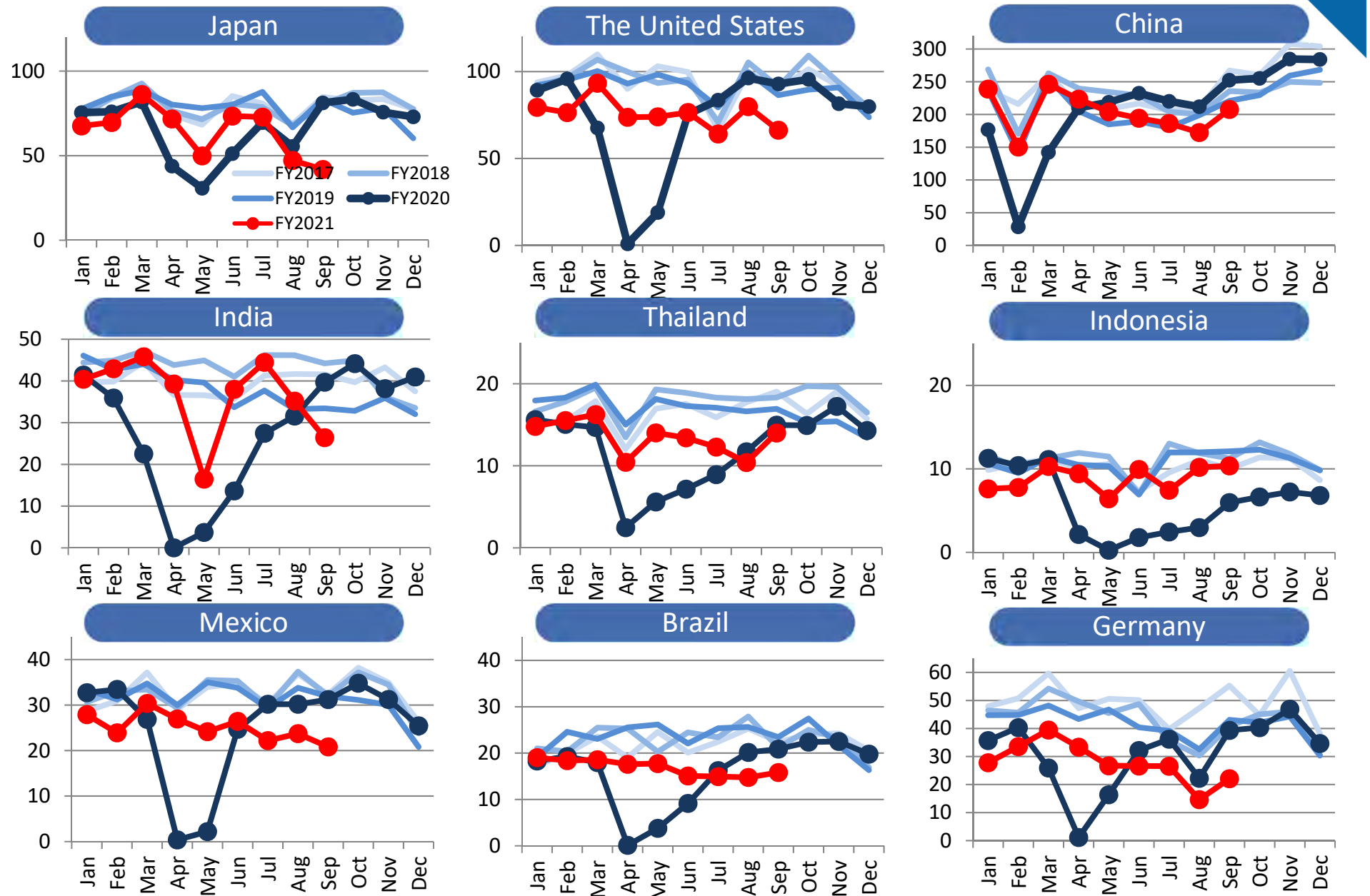
Publication of Integrated Report and Sustainability Report 2021

- Through dialogues with stakeholders, the reports are improved, easier to read and richer in content. The integrated report is constituted along the lines of the “International IR Framework” developed by the International Integrated Report Council (IIRC). Details on specific initiatives to ESG factors are presented in the Sustainability Report.

Integrated Report: https://www.nipponsteel.com/en/ir/library/annual_report.html

Sustainability Report: <https://www.nipponsteel.com/en/csr/report/>

Finished Auto Production





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Appendix 4. Related Indicators

Progress: Selection and Concentration of Facilities, Products, and Businesses

*BF = Blast Furnace

Legend : New measure ★ Plan ★ Done ★ Cancelled

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Early transition to domestic optimal production system and strengthening of competitiveness

Action	Publication	~FY19	FY20	FY21	FY22	FY23~
Upstream	(Yawata) Optimization of upstream processes (Tobata) New continuous casting (Tobata) Closure of a continuous casting (Kokura) Closure of the upstream processes - Schedule moved up	Mar-16	★ May-19: completion	★ End of FY20: full-scale operation started ★ End of FY20: closure ★ End of FY20: closure		
	(Kure) Closure of the upstream processes and the hot-rolling lines	Feb-20	★ Sep-20: closure	★ End of FY21 1H: closure of upstream processes	★ End of FY23 1H: closure of the others	
	(Wakayama) Closure of a BF and related facilities - Schedule partially changed	Feb-20 Nov-21		★ FY22 1H: closure of parts of #3 CC, etc.	★ FY22 1H: closure	★ The end of FY24: closure of #4 coke oven
	- Schedule partially moved up	Mar-21		★ The end of FY21 1H: closure of #1BF, #5 coke oven, #5-1 sintering		
	(Kimitsu) Closure of a continuous caster	Mar-21		★ The end of FY21: closure		
	(Kashima) Closure of one series of upstream facilities	Mar-21				★ The end of FY24: closure
Steel plate	(Nagoya) Closure of the steel plate mill - Schedule moved up	Feb-20 Nov-20		★ FY22 2H: closure ★ The end of FY21: closure		
	(Kashima) Closure of the steel plate mill	Mar-21				★ FY24 2H: closure
Shapes	(Kimitsu) Closure of the large-shape mill	Mar-21		★ The end of FY21: closure		
	(Kashima) Closure of the large-shape mill	Mar-21				★ The end of FY24: closure
Pipe & tube	(Kashima) Closure of the UO pipe line	May-19	★ Oct-19: closure			
	(Kimitsu) Closure of the UO pipe line	Mar-21		★ The end of FY21: closure - withdrawal from UO pipe business		
	(Kimitsu Tokyo) Closure of the small-diameter seamless pipe mill	Mar-18	★ May-20: closure			
	(Wakayama Kainan) Closure of a small-diameter seamless pipe mill (west)	Mar-21				★ The end of FY25: closure

Progress: Selection and Concentration of Facilities, Products, and Businesses

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Legend : New measure ★ Plan ★ Done ★ Cancelled

Early transition to domestic optimal production system and strengthening of competitiveness

Action	Publication	~FY19	FY20	FY21	FY22	FY23~
Steel sheet	(Hirohata) Closure of the tinsplate line - Schedule moved up	Nov.-19 Feb.-20		★ FY21 2H: closure ★ The end of FY20: closure		
	(Hanshin Sakai) Closure of some sheet lines	Feb.-20		★ The end of FY20: closure	★ The end of FY22: closure (1GAL)	★ The end of FY24: closure (1CGL)
	Closure of some hot-dip galvanizing lines	Mar.-21				
	(Kashima) Closure of a pickling lines	Mar.-21			★ The end of FY22 1H: closure	
	(Kure) Closure of hot strip mill and pickling lines	Feb.-20				★ The end of FY23 1H: closure
	(Hanshin Osaka) Closure of the site	Mar.-21				★ The end of FY23 1H to the end of FY23: closure
	(Wakayama) Closure of all steel sheet lines	Mar.-21				★ The end of FY24 1H: closure
	(Kimitsu) Closure of a hot-dip galvanizing line	Mar.-21				★ The end of FY24: closure
special stainless steel	(Oita Hikari Pipe & Tube) Closure of titanium welded pipe production line	Feb.-20		★ The end of Sep.-21: closure		
	(Naoetsu) Closure of a special stainless steel line	Mar.-21		★ The end of FY21: closure		
	(Kansai Osaka) Closure of the titanium raw material plant	Mar.-21			★ The end of FY22 1H: closure	
	(Kansai Osaka) Closure of the special equipment for titanium round bar manufacturing	Feb.-20			★ The end of FY22: closure	
Stainless steel	(Nippon Steel Stainless Steel Kinuura) Closure of the hot strip mill - Schedule moved up	Feb.-20 Nov.-20		★ The end of Dec.-20: closure ★ The end of Oct.-20: closure		
	Closure of the dedicated facility for production of precision products	Feb.-20		★ Sep.-20: closure	★ The end of FY21: closure	
	Closure of all other facilities	Mar.-21				
	(Nippon Steel Stainless Steel Kashima) Closure of a part of annealing lines	Mar.-21		★ Jun.-21: closure		
	(Nippon Steel Stainless Steel Shunan) Closure of some cold-rolling and annealing lines Closure of an EAF	Mar.-21 Mar.-21		★ The end of FY20~		★ ~Jun.-26: closure ★ The end of FY23: closure

Progress: Selection and Concentration of Facilities, Products, and Businesses

*BF = Blast Furnace

Legend : New measure ★ Plan ★ Done ★ Cancelled

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Early transition to domestic optimal production system and strengthening of competitiveness

Action	Publication	~FY19	FY20	FY21	FY22	FY23~
(Wakayama) BF Switch	Mar-18	★ Mid Feb-19 : Switch from 5BF to New 2BF				
(HOKKAI IRON & COKE CORP. in Muroran) Reline 2BF	Nov-18	★ Nov-20: Completion				
(Nagoya) Reline 2BF	Jun-20	★ FY22. 1H: Completion				
Coke Oven Construction (Kashima) 2E Coke Oven	Sep-15	★ May-18 : Completion				
Coke Oven Refurbishment (Kimitsu) 5 Coke Oven	Apr-16	★ Feb-19 : Completion				
(Hokkai) 5 Coke Oven	Jun-17	★ Sep-19 : Completion (Completed refurbishment for all coke ovens in Hokkai)				
(Nagoya) 3 Coke Oven	Nov-18	★ May-21: Completion				
(Yawata) New Continuous Casting Facility	Mar-16	★ May-19 : Completion				
(Hirohata) Scrap Melting Process	Nov-19	★ FY22 1H: EAF Completion ★ FY23 1H: Melting furnace closure				
(NIPPON STEEL Structural Shapes) Close Steelmaking Mill	Mar-18	★ End of FY19: Close steelmaking facility and transfer its production to Wakayama Works				
Cancellation	Feb-20	Cancelled the shutdown of the steelmaking facility				
(Nagoya) Installment of a next generation hot strip mill	Mar-21	★ FY26.1Q: Start operation (after the start of full operation of the new mill, the existing hot strip mill will be shutdown)				

Progress: Selection and Concentration of Facilities, Products, and Businesses

48

Legend : New info ★ Plan ★ Done ★ Cancelled

Strengthen Quality and Volume of Globally-competitive Strategic Products

Action	Publication	~FY19	FY20	FY21	FY22~
Electrical Steel Sheets Investments for capacity & quality improvement					
Yawata #1	Aug-19	★ Aug-19: CAPEX decision			
#2	May-20		★ May-20: CAPEX decision		
Hirohata #1	Nov-19	★ Nov-19: CAPEX decision			★ FY23 1H: Full operation
#2	Nov-20		★ Nov-20: CAPEX decision		
#3	Mar-21				★ FY24 1H: Full operation
Super High-tensile Steel Sheets (Kimitsu) 6 CGL	Apr-18		★ Jan-21: Completion		
(Nagoya) a next generation hot strip mill	Mar-21				★ FY26.1Q: Start operation

Strengthen Overseas Business Responding to Local Consumption Trend

Action	Publication	~FY19	FY20	FY21	FY22~
AM/NS India	Mar-18	★ Mar-18: Basic agreement ★ Oct-18: CoC declared AM as the successful applicant ★ Mar-19 : AM's resolution plan was conditionally approved by NCLT. ★ Nov-19 : AM's resolution plan was approved by Indian Supreme Court. ★ Dec-19: Joint acquisition completed ★ Mar-20: Loan agreement with JBIC ★ Jul-20: Acquisition of OSPIL* Capacity expansion from 7 to 14MMT/Y +α is planned			
AM/NS Carvert New EAF	Nov-20				★ FY23.1H: Completion

*OSPIL: Odisha Slurry Pipeline Infrastructure Limited

Company managing the Odisha state slurry pipeline which AM/NS India uses to transport fine ore from a beneficiation plant to a pelletization plant owned by AM/NS India

Legend : New info ★ Plan ★ Done ★ Cancelled

Withdrawal from or realignment of businesses that have already completed their roles, or businesses that no longer have any synergies with Nippon Steel

Action	~FY19	FY20	FY21	FY22~
Sale of Partnership Interest in Bahru Stainless (Stainless steel sheet business in Malaysia)	★ Dec-18: Sold			
Dissolution of ZNW (Special cold rolled steel sheet business in China)	★ Dec-19: Stopped production			
Sale of Partnership Interest in NAT (Stainless steel pipe business in the US)	★ Feb-20: Sold			
Dissolution of N-EGALV (Electrogalvanized steel sheet business in Malaysia)	★ Jun-20: Stopped production			
Sale of Partnership Interests in I/N Tek and Kote (Cold rolled and galvanized steel sheet business in the US)		★ Dec-20: Sold		
Sale of Partnership Interest in PATIN (Tinplate business in China)		★ Dec-20: Sold		
Sale of Partnership Interest in VSB (Seamless pipe business in Brazil)		★ Mar-21: Sold		
Sale of VAM USA (OCTG threading business in the US)			★ Jul-21: Sold	
Withdrawal of NSCI (Steel wire for cold heading business in the US)				

Progress: Actions for Tackling the Climate Change Through Innovation

50

Legend : New info ★ Plan ★ Done ★ Cancelled

Action	~FY19	FY20	FY21~
Eco-Process	★ Nov-18: Issue of international standard (ISO 20915) regarding life cycle inventory calculation methodology for steel products		
Eco-Products® High-Tensile Steel Sheet	★ Jan-19: Established “NSafe®-AutoConcept”	★ Jan-21: Operation of 6CGL in Kimitsu Area started	★ May-21: Expansion of “NSafe®-AutoConcept” solution lineup ★ Oct-21: New press forming technology “NSafe®-RORM-SS” established
Electrical Steel Sheet	★ Aug-19: Electrical steel sheets CAPEX (Yawata #1) determined	★ Nov-19: Electrical steel sheets CAPEX (Hirohata) determined ★ May-20: Electrical steel sheets CAPEX (Yawata #2) determined ★ Nov-20: Electrical steel sheets CAPEX (Hirohata #2) determined	★ FY24 1H: (Hirohata #3) full operation
Others	★ Sep-19: Beverly® Unit won the Excellence Award in EcoPro 2019 (Japanese preeminent environmental exhibition) ★ Dec-19: 9 H-beams products were given EcoLeaf environmental label ★ Mar-20: Mega NSHYPER BEAM™ was given EcoLeaf ★ Oct-20: 3 tinplate products were given EcoLeaf ★ May-21: OCTGs and line pipes were given EcoLeaf ★ Jul-21: SMart BEAM™ was given EcoLeaf ★ Sep-21: Steel plates for building structure were given EcoLeaf ★ Feb-20: NSafe™-Hull was awarded Okochi Memorial Production Prize ★ Feb-21: NSafe™-Hull was awarded Japan Open Innovation Prize ★ Mar-21: NSafe™-Hull was awarded Naoji Iwatani Memorial Award ★ Apr-21: Ultra-high-tensile strength steel wire for bridge cables was awarded Commendation for Science and Technology		
Eco-Solution	★ Dec-16: Achieved a cumulative total of 100 CDQ* orders overseas (114 as of the end of FY19, 20.74 MMT-CO ₂ / year of CO ₂ emission reduction)		
Aiming for Carbon-free and Circular Society	★ May-19 : Expressed our support for recommendations of TCFD ★ Oct-19: Integrated report and sustainability report were published ★ Dec-19: Held the 1 st sustainability briefing ★ Jun-20 : Expressed support for “Challenge Zero” program of Japan Business Federation, and released 10 innovative challenges ★ Jul-21 : Was selected for “FTSE4Good Index Series” & “FTSE Blossom Japan Index”, Leading Indices for ESG Investment 4 years in a row		

Nippon Steel has announced CO₂ emissions reduction scenario
2030 Target: 30% or more reduction in total CO₂ emissions vs 2013
2050 Vision: Carbon neutral

Progress: Digital Transformation, Responses to Work Style Change

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Legend : New info ★ Plan ★ Done ★ Cancelled

Enhancement of Digital Transformation

Action	~FY19	FY20	FY21~
Reorganization to Enhance Digital Transformation	★ Apr-16: Newly-created “Advanced Application Technology Planning Dep.” ★ Apr-16: NSSOL newly-created “IoT Solution Business promotion Dep.” ★ Oct-17: NSSOL newly-created “AI Research & Development Center” ★ Apr-18: Newly-created Intelligent Algorithm Research Center ★ Apr-20: Newly-created “Digital Innovation Div.”		
Utilizing Advanced IT in Steelmaking Process	★ Sep-18: Company-wide Safety Support Project (Installment of smart devices to manufacturing front-lines) ★ Apr-19: Introduction of NS-DIG™ ★ Jun-20: Implementation of AI image recognition system ★ Apr-20: Full-scale system for WFH prepared ★ Dec-20: Demonstration for establishment of basis for operation monitoring in steelworks utilizing NEC’s AI technology started in Kimitsu		
Local 5G Private Network		★ Aug-20: Started FS of local 5G network system demonstration provided by NSSOL in Muroran Works	
Utilizing drones at steelworks			★ Aug-21: Submitted an application for permission to use drones in Wakayama Area... Likewise in other areas going forward

Responses to Work Style Change

Action	~FY19	FY20	FY21~
24 Hour Nursery		★ Apr-19 : The 5 th 24 hour in-house nursery in Hirohata Area (Oita, Kimitsu, Yawata, Nagoya, Hirohata) ★ Dec-21 : The 6 th 24 hour in-house nursery in Kashima Area to open ★ Jan-22 : The 7 th 24 hour in-house nursery in Muroran Works to open	
Work System	★ Apr-16: Career return system and accompany leave system started ★ Apr-19: Trial introduction of WFH system (official introduction in November) ★ Apr-20: Transfer exemption system started ★ Apr-19: Retirement age 65 years old policy determined → ★ Apr-21: application		
System Improvement to support WFH		★ Apr-20: Implementation of Microsoft Teams (Company-wide) ★ Sep-19: Development of general-purpose workflow system ... planning to end using “hanko” stamp and implement electronic seal authentication system	



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Appendix 1. Progress of Management Strategy Measures

Appendix 2. Medium- to Long-Term Management Plan: Rebuilding Domestic Steel Business

Appendix 3. Carbon Neutral Vision 2050

Appendix 4. Related Indicators

Toward Medium- to Long-Term Management Plan FY2025 Targets

To secure ROS 10% and ROE 10%, Nippon Steel will establish optimal production framework with “concentrated production”, “higher-level order mix”, and “renewal and improvement of facilities” assuming medium- to long-term change: decrease in domestic demand, deterioration of export profitability, and increase in high grade steel demand.

Nippon Steel will steadily implement production facility structural measures regardless of short-term improvement of business environment.

Further improve BEP by establishing optimal production framework

Improvement of marginal profit per ton

- Higher-level order mix
- Improvement of tied sales prices and margins
- Variable cost reduction
- Avoiding cost increase due to low production

Maintaining low fixed cost

- Fixed cost reduction including the effect of production facility structural measures, which offsets cost increase in DEP and other cost temporarily been reduced during pandemic

Improve group companies' profits

- Boosting profits in overseas businesses
- Strengthening group companies' competitiveness and profitability
- Enhancement of collaboration with group companies and reinforcement of the management system
- Boosting profitability in consolidated basis including group company re-rollers
- Optimization of group company structure by selection and concentration

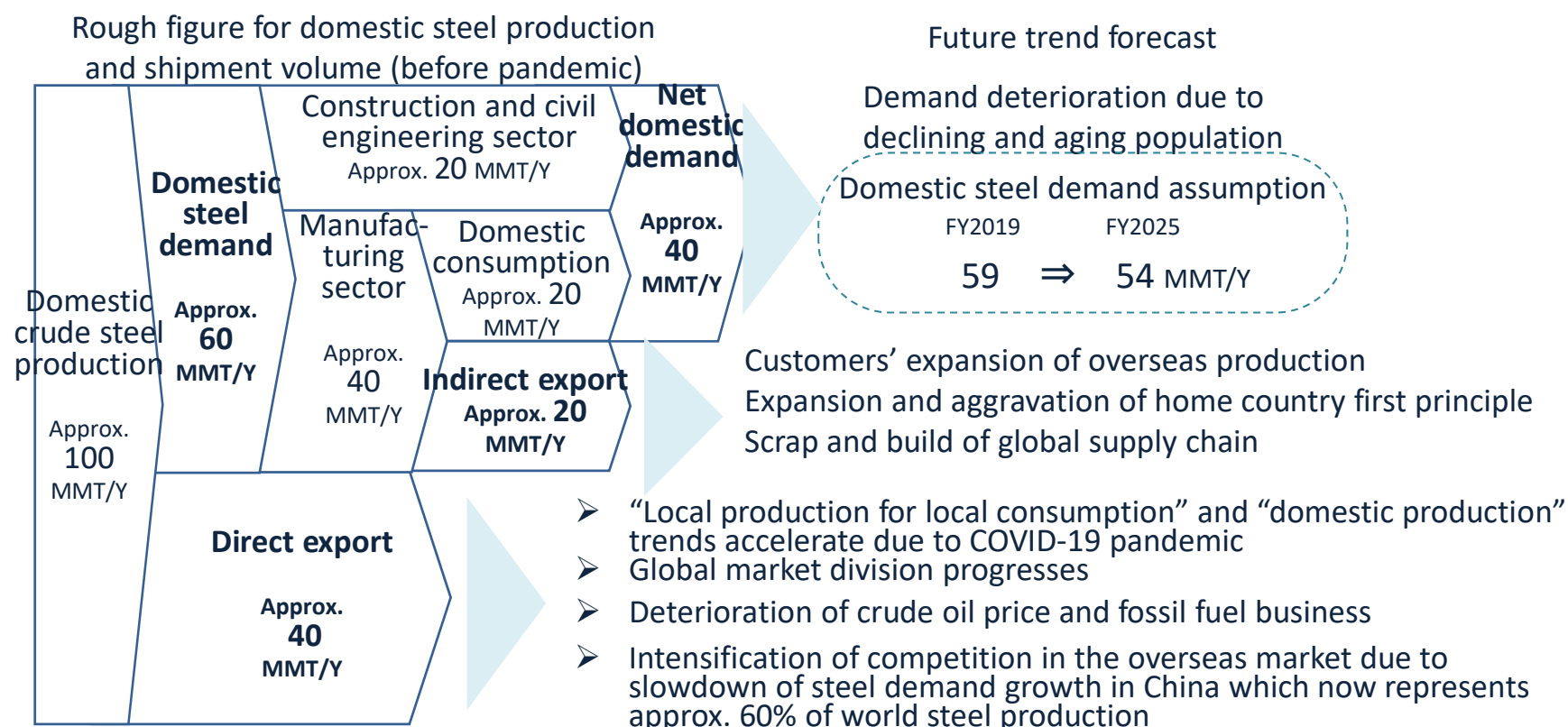
Improve non-steel business profits

- Engineering & Construction: Expansion of stable earnings from O&M business, reinforcement of EPC business in renewable energy sector and infrastructure sector
- Chemicals & Materials: Concentration of resources to electronic materials field and expand the businesses of products with their specialty
- System Solutions: Steady growth through concentration to DX business



Medium- to Long-Term Steel S&D Change Assumption

- 1) World steel demand increase mainly in Asia
- 2) High grade steel demand increase, including emerging needs for carbon neutrality
- 3) Domestic demand decrease, deterioration of export profitability, and intensification of competition in overseas market



Production Facility Structural Measures

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Restructuring the domestic steel business based on the assumption of medium- to long-term S&D changes

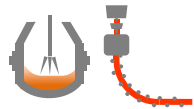
Promoting production facility structural measures and selective concentration on products and facility



BFs

Shutdown

5 units



Annual crude
steel production
capacity

Reduction

10 MT/Y
Approx. **-20%**

Listed above
+Nippon Steel Stainless Steel Shunan EAF

Cost reduction

¥150 bil/Y

Improvement of
labor productivity

Reduction of
essential personnel
20% or more

Total number of domestic BF's

15 -> 10 units

The end of Sep., 2020: Kokura BF

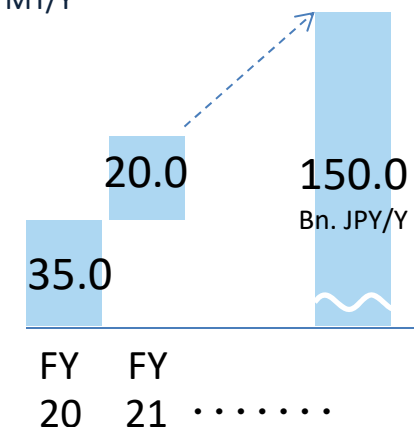
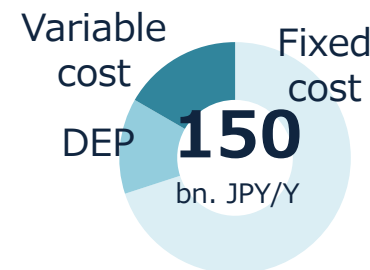
The end of Sep., 2021: Kure #1, 2 BF's,
Wakayama #1 BF

The end of FY2024: Kashima #3BF

Crude steel production capacity

Non-consol. + Nippon Steel Stainless Steel

50 -> 40 MT/Y

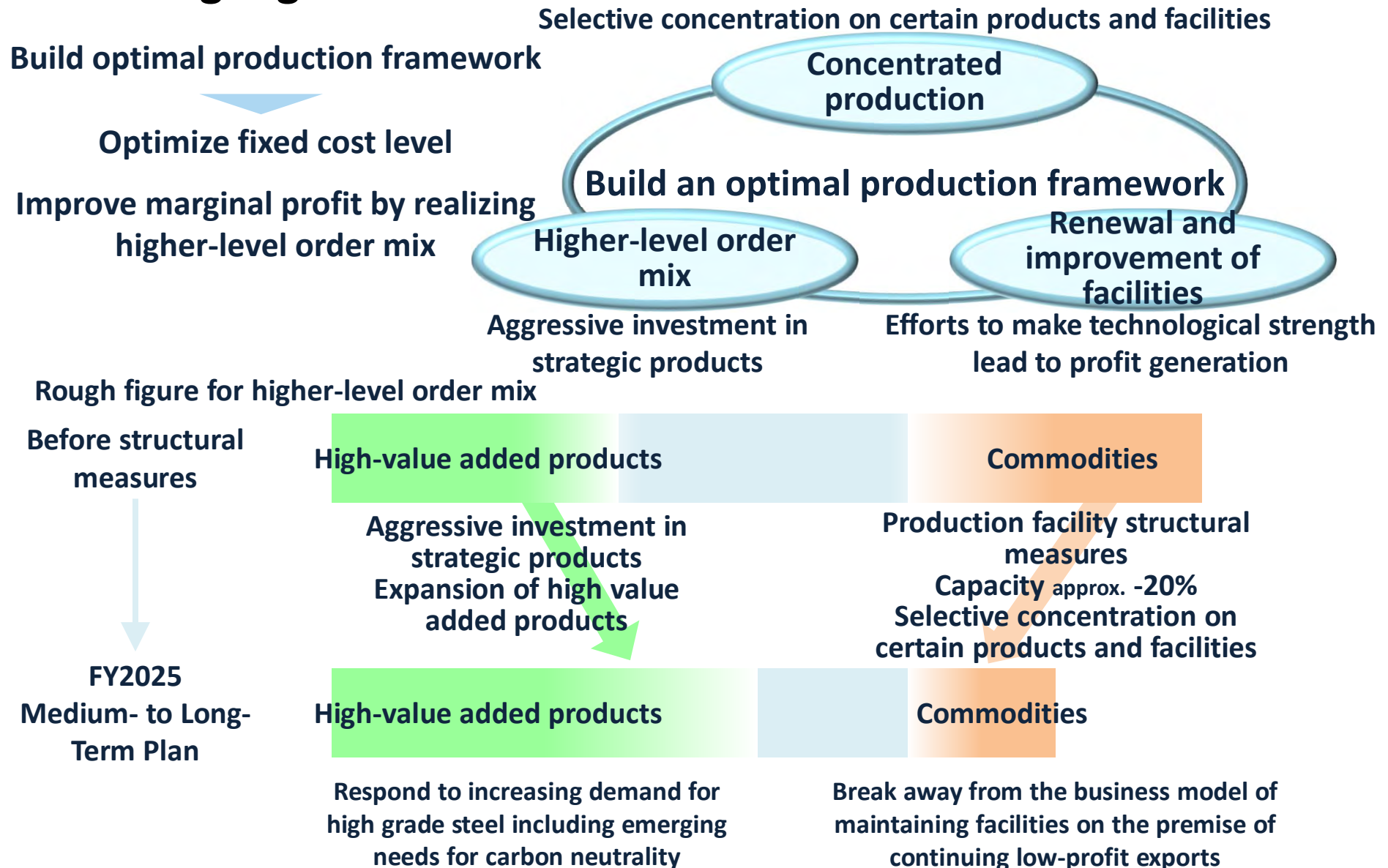


From FY2021 to the end of FY2025

Reduction by production facility structural measures and DX measures etc. all combined (Nippon Steel + contractors)

Building an Optimal Production Framework and Realizing Higher-Level Order Mix

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Outline of Production Facility Structural Measures (1/2)

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	Announcement	Steelworks	Facilities for shutdown	Approximate time of shutdown (●: completed)
Upstream facilities	Mar. 2021	East Nippon Works Kashima Area	One series of upstream facilities (No.3 BF, No.2-A,B,C,D coke ovens, No.3 sintering machine, and No.1 steelmaking plant)	The end of FY2024
	Mar. 2021	East Nippon Works Kimitsu Area	No.1 continuous casting machine	The end of FY2021
	Feb. 2020 → Moved up Mar. 2021 → Partially changed Nov. 2021	Kansai Works Wakayama Area	No.1 BF, No.5 coke oven, No.5-1 sintering machine	FY2022 1H →● Sep. 2021
			Parts of No.3 continuous casting machine	FY2022 1H
			No.4 coke oven	FY2022 1H → The end of FY2024
	Feb. 2020	Setouchi Works Kure Area	All upstream facilities (including BF, sintering, steelmaking)	● Sep. 2021
	Feb. 2020	Setouchi Works Hirohata Area	Termination: Melting furnace Establishment: New EAF	FY2023 1H FY2022 1H
	Mar. 2015	Kyushu Works Yawata Area (Kokura)	Upstream facilities (BF, sintering, steelmaking)	● Sep. 2020
Steel plate	Mar. 2021	East Nippon Works Kashima Area	Steel plate mill	FY2024 2H
	Feb. 2020	Nagoya Works	Steel plate mill	The end of FY2021
Construction product	Mar. 2021	East Nippon Works Kimitsu Area	Large Shape mill	The end of FY2021
	Mar. 2021	East Nippon Works Kashima Area	Large shape mill	The end of FY2024
Pipe & tube	Mar. 2021	Kansai Works Wakayama Area (Kainan)	Small-diameter seamless pipe mill (West)	The end of FY2025
	Mar. 2021	East Nippon Works Kimitsu Area	UO pipe line	The end of FY2021
	May 2019	East Nippon Works Kashima Area	UO pipe line	● Oct. 2019
	Mar. 2018	East Nippon Works Kimitsu Area (Tokyo)	Small-diameter seamless pipe mill	● May 2020

Outline of Production Facility Structural Measures (2/2)

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	Announce -ment	Steelworks	Facilities for shutdown	Approximate time of shutdown (● : completed)
Steel sheet	Mar. 2021	East Nippon Works Kimitsu Area	No.1 hot-dip galvanizing line (No.1 CGL)	The end of FY2024
	Mar. 2021	East Nippon Works Kashima Area	No.1 pickling line	The end of FY2022 1H
	Mar. 2021	Setouchi Works Hanshin Area (Sakai)	No.1 hot-dip galvanizing line (No.1 CGL) No.1 hot-dip galvanizing and aluminizing line (No.1 GAL)	The end of FY2024 The end of FY2022
	Mar. 2021	Kansai Works Wakayama Area	All steel sheet lines	The end of FY2024 1H
	Mar. 2021	Setouchi Works Hanshin Area (Osaka)	All facilities	The end of FY2023 1H -- the end of FY2023
	Feb. 2020	Setouchi Works Kure Area	Hot strip mill, pickling line	The end of FY2023 1H
	Feb. 2020	Setouchi Works Hanshin Area (Sakai)	Continuous annealing line, electro-galvanizing line, No.1 hot-dip aluminizing line (No.1 CAL)	● The end of FY2020
	Nov. 2019	Setouchi Works Hirohata Area	Tinplate mill	● The end of FY2020
Titanium & special stainless steel	Mar. 2021	East Nippon Works Naoetsu Area	Special stainless steel line	The end of FY2021
	Mar. 2021	Kansai Works Osaka Area	Titanium raw material plant	The end of FY2022 1H
	Feb. 2020	Kansai Works Osaka Area	Special equipment for titanium round bar manufacturing	The end of FY2022
	Feb. 2020	Kyushu Works Oita Area (Hikari Pipe & Tube)	Titanium welded pipe production line	● Sep. 2021
Stainless steel	Mar. 2021	Nippon Steel Stainless Steel Kinuura Works	All lines (the cold-rolling line and all other lines thereafter)	The end of FY2021
	Mar. 2021	Nippon Steel Stainless Steel Kashima Works	A part of annealing lines	● The end of June 2021
	Mar. 2021	Nippon Steel Stainless Steel Shunan Area Yamaguchi Works	A part of cold-rolling and annealing lines	The end of March 2021 -- the end of June 2026
			1 EAF	The end of FY2023
	Feb. 2020	Nippon Steel Stainless Steel Kinuura Works	Hot strip mill/ dedicated facility for production of precision products	● Sep. and Oct. 2020

Change in Major Subject Lines (Production facility structural measures)

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	Announced before Mar. 2021	Announced in Mar. 2021	Total	Before → After
 BFs	-4	-1	-5	15 → 10
 Continuous casters	-5	-3	-8	32 → 24
 Steel plate lines	-1	-1	-2	4 → 2
 Large shape lines	-	-2	-2	4 → 2
 Seamless pipe lines	-	-1	-1	3 → 2
 UO pipe lines	-1	-1	-2	2 → 0
 Hot strip lines	-1	-	-1	7 → 6
 Cold rolling lines	-	-2	-2	17 → 15
 Galvanizing lines	-	-3	-3	19 → 16
 Special stainless steel rolling lines	-	-2	-2	4 → 2
Titanium raw material line	-	-1	-1	1 → 0
Titanium round bar line	-1	-	-1	1 → 0
 Titanium welded pipe line	-1	-	-1	1 → 0
 Nippon Steel Stainless Steel cold rolling lines	-	-4	-4	13 → 9
 Nippon Steel Stainless Steel EAFs	-	-1	-1	4 → 3

Domestic Steelworks: Upstream Facilities and Products

- ◆: All of the related lines are to be or already been shutdown
◇: Some of the related lines are to be or already been shutdown

		Upstream facilities (units)				Products																
		BF	BOF	EAF	Continuous caster	Sheets				B/W		Pipes				Construction						
						Hot strip mill	Cold strip mill	GA	Tinplate	Electrical	Bar	Wire	Seamless	UO	ERW	Plates	Shape	Rail	Spiral	Machinery	Titanium	Special stainless
◆: All of the related lines are to be or already been shutdown																						
◇: Some of the related lines are to be or already been shutdown																						
North Nippon Works (from Apr. 2022)		1	2	1	1						○	○										
Muroran Area (Muroran Works until Mar. 2022)	Muroran City	1	2	1	1						○	○										
Kamaishi Area (East Nippon Works until Mar. 2022)	Kamaishi City											○										
East Nippon Works		4⇒3	10⇒7		9⇒6	○	○	◇				○	◆	◆	○	◇	◆		○		○	◇
Kimitsu Area	Kimitsu City	2	5		5⇒4	○	○	◇				○	◆	◆	○	○	◆		○			
Kashima Area	Kashima City	2⇒1	5⇒2		4⇒2	○	○	○						◆	○	◆	◆					
Naoetsu Area	Joetsu City																				○	◇
Nagoya Works		2	6		3	○	○	○	○						○	◆						
Kansai Works		2⇒1	3	2	6⇒5		◆						◇				○			○	◆	
Wakayama Area (Wakayama, Kainan, Sakai)	Wakayama City etc.	2⇒1	3	1	6⇒5		◆						◇				○					
Osaka Area	Osaka City			1																○	◆	
Amagasaki Area	Amagasaki City												○									
Setouchi Works		2⇒0	6⇒0	0⇒1	4⇒2	◇	◇	◇	◆	○												
Hirohata Area	Himeji City		3⇒0	0⇒1	2	○	○	○	◆	○												
Kure Area -> all shutdown	Kure City	2⇒0	3⇒0		2⇒0	◆																
Hanshin Area (Osaka) -> all shutdown	Osaka City						◆															
Hanshin Area (Kanzaki)	Amagasaki City						○															
Hanshin Area (Sakai)	Sakai City						○	◇														
Hanshin Area (Toyo)	Saijo City						○	○														
Kyushu Works		4⇒3	11⇒7		9⇒7	○	○	○	○	○	○	○	○	○	○	○	○	○	○		◇	
Yawata Area (Tobata, Kokura, Yahata, Hikari Titanium Production)	Kitakyushu City, etc.	2⇒1	8⇒4		6⇒4	○	○	○	○	○	○	○					○	○	○		○	
Oita Area (Oita)	Oita City	2	3		3	○										○						
Oita Area (Hikari Pipe & Tube)	Hikari City												○		○						◇	
Nippon Steel Stainless Steel Corp.				4⇒3	4		◇				○	○			○							
Kashima Works	Kashima City						○															
Yamaguchi Works	Shunan City, Hikari City			4⇒3	4		◇				○	○										
Kinuura Works -> all shutdown	Hekinan City						◆															
Yawata Works	Kitakyushu City															○						



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Zero-Carbon Steel: Our CO₂ Emissions Reduction Scenario

2030 Target

30% or more reduction in total CO₂ emissions vs. 2013

[Means]

- Actual implementation of the COURSE50 in the existing BF and BOF process
- Reduction of CO₂ emissions in existing processes
- Establishment of an efficient production framework.

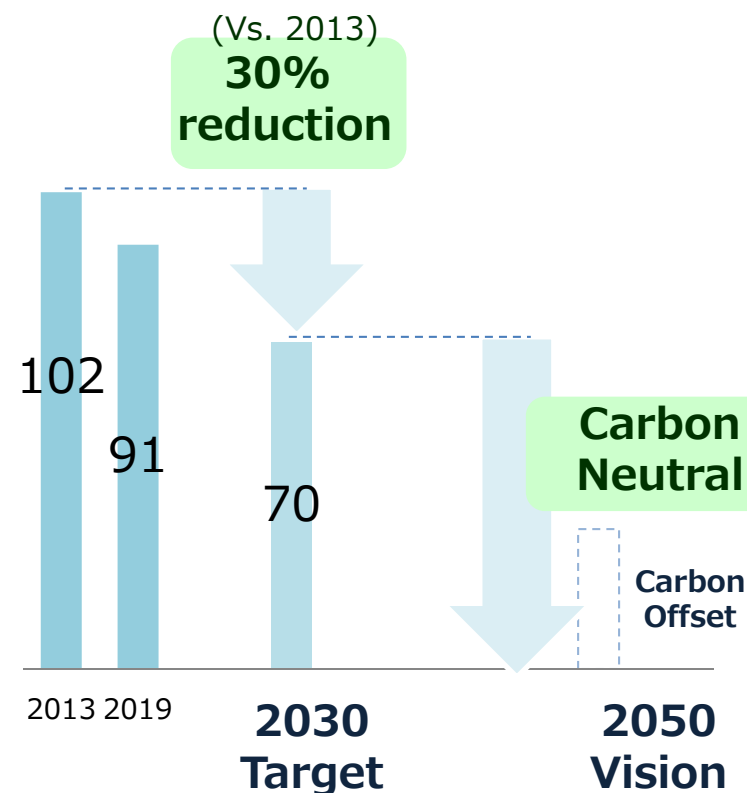
Vision 2050

Aim to become carbon neutral

[Means]

- Mass-production of high-grade steel in large size EAFs
- Hydrogen reduction steelmaking (by Super-COURSE50 use of BF; direct reduction of 100% hydrogen)
- Multi-aspect approach, including CCUS* and other carbon offset measures,.

Total CO₂ emissions (MT/Y)



[Scope of Scenario]

Domestic

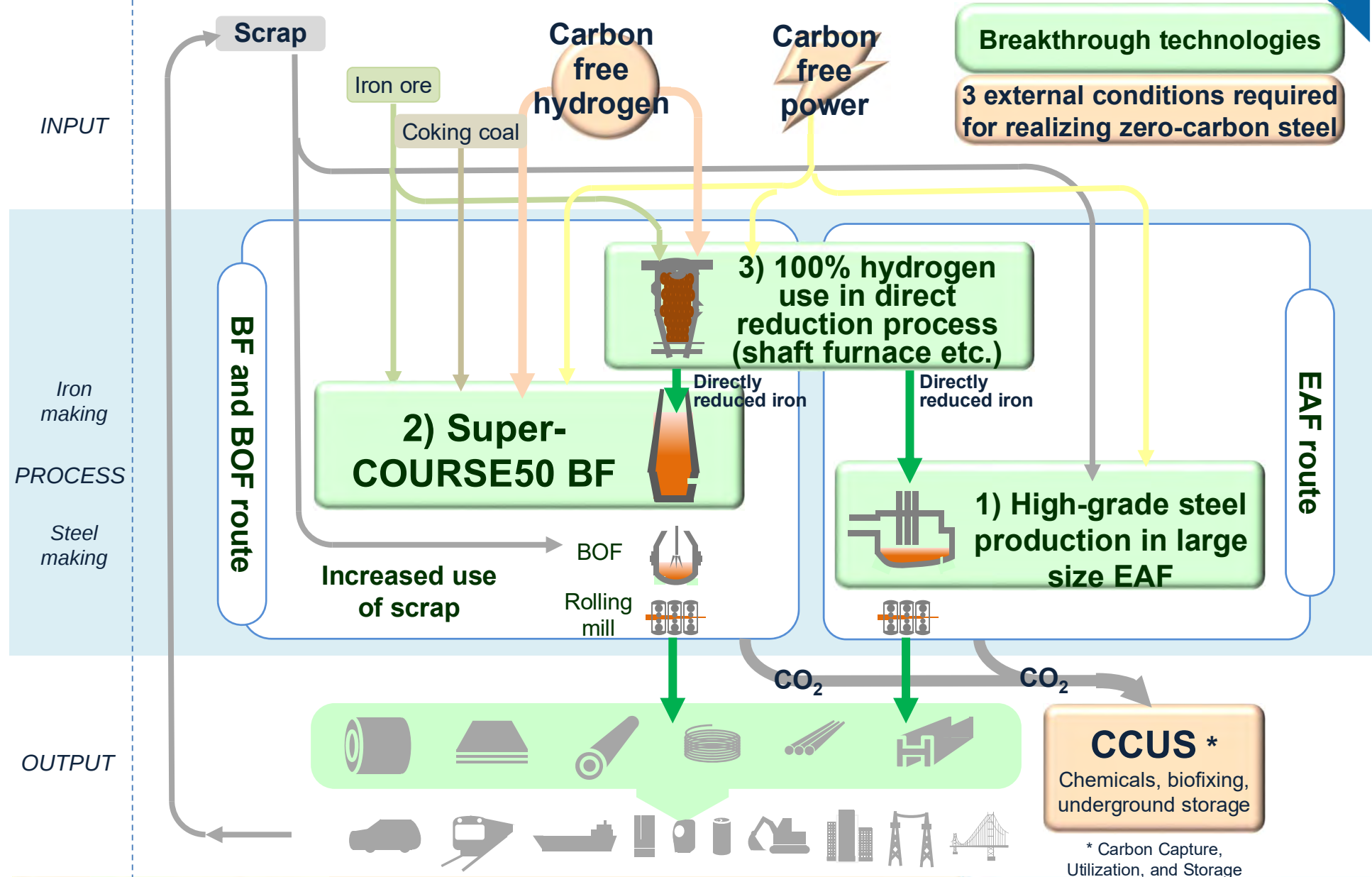
SCOPE I + II

(Receipt of raw materials to product shipment) + (CO₂ at the time of purchase power production)

*Carbon dioxide Capture, Utilization, and Storage

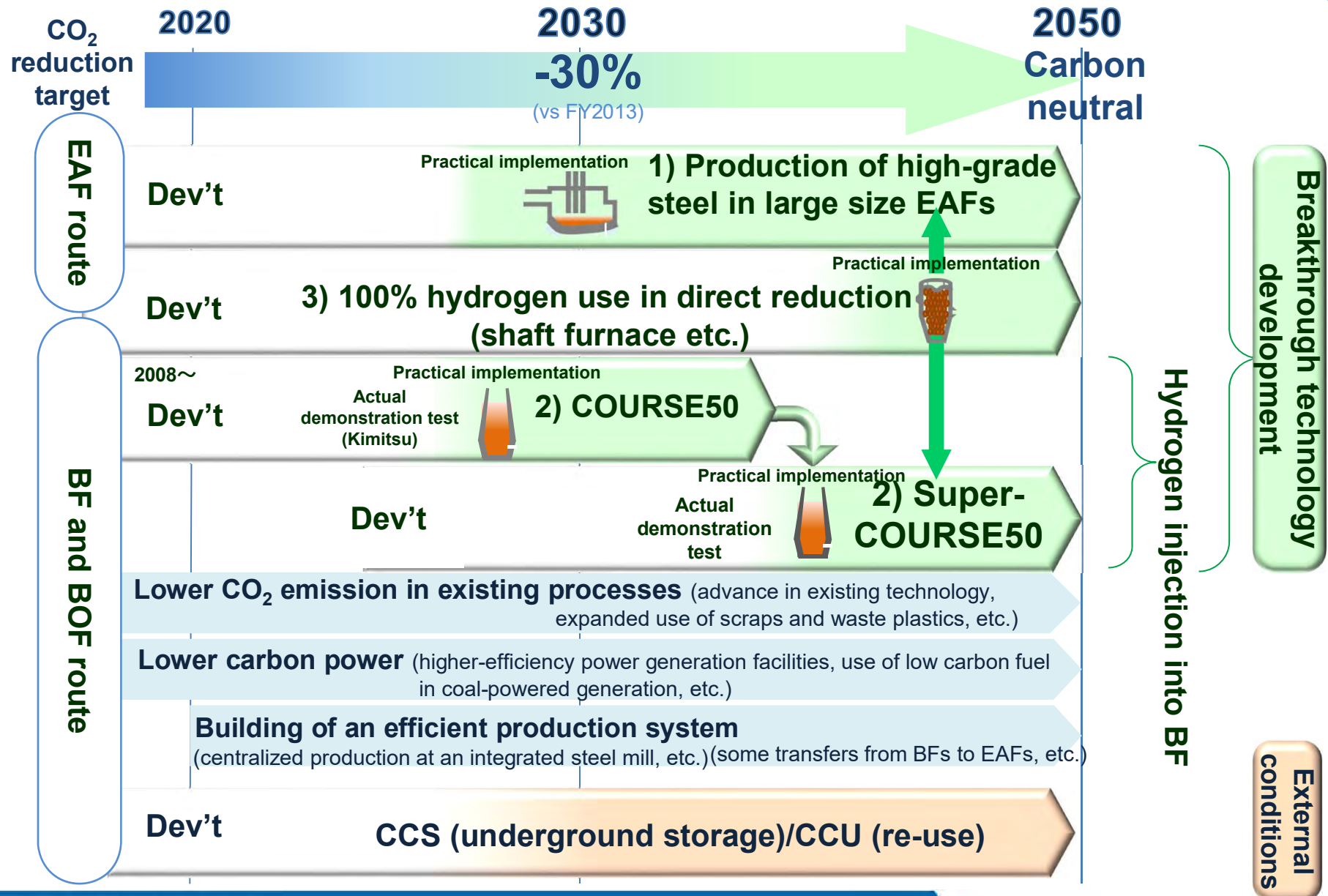
Zero-carbon Steel Making Process

63



Our Roadmap of CO₂ Emissions Reduction Measures

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Technological Challenges and Required External Conditions

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1) Production of high-grade steel in large scale EAF

Technological challenge

- Scrap: Elimination of the effect of hazardous impurities using DRI
- EAF: Improvement of productivity with larger scale and higher efficiency

External conditions

- Cost-effective fossil-free power

2) Hydrogen injection into BF (COURSE50, Super-COURSE50)

Technological challenge

- Preheating and injection of high-temp hydrogen for endothermic reactions
- Stable gas flow in BF with less coke
- Scaling-up from experimental to actual super-large-scale BF
- Establishment of the technology to offset remaining CO₂ emissions (CCUS)

External conditions

- Implementation of CCU and CCS
- Large supply of carbon-free hydrogen

3) 100% hydrogen use in direct reduction (shaft furnace etc.)

Technological challenge

- Establishment of the technology of hydrogen direct reduction

External conditions

- Large-amount supply of carbon-free hydrogen

Challenges to Realize Zero-carbon Steel and Collaborations with Society

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Take on the challenge to develop and practically implement breakthrough technologies ahead of the other countries to realize zero-carbon steel, as Nippon Steel's top priority issue, which is essential for Japan's steel industry to continue to lead the world and to maintain and strengthen the competitiveness of Japanese industry in general.

3 factors to increase costs for the zero-carbon steel project

- 1) Huge R&D costs
- 2) Huge CAPEX for practical implementation
- 3) Increase in operational cost, even if inexpensive carbon free hydrogen and zero-emission power are to be secured

The production cost of crude steel may more than double the current cost.

3 collaborations required for realizing zero-carbon steel

1) A national strategy to realize a “virtuous cycle of environment and growth”

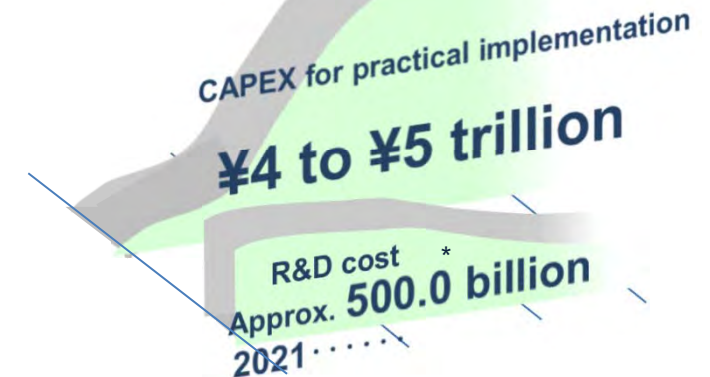
- Long-term and continuous government support for R&D in the field of breakthrough innovation etc.
- Establishment of inexpensive and stable large-scale hydrogen supply infrastructure
- Realization of carbon free power at an international competitive cost
- Promotion of national projects for the development and commercialization of CCUS

2) Realization of government's comprehensive policies to secure equal-footing in international competition, strengthen industrial competitiveness, and lead to business chances

3) Formation of consensus on the issue of cost bearing by society

- Establishing a system for society as a whole to bear the enormous costs of realizing of zero-carbon, such as R&D costs, CAPEX for replacing existing facilities, and significant increase in production costs.

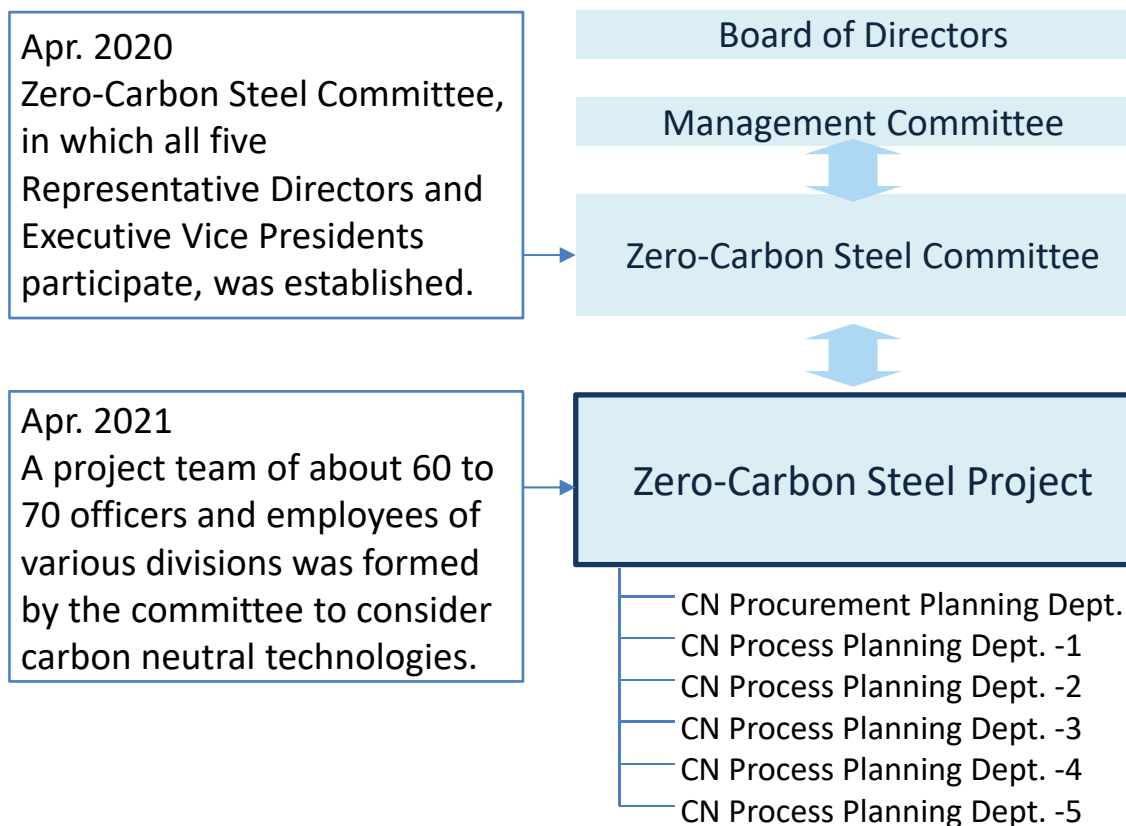
Images of R&D cost and CAPEX for the zero-carbon steel project



^{*} Minimum level estimated to be required for the time being



Structure to Promote the Zero-carbon Steel Initiative



Project Leader

- Executive vice president in Charge of Environment

Sub Leaders

- Managing Director in Charge of Corporate Planning, Technical Administration & Planning, Ironmaking Technology, Steelmaking Technology, and Energy Technology
- Managing Executive Officer in Charge of Environment



Agenda

1. FY2021 2Q Earnings Summary and FY2021 Forecast

2. Business Environment

3. Supplementary Material for Financial Results

4. Topics

Appendix 1. Progress of Management Strategy Measures

Appendix 2. Medium- to Long-Term Management Plan: Rebuilding Domestic Steel Business

Appendix 3. Carbon Neutral Vision 2050

Appendix 4. Related Indicators

Business Profit Trend

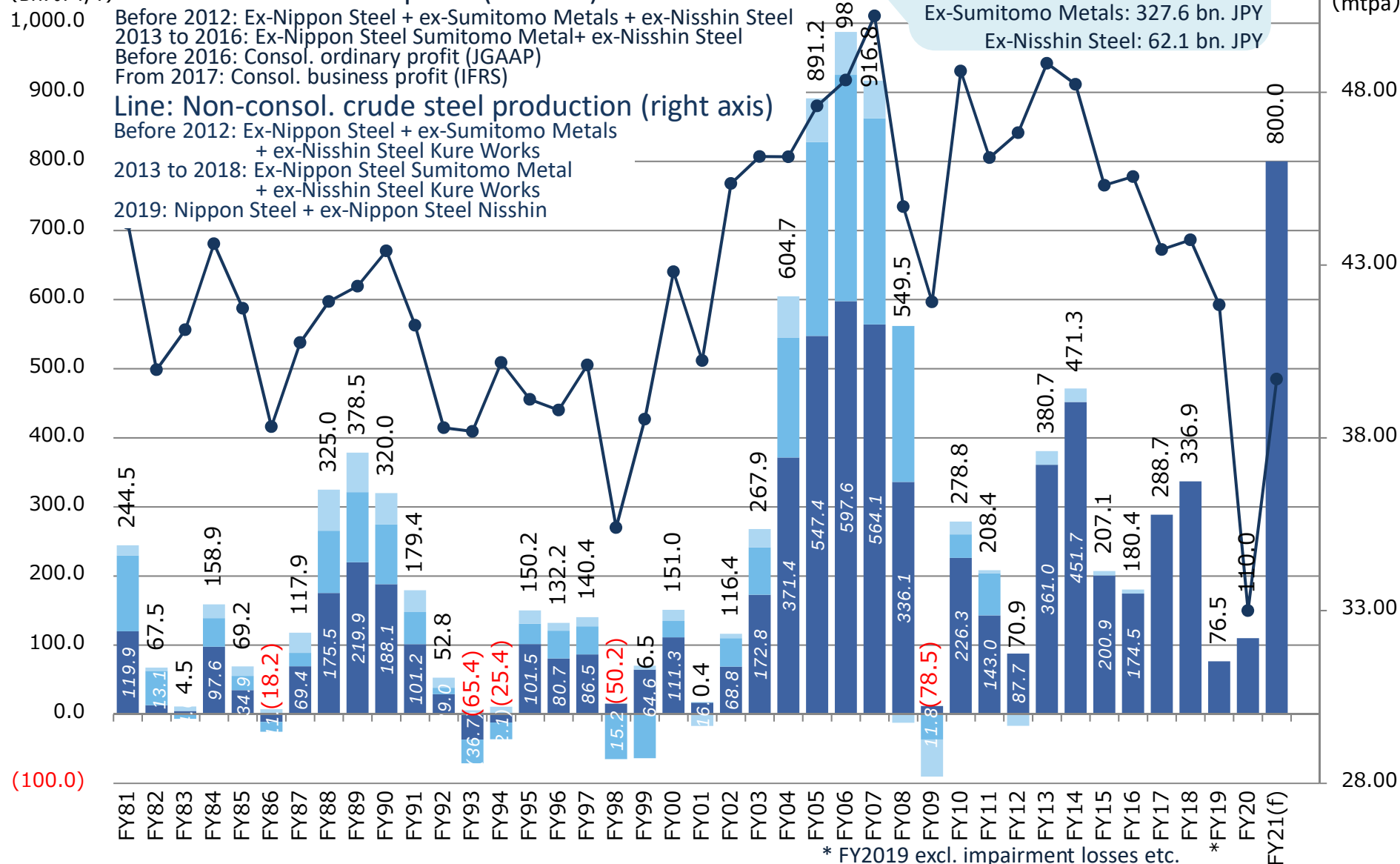
(Bn. JPY/Y) Bars: Consol. business profit (left axis)

Before 2012: Ex-Nippon Steel + ex-Sumitomo Metals + ex-Nisshin Steel
 2013 to 2016: Ex-Nippon Steel Sumitomo Metal+ ex-Nisshin Steel
 Before 2016: Consol. ordinary profit (JGAAP)
 From 2017: Consol. business profit (IFRS)

Line: Non-consol. crude steel production (right axis)

Before 2012: Ex-Nippon Steel + ex-Sumitomo Metals
 + ex-Nisshin Steel Kure Works
 2013 to 2018: Ex-Nippon Steel Sumitomo Metal
 + ex-Nisshin Steel Kure Works
 2019: Nippon Steel + ex-Nippon Steel Nisshin

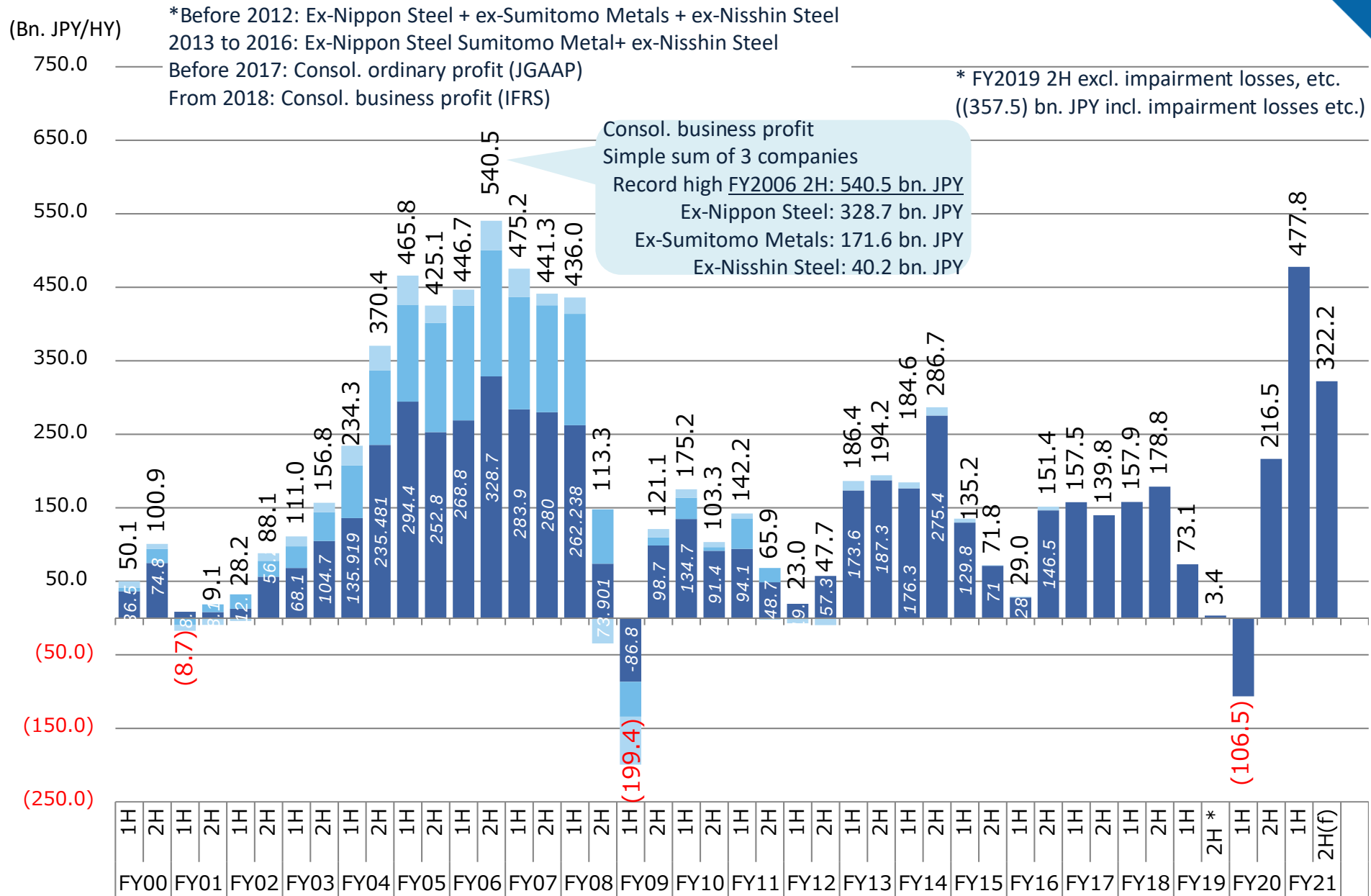
Consol. ordinary profit
 Simple sum of 3 companies
 Record high FY2006: 987.3 bn. JPY
 Ex-Nippon Steel: 597.6 bn. JPY
 Ex-Sumitomo Metals: 327.6 bn. JPY
 Ex-Nisshin Steel: 62.1 bn. JPY



* FY2019 excl. impairment losses etc.
 ((284.4) bn. JPY/Y incl. impairment losses etc.)

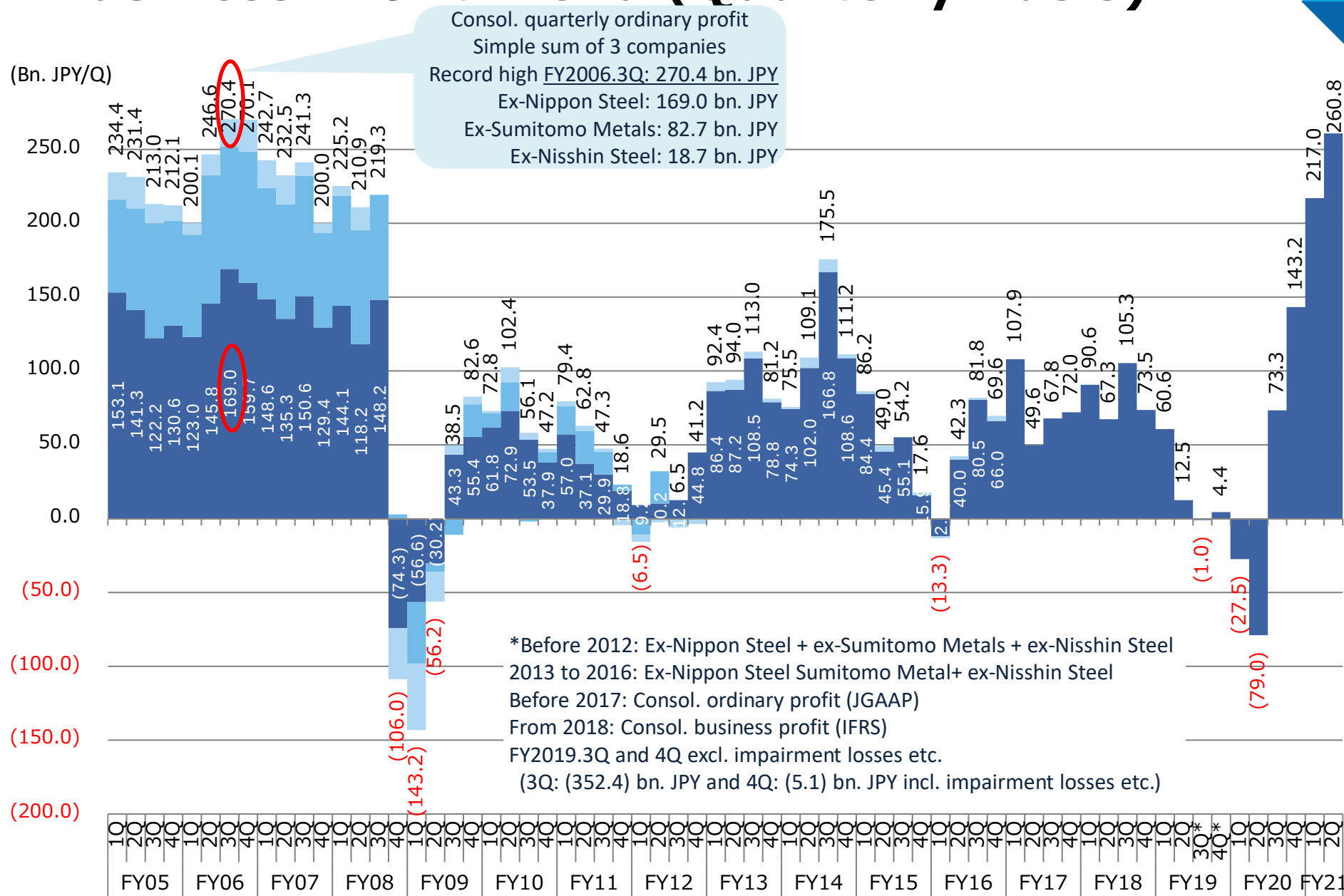
Business Profit Trend (Half Year Basis)

70



Business Profit Trend (Quarterly Basis)

71

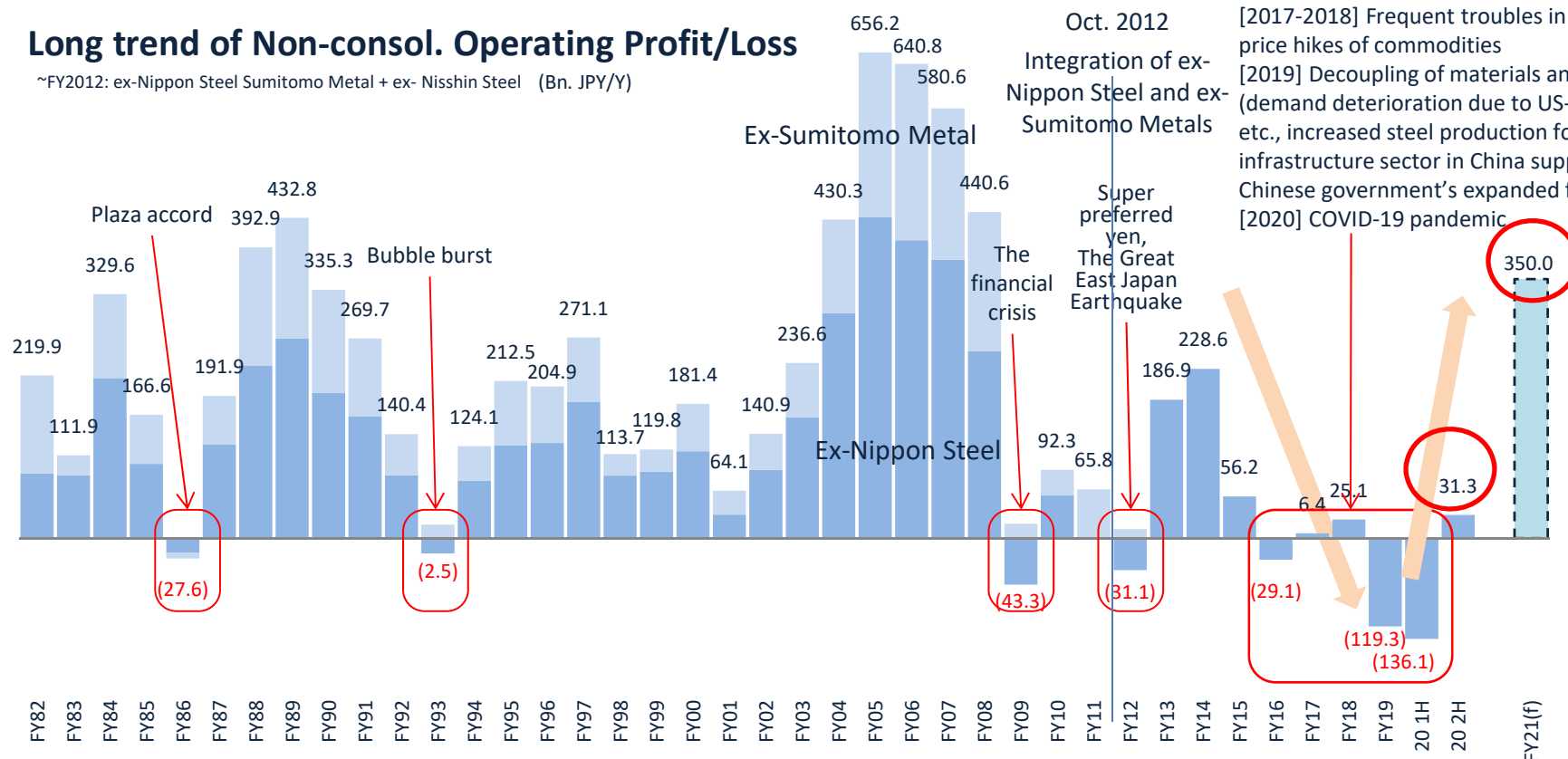


Tectonic Shift to Secure Non-consol. Operating Profit

72

Long trend of Non-consol. Operating Profit/Loss

~FY2012: ex-Nippon Steel Sumitomo Metal + ex- Nisshin Steel (Bn. JPY/Y)



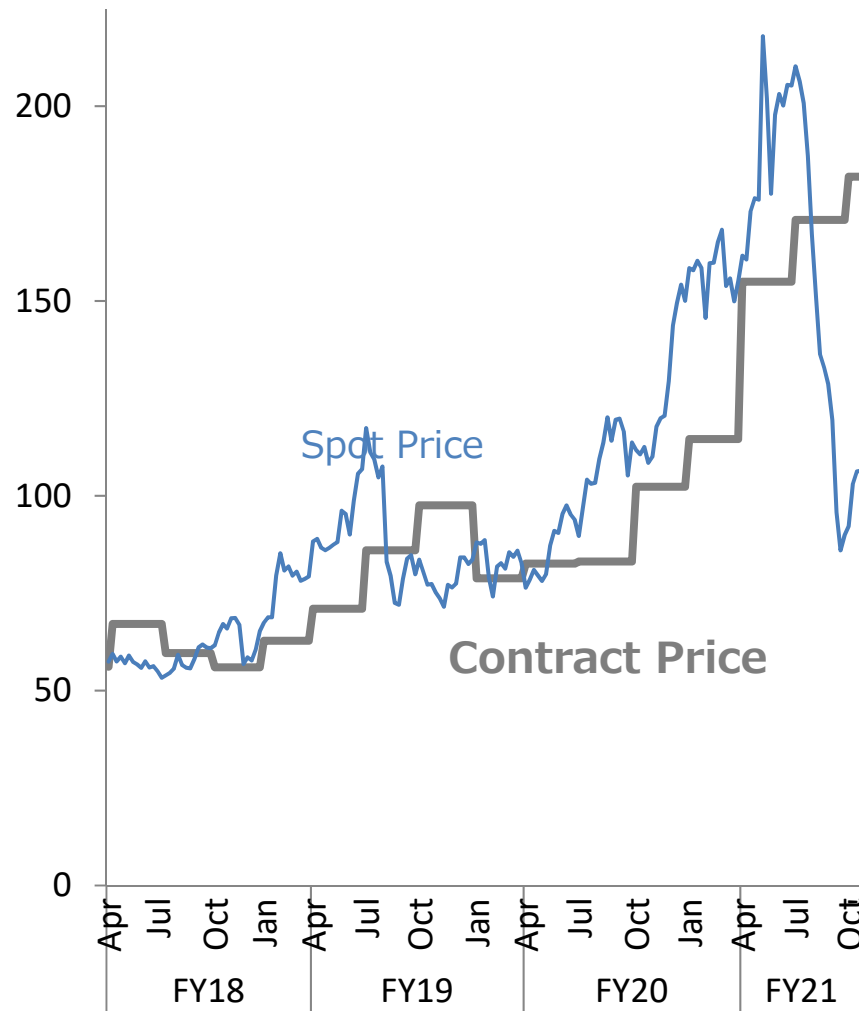
(bn. JPY/Y)	FY16	FY17	FY18	FY19	1H	2H	FY20	FY21(f)
Non-consol. Operating profit (loss)	(29.1)	6.4	25.1	(119.3)	(136.1)	31.3	(104.7)	350.0
Underlying non-consol. operating profit excl. inventory valuation	10.0	(57.0)	(14.0)	(117.0)	(105.0)	25.0	(80.0)	210.0
Inventory valuation	(39.0)	63.0	39.0	(2.0)	(31.0)	6.0	(25.0)	140.0

Raw Material Prices

73

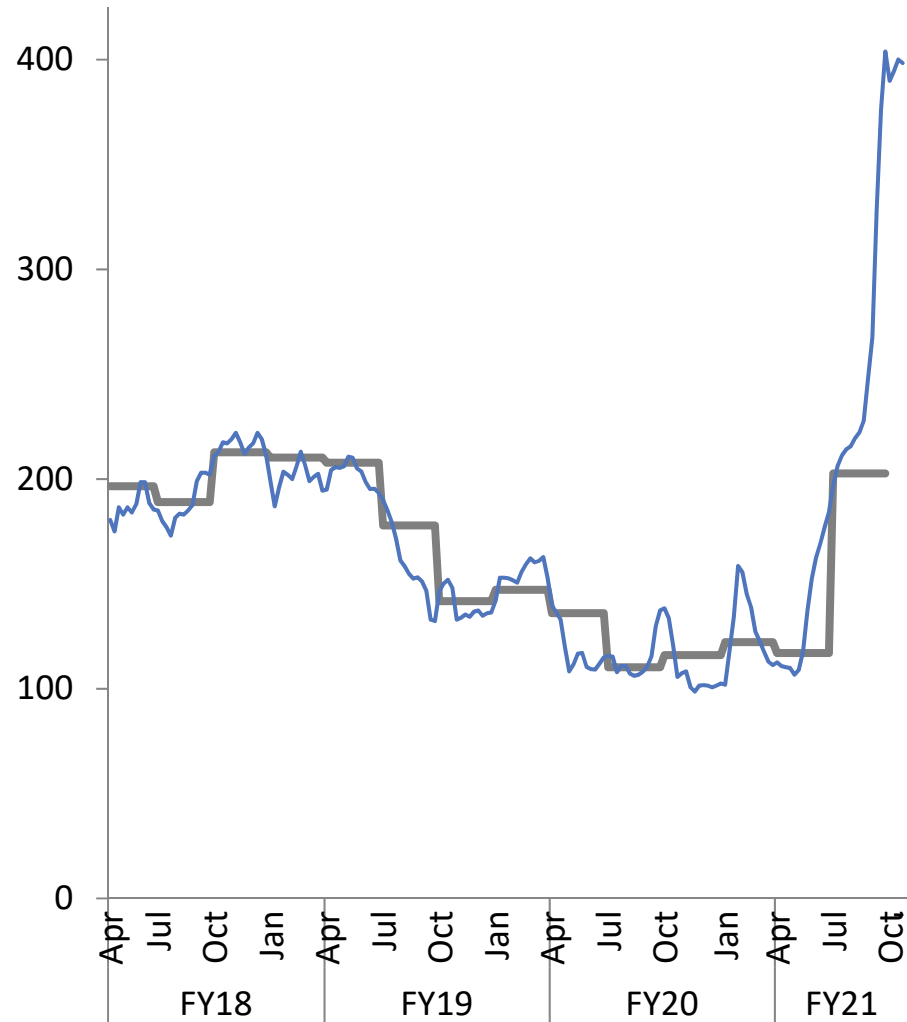
Fine Iron Ore

(US\$/dmt, FOB)



Hard Coking Coal

(US\$/wmt, FOB)



FY2021 Earnings Summery

74

(bn. JPY)									change				
	1H	2H	FY2020	Prev. 1H(f)	1H	2H (f) *5	Prev. FY2021(f) *4	FY2021 (f) *5	FY20.1H →FY21.1H	FY20.2H →FY21.1H	FY21.1H →FY21.2H(f) *5	FY20 →FY21(f) *5	Prev. FY21(f) →FY21(f) *4
Sales	2,241.9	2,587.2	4,829.2	3,100.0	3,163.9	3,536.1	6,500.0	6,700.0	+922.0	+576.7	+372.2	+1,870.8	+200.0
Business Profit	(106.5)	216.5	110.0	350.0	477.8	322.2	600.0	800.0	+584.3	+261.3	-155.6	+690.0	+200.0
Additional Line Items	(42.2)	(56.3)	(98.6)	(45.0)	(49.4)	(30.6)	(90.0)	(80.0)	-7.2	+6.9	+18.8	+18.6	+10.0
Net Profit *1	(191.1)	158.7	(32.4)	200.0	298.7	221.3	370.0	520.0	+489.8	+140.0	-77.4	+552.4	+150.0
ROS	-4.8%	8.4%	2.3%	11.3%	15.1%	9.1%	9.2%	11.9%	+19.9%	+6.7%	-6.0%	+9.7%	+2.7%
Earning per Share (JPY/ share)	(208)	172	(35)	217	324	241	402	565	+532	+152	-84	+600	+163
EBITDA *2	36.7	364.2	400.9	510.0	639.2	490.8	930.0	1,130.0	+602.5	+275.0	-148.4	+729.1	+200.0
EBITDA/Sales	1.6%	14.1%	8.3%	16.5%	20.2%	13.9%	14.3%	16.9%	+18.6%	+6.1%	-6.3%	+8.6%	+2.6%
EBITDA/t *3 (Thousand JPY/t)	2.2	17.5	10.6	21.7	27.5	21.8	20.2	24.7	+25.3	+10.0	-5.7	+14.1	+4.5

*1 Profit attributable to owners of the parent

*3 EBITDA/ consolidated crude steel production

*2 Business profit + depreciation cost

*4 Forecast as of Aug. 3rd, 2021

*5 Forecast as of Nov. 2nd, 2021

Operational Highlights

Forecasts are rough figures .

75

(MMT)	FY20			FY21							Change				
	1H	2H		1Q	2Q	Prev. 1H(f) *1	1H	2H(f) *2	Prev.(f) *1	(f) *2	FY20 1H → FY21 1H	FY20 2H → FY21 1H	FY21 1H → FY21 2H(f) *2	FY20 → FY21(f) *2	Prev. FY21(f) →*1 FY21(f) *2
Non-Consolidated Pig-iron Production	14.82	18.25	33.07	10.04	9.89	20.20	19.93	19.30		39.20	+5.11	+1.68	-0.63	+6.13	
Consolidated Crude Steel Production	16.78	20.87	37.65	11.88	11.37	23.50	23.25	22.50	46.00	45.70	+6.47	+2.38	-0.75	+8.05	-0.30
Non-Consolidated Crude Steel Production	14.64	18.36	33.00	10.18	10.05	20.50	20.23	19.50	40.00	39.70	+5.59	+1.87	-0.73	+6.70	-0.30
Non-Consolidated Steel Shipments	14.46	16.77	31.22	9.20	9.09	18.80	18.28	17.90	36.50	36.20	+3.82	+1.51	-0.38	+4.98	-0.30
Seamless Pipe Shipments	0.34	0.29	0.63	0.15	0.16	0.31	0.31	0.28		0.60	-0.03	+0.02	-0.03	-0.03	
Average Steel Selling Price (k JPY/ton)	83.6	88.3	86.1	97.2	116.1	106	106.6	127		117	+23.0	+18.3	+21	+31	
Steel Export Ratio (Value basis (%))	38	35	36	43	45	45	44	41		42	+6	+9	-3	+6	
Forex (USD・JPY)	107	105	106	110	110	110	110	110	110	110	Depreciated Yen +3	Depreciated Yen +5	Depreciated Yen +0	Depreciated Yen +4	Appreciated Yen -0

*1 Forecasts as of Aug. 3rd, 2021

*2 Forecasts as of Nov. 2nd, 2021

Key Indicators of Demand

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[Domestic]	FY20			FY21					Change			
	1H	2H		1Q	2Q	1H	2H (f) *1	(f) *1	FY20 1H → FY21 1H	FY20 2H → FY21 1H	FY21 1H → FY21 2H(f) *1	FY20 → FY21(f) *1
Housing Starts (mil. houses)	0.41	0.40	0.81	0.22	0.22	0.45	0.41	0.86	+0.03	+0.05	-0.03	+0.05
Non-residential Construction Starts (mil. m ²)	23.37	21.55	44.92	12.76	10.91	23.67	22.50	46.20	+0.30	+2.12	-1.17	+1.28
Public Works Orders (bn. JPY)	5,654	6,383	12,037	2,646	3,431	6,077	6,500	12,580	+423	-306	+423	+543
Finished Auto Production (mil. units)	3.33	4.63	7.97	1.96	1.64	3.60	4.60	8.20	+0.27	-1.03	+1.00	+0.23
Export of Finished Auto (mil. units)	1.46	2.22	3.68	0.98	0.83	1.81	2.20	4.00	+0.35	-0.41	+0.39	+0.32
Overseas Auto Production (8 Japanese car makers) (mil. units)	6.50	9.01	15.51	3.93	3.50	7.43			+0.93	-1.59		
Large & Middle Sized Shovel Production (thousand units)	32	42	74	23	22	45	45	90	+13	+3	-1	+16
Metal Machine Tool Production (thousand tons)	112	137	249	79	80	159	180	340	+47	+22	+21	+91
Keel-laid New Ships (mil. gross tons)	4.82	4.68	9.50	1.90	2.05	3.95	4.65	8.60	-0.87	-0.73	+0.70	-0.90

Rig Count	CY12	CY13	CY14	CY15	CY16	CY17	CY18	CY19	CY20	Latest	Peak	Bottom
USA	1,919	1,761	1,862	977	510	875	1,032	944	436	479 (Jul.16 th)	2,031 (Sep-08)	244 (Aug-20)
Deep well (≥15,000ft)	324	326	354	205	126	222	230	227	104	169 (Jul.16 th)	413 (Nov-11)	55 (Sep-20)
World Total Excl. N. America, Russia & China	1,234	1,296	1,337	1,167	955	948	988	1,098	825	758 (Aug-21)	1,382 (Jul-14)	656 (Oct-20)

Source: Baker Hughes, Smith international, Nippon Steel's estimate *1 Forecasts as of Nov 2nd, 2021

Domestic Steel Consumption by Industrial Sector

77

(MMT)	FY20			FY21							Change				
	1H	2H		1Q	2Q	Prev. 1H(f) *1	1H	2H(f) *2	Prev. (f) *1	(f) *2	FY20 1H → FY21 1H	FY20 2H → FY21 1H	FY21. 1H → FY21. 2H(f) *2	FY20 → FY21(f) *2	Prev. FY21(f) → FY21(f) *1
Domestic Crude Steel Production	37.09	45.70	82.78	24.35	24.07	49.00	48.42				+11.34	+2.72			
Domestic Steel Consumption (A + B)	25.13	27.85	52.98	13.58	13.67	27.30	27.24	29.50	56.50	56.80	+2.11	-0.60	+2.26	+3.82	+0.30
% for manufacturing sector	60.7	64.1	62.5	62.0	61.7	64	61.8	64	64	63	+1.1	-2.2	+2	+1	-1
Ordinary Steel Consumption (A)	20.00	22.05	42.05	10.84	10.75	21.40	21.59	23.00	44.30	44.60	+1.59	-0.45	+1.41	+2.55	+0.30
Construction	9.53	9.68	19.21	4.99	5.06	9.50	10.05	10.10	19.50	20.20	+0.52	+0.37	+0.05	+0.99	+0.70
Manufacturing	10.47	12.36	22.83	5.85	5.69	11.90	11.53	12.90	24.80	24.40	+1.06	-0.83	+1.37	+1.57	-0.40
Shipbuilding	1.64	1.30	2.94	0.64	0.69	1.30	1.33	1.55	2.80	2.90	-0.31	+0.03	+0.22	-0.04	+0.10
Automotive	3.92	5.26	9.18	2.29	2.06	4.90	4.35	5.30	10.35	9.65	+0.44	-0.91	+0.95	+0.47	-0.70
Industrial Machine	1.93	2.25	4.18	1.23	1.22	2.40	2.45	2.45	4.80	4.90	+0.52	+0.20	+0.00	+0.72	+0.10
Electronic Machine	1.27	1.49	2.77	0.70	0.74	1.40	1.44	1.45	2.85	2.90	+0.17	-0.05	+0.01	+0.13	+0.05
Special Steel Consumption (B)	5.13	5.80	10.93	2.73	2.92	5.90	5.66	6.50	12.20	12.20	+0.53	-0.14	+0.84	+1.27	+0.00

Source : Nippon Steel's estimation

*1 Forecasts as of Aug. 3rd, 2021

*2 Forecasts as of Nov. 2nd, 2021

World Economic Outlook

< Released in Oct. 2021 by IMF >

78



(GDP growth rate)

Numbers in [parentheses] : Prev. IMF's Outlook as of Jul. 2021

	CY08	CY09	CY10	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18	CY19	CY20	CY21 (f)	CY22 (f)		
World Total	3.0	-0.1	5.4	4.3	3.5	3.5	3.6	3.5	3.4	3.8	3.6	2.8	-3.2	[6.0]	5.9	4.9	
Developed Countries	0.2	-3.3	3.1	1.7	1.2	1.4	2.1	2.3	1.7	2.5	2.2	1.7	-4.6	[5.6]	5.2	4.5	
	USA	-0.1	-2.5	2.6	1.6	2.2	1.8	2.5	2.9	1.6	2.4	2.9	2.2	-3.5	[7.0]	6.0	5.2
	EU27	0.4	-4.5	2.1	1.6	-0.9	-0.3	1.4	2.1	1.9	2.5	1.9	1.3	-6.5	[4.6]	5.0	4.3
	Japan	-1.1	-5.4	4.2	-0.1	1.5	2.0	0.4	1.2	0.6	1.9	0.3	0.7	-4.7	[2.8]	2.4	3.2
	Developing Countries	5.7	2.8	7.4	6.4	5.4	5.1	4.7	4.3	4.6	4.8	4.5	3.7	-2.1	[6.3]	6.4	5.1
China	9.7	9.4	10.6	9.5	7.9	7.8	7.3	6.9	6.7	6.8	6.6	6.1	2.3	[8.1]	8.0	5.6	
India	3.9	8.5	10.3	6.6	5.5	6.4	7.4	8.0	8.2	7.2	6.8	4.2	-7.3	[9.5]	9.5	8.5	
Russia	5.2	-7.8	4.5	5.1	3.7	1.8	0.7	-2.3	0.3	1.6	2.3	1.3	-3.0	[4.4]	4.7	2.9	
Brazil	5.1	-0.1	7.5	4.0	1.9	3.0	0.5	-3.6	-3.3	1.1	1.3	1.1	-4.1	[5.3]	5.2	1.5	

Source : IMF

World Crude Steel Production

79

(MMT)	CY19	CY20					CY21							CY21 [C] (B*12/9)	Change [A] → [C]
		Jan - Mar	Apr - Jun	Jul - Sep	Oct. - Dec.	[A]	Jan - Mar	Apr - Jun	Jul	Aug	Sep	Jul - Sep	Jan. - Sep. [B]		
World * Total [YoY]	1,844.1 [+3.1%]	443.0 [-1.1%]	438.5 [-8.7%]	474.7 [+2.3%]	482.0 [+6.7%]	1,838.2 [-0.3%]	486.9 [+9.9%]	514.3 [+17.3%]	159.4 [+1.7%]	154.4 [-3.1%]	144.4 [-8.9%]	458.2 [-3.5%]	1,459.3 [+7.6%]	1,945.7	+107.5
Japan [YoY]	99.3 [-4.8%]	24.1 [-3.4%]	18.1 [-30.7%]	19.0 [-22.7%]	22.0 [-7.0%]	83.2 [-16.2%]	23.7 [-1.7%]	24.3 [+34.4%]	8.0 [+32.5%]	7.9 [+22.9%]	8.1 [+25.6%]	24.1 [+26.9%]	72.1 [+17.9%]	96.2	+13.0
Korea [YoY]	71.4 [-1.5%]	16.9 [-4.8%]	15.6 [-14.7%]	17.1 [-3.3%]	17.5 [-1.2%]	67.1 [-6.1%]	17.6 [+3.9%]	17.6 [+13.2%]	6.1 [+10.8%]	6.1 [+5.7%]	5.5 [-5.0%]	17.7 [+3.7%]	52.9 [+6.7%]	70.5	+3.4
USA	87.8	21.7	14.7	17.3	19.0	72.7	20.4	21.7	7.5	7.5	7.3	22.3	64.4	85.8	+13.1
EU28	157.4	38.4	30.8	31.8	38.2	139.3	40.0	42.1	13.1	11.7	13.3	38.2	120.3	160.4	+21.1
Russia	71.7	18.1	17.1	17.9	18.5	71.6	18.9	19.3	6.3	6.1	5.9	18.3	56.4	75.3	+3.6
Brazil	32.6	8.2	6.3	8.0	8.8	31.4	8.7	9.3	3.0	3.1	3.1	9.2	27.2	36.2	+4.8
India	111.4	26.8	17.3	26.7	29.5	100.3	30.1	28.0	9.7	9.9	9.5	29.2	87.3	116.4	+16.1
China [YoY]	995.8 [+7.9%]	233.9 [+1.5%]	272.1 [+4.2%]	284.3 [+10.8%]	271.1 [+9.5%]	1,061.4 [+6.6%]	269.0 [+15.0%]	291.2 [+7.0%]	86.8 [-8.4%]	83.2 [-13.2%]	73.8 [-21.2%]	243.8 [-14.2%]	804.0 [+1.7%]	1,072.0	+10.6

Source : World Steel Association

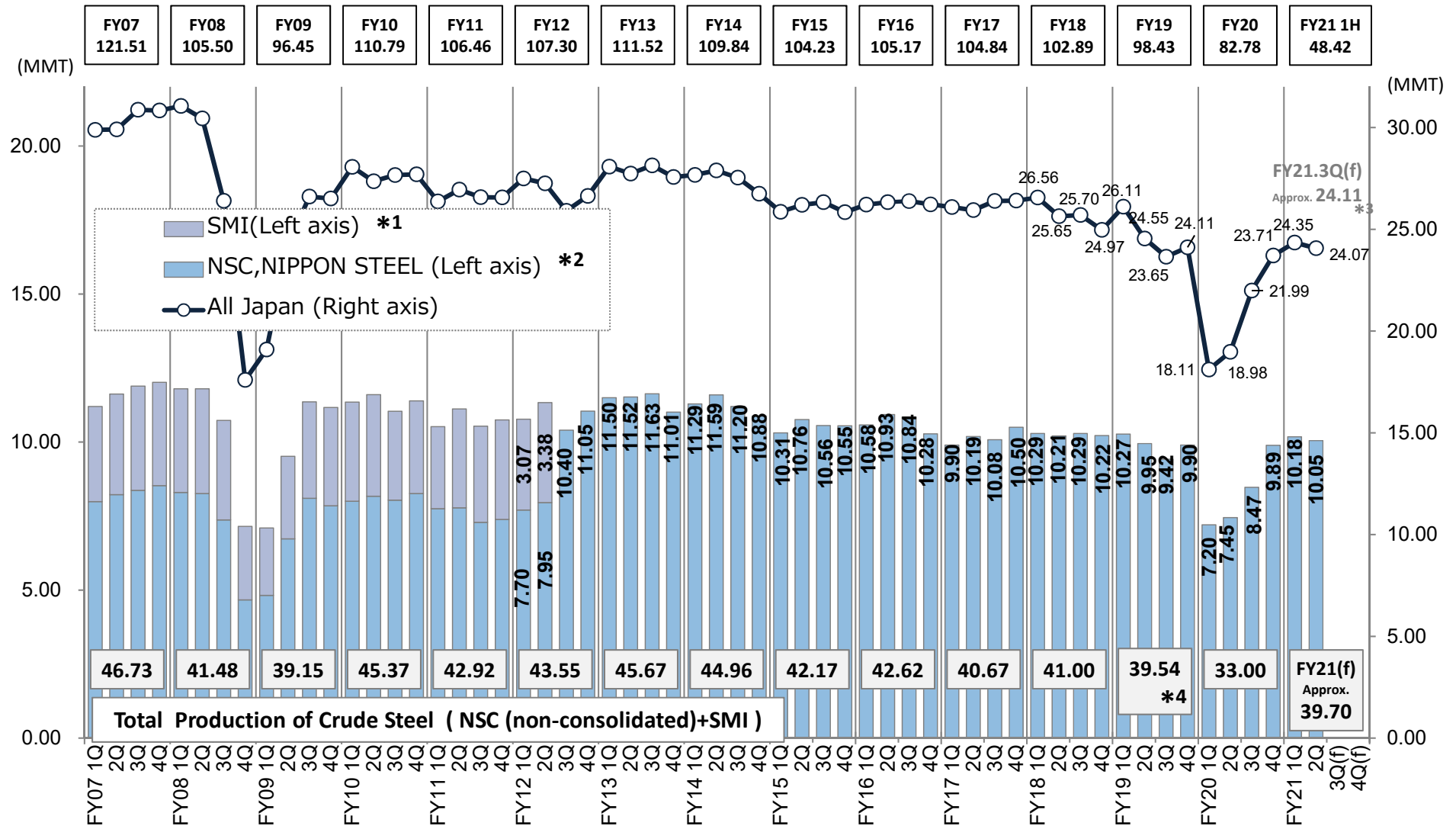
* Total of 64 countries

Domestic Crude Steel Production

80



All Japan (MMT)



*1 Includes Sumitomo Metals(Kokura), Sumitomo Metals(Naoetsu) and Sumikin Iron & Steel Co.

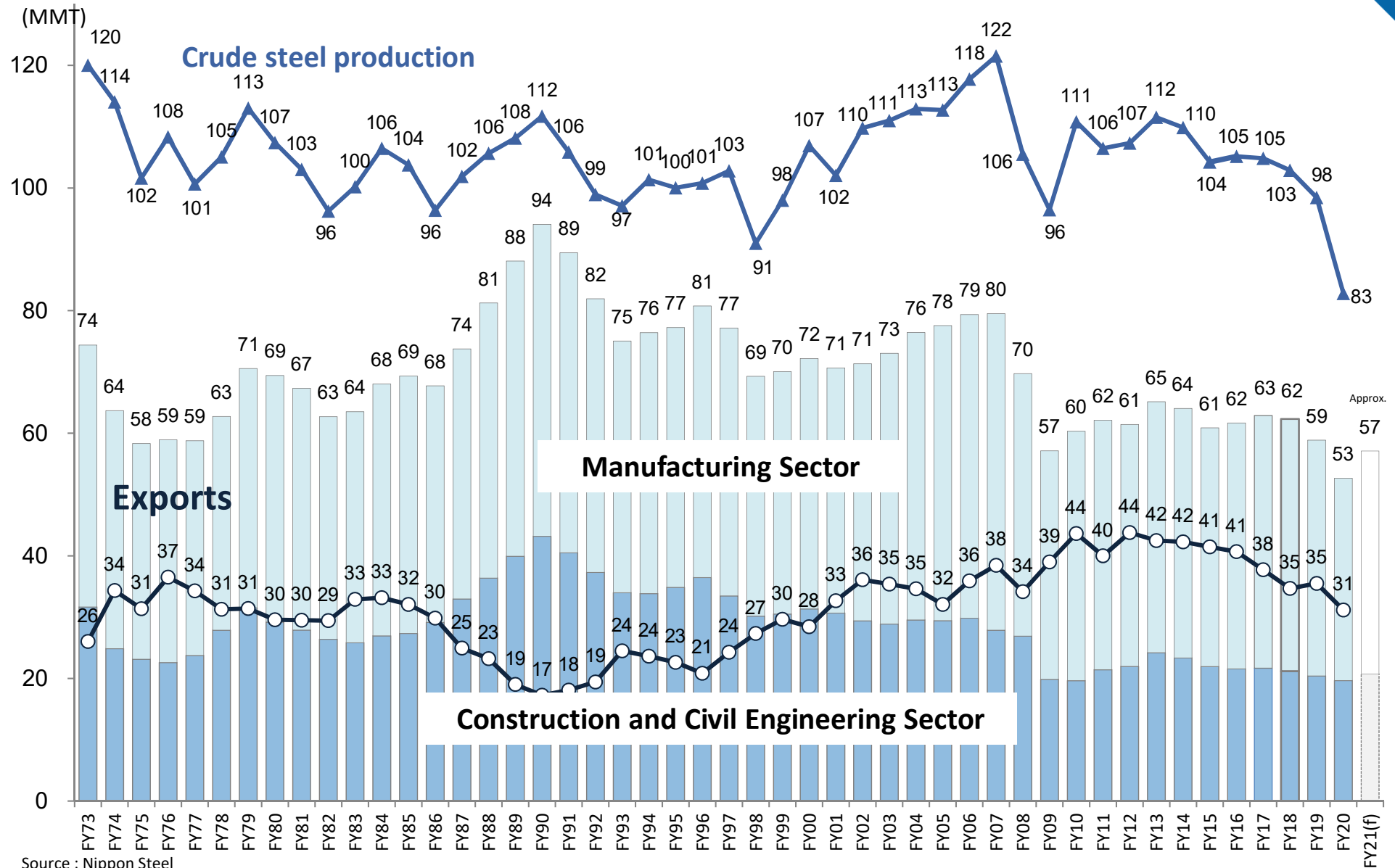
*2 Includes NIPPON STEEL & SUMIKIN KOUTETSU WAKAYAMA CORP (~FY2017)

*3 Forecast by METI

*4 41.85 MMT including ex-Nippon Steel Nisshin

Domestic Steel Consumption Trend

81

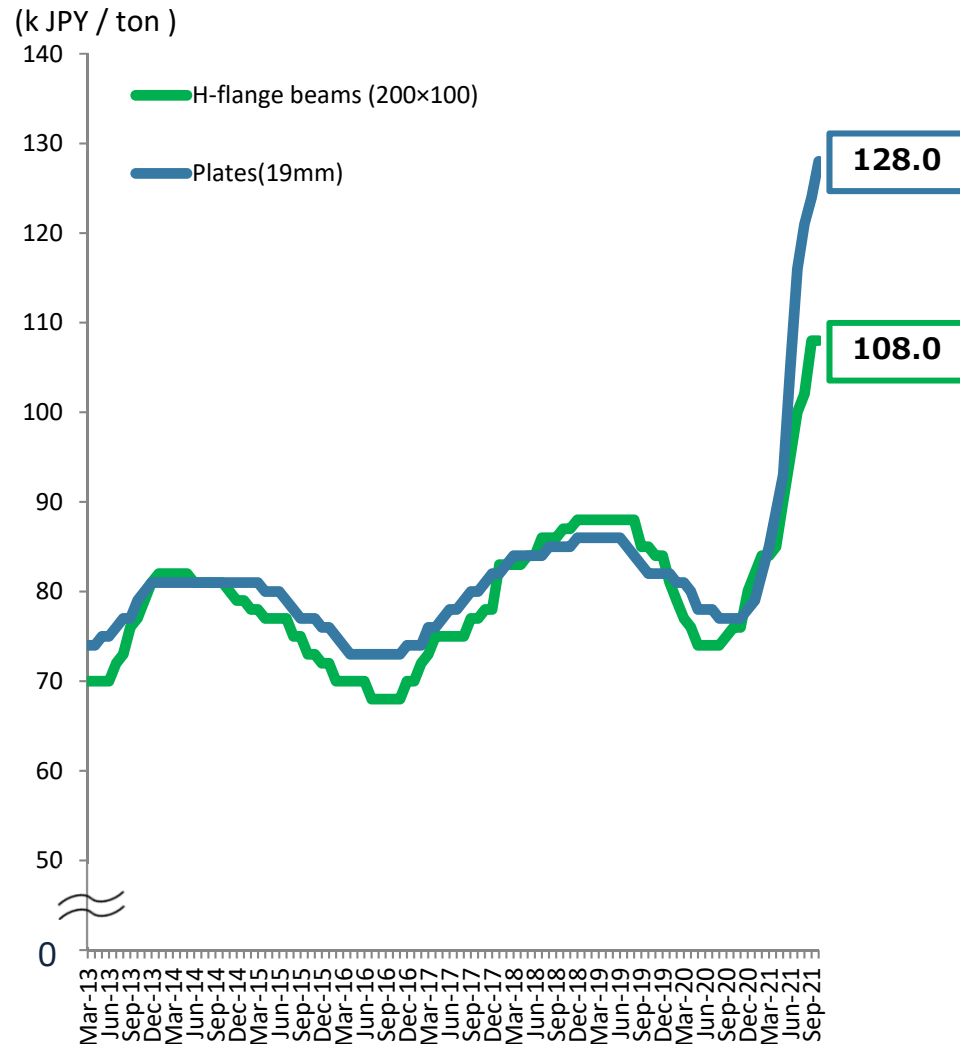


Source : Nippon Steel

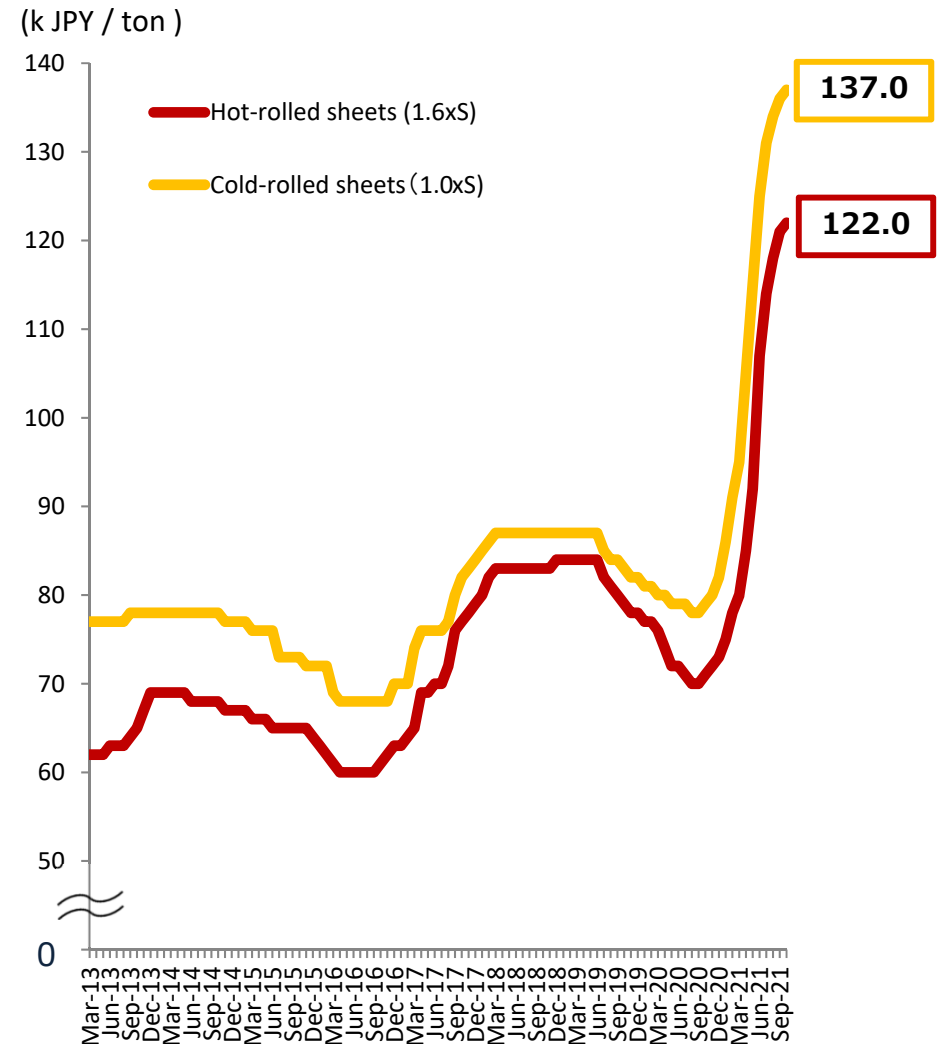
Domestic Steel Products Spot Prices

82

Plates & H-flange beams



Hot-rolled sheets & Cold-rolled sheets

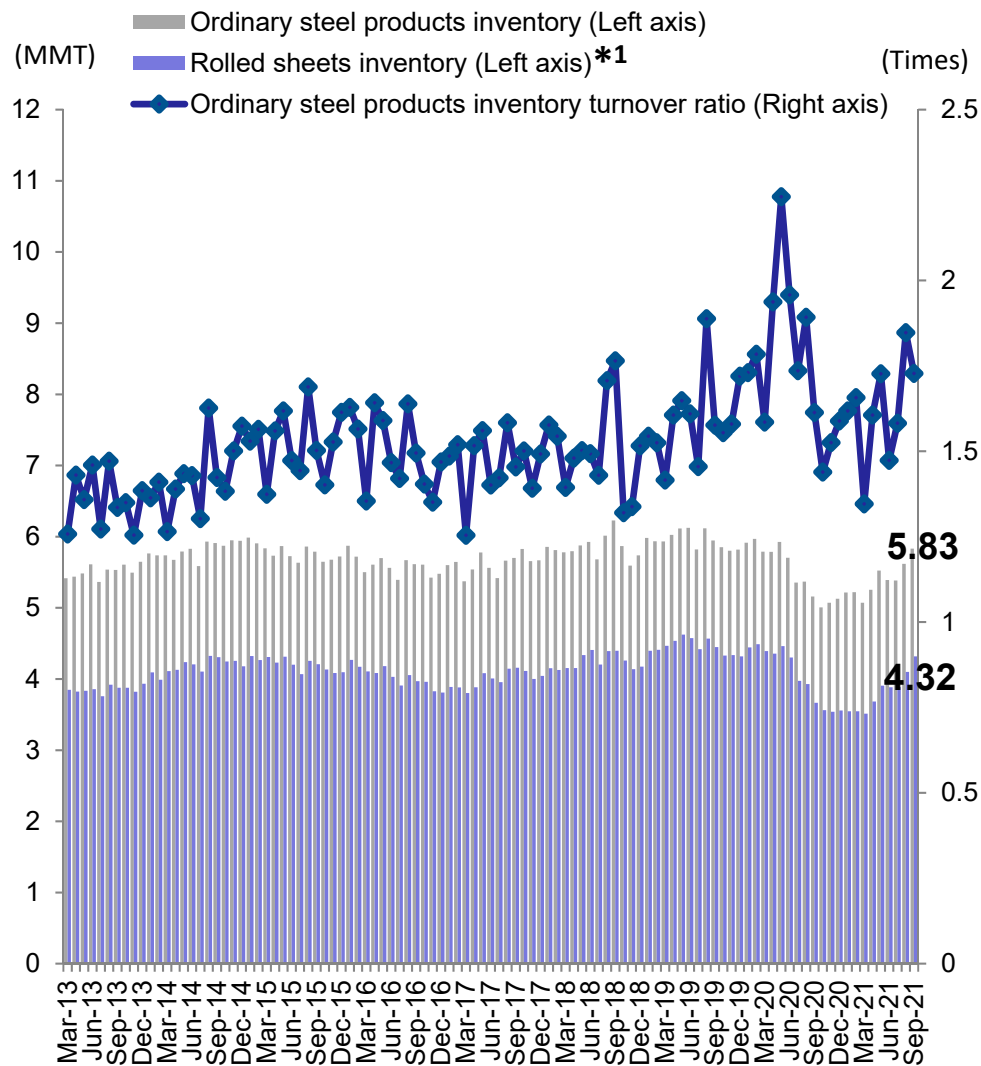


Source : Japan Metal Daily

Domestic Steel Inventory

83

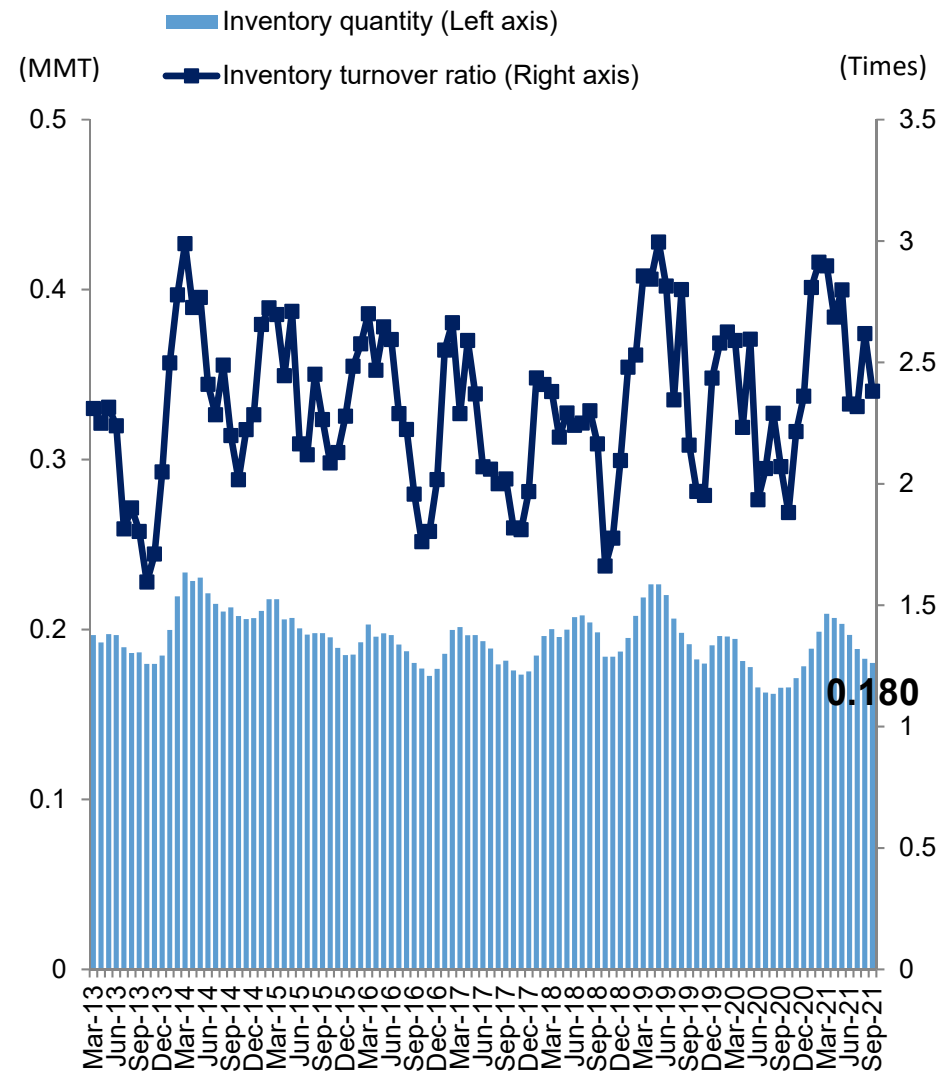
Rolled Sheets Inventory *1



Source : Japan Iron and Steel Federation

*1 Hot-rolled, Cold-rolled and Coated sheets

H-flange beams*2 Inventory



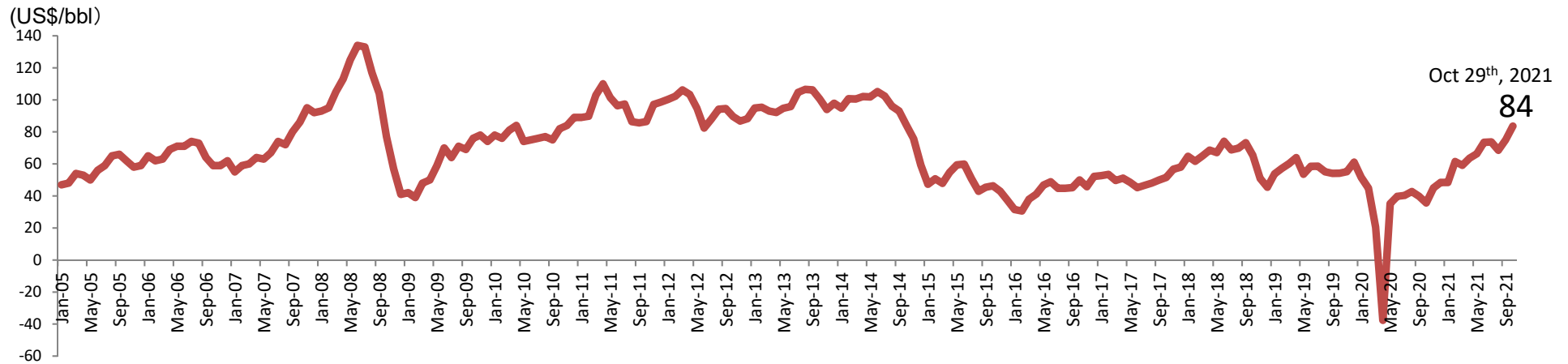
*2 Inventories of the distributors dealing with H-flange beams manufactured by Nippon Steel

Energy Sector : Oil Price / Rig Count

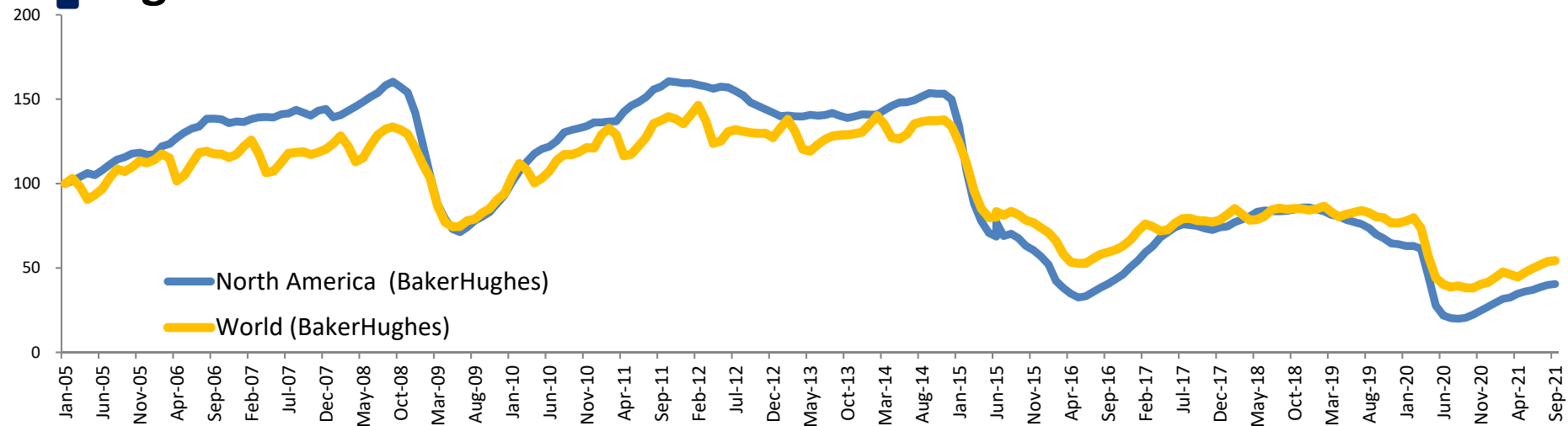
84



US Oil Price (WTI Spot)



Rig Counts (Jan. 2005=100)





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