TYO : 5401 OTC : NPSCY(ADR)



# FY2021 2Q Earnings Summary

Nov. 2<sup>nd</sup>, 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

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



### FY2021.2Q Earnings Summary and FY2021 Forecast

- 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

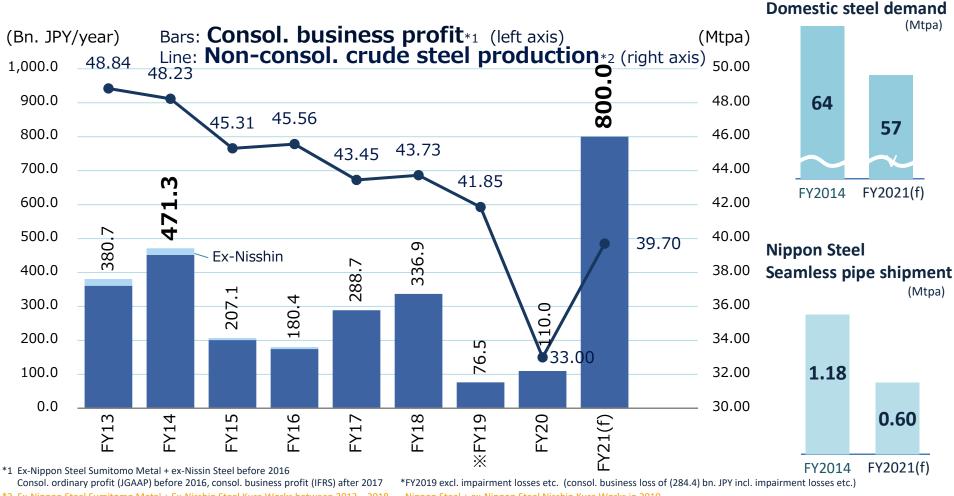
	2H	FY2020	2Q	1H	Vs. FY2020 2H	Vs. forecast as of Aug. 3 <sup>rd</sup>	2H(f)	Vs. FY2021 1H	FY2021(f)	Vs. forecast as of Aug 3 <sup>rd</sup>
Non-consol. crude steel production (MMT)	18.36	33.00	10.05	20.23	+1.87	-0.27 Due to typhoons	Approx. <b>19.50</b>	Арргох. <b>-0.73</b>	Approx. <b>39.70</b>	Арргох. <b>-0.30</b>
Non-consol. steel shipment (MMT)	16.77	31.22	9.09	18.28	+1.51	and heavy rains - -0.52	Approx. <b>17.90</b>	Арргох. <b>-0.38</b>	Approx. <b>36.20</b>	Арргох. <b>-0.30</b>
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%

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## **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.

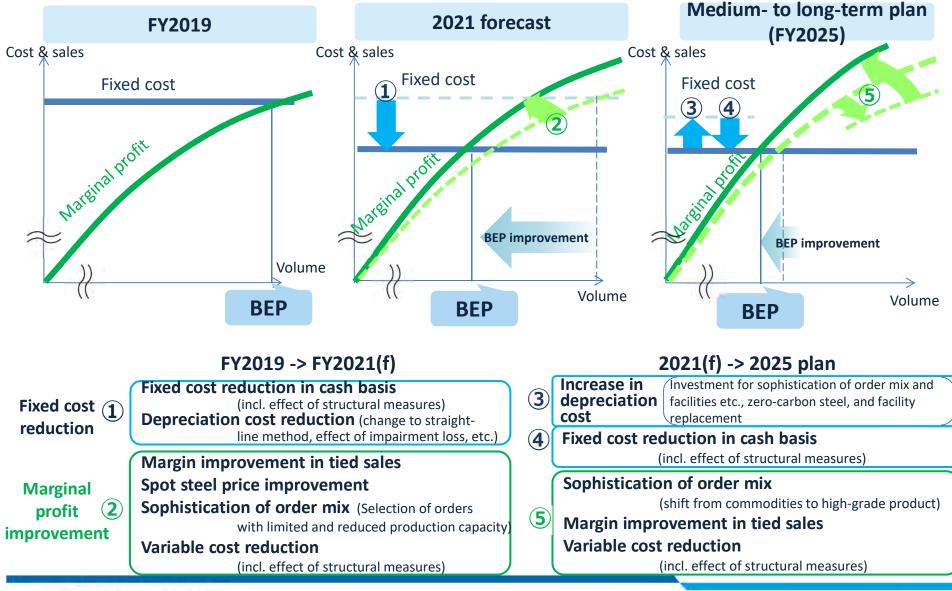


\*2 Ex-Nippon Steel Sumitomo Metal + Ex-Nisshin Steel Kure Works between 2013 – 2018

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

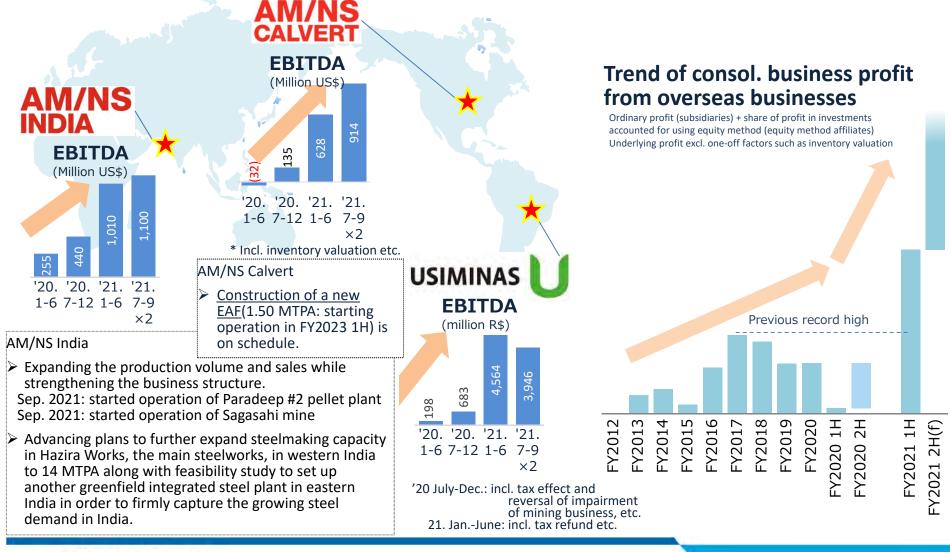


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### **Deepening and Expansion of Overseas Businesses**

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.



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# **Consol. Business Profit Variance**

(Bn. JPY)	2020 2H 216.5 ↓ 2021 1H 477.8	Prev. 2021 1H(f) as of Aug. 3 <sup>rd</sup> 350.0 ↓ 2021 1H 477.8	2021 1H 477.8 ↓ 2021 2H(f) 322.2	Prev. 2021(f) as of Aug. 3 <sup>rd</sup> 600.0 ↓ 2021(f) 800.0
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



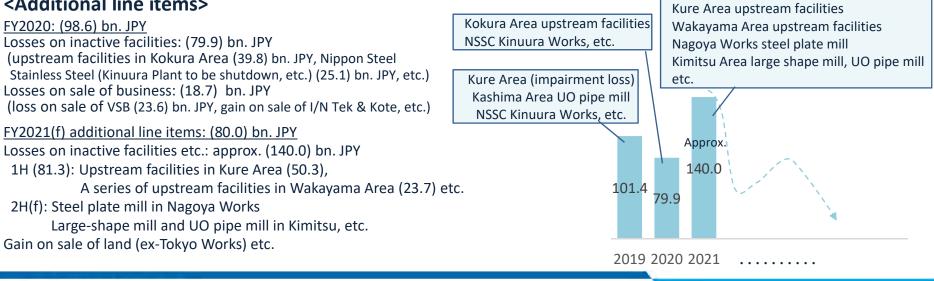
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### **Additional Line Items, Net Profit**

(Bn. JPY)	FY2020	1H	Vs. previous forecast as of Aug. 3rd	2H(f)	FY2021(f)	Vs. previous forecast as of Aug. 3 <sup>rd</sup>
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>



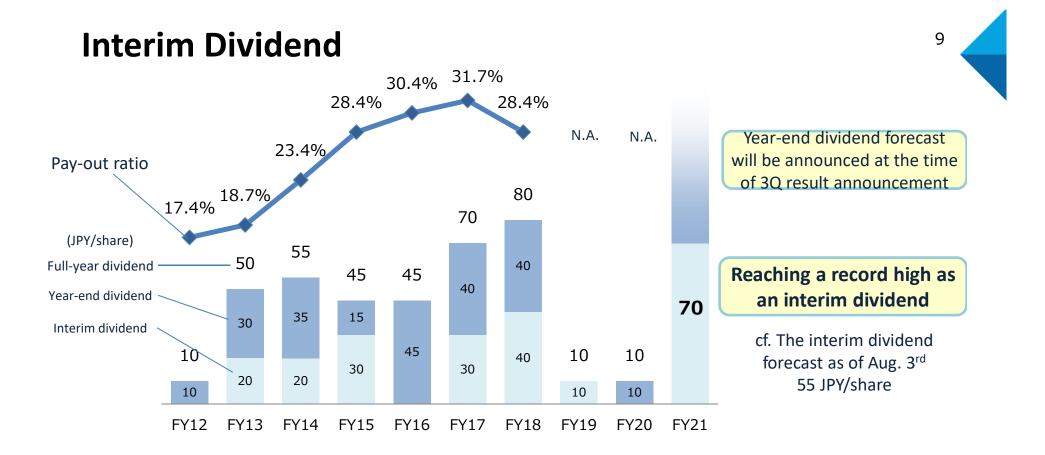
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(bn. JPY)

Cf. Losses on inactive facilities

including Impairment loss (in 2019)



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. 3<sup>rd</sup>), 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

<u>Correction of steel prices in tied sales to secure fair appropriate margin on an international level</u> 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.

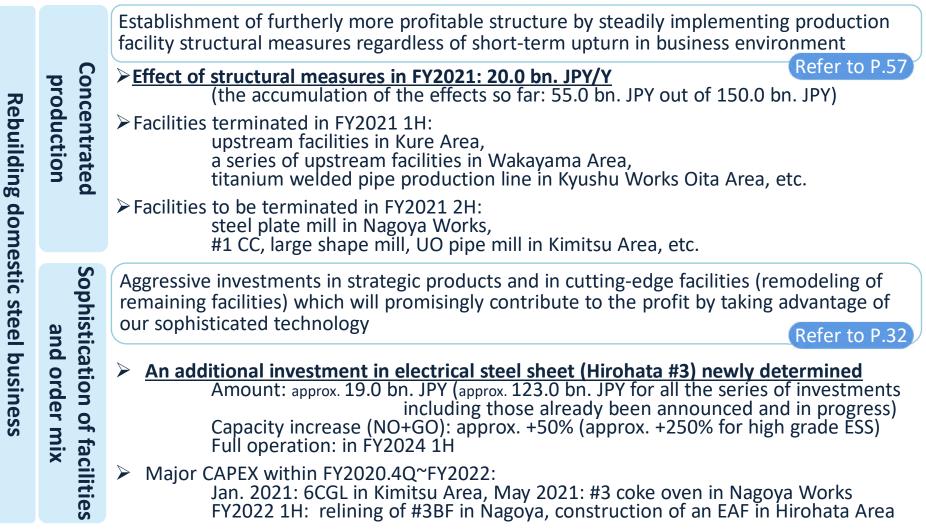
We are also discussing shortened contract period etc. as a countermeasure against fluctuation of raw materials and commodities market prices.

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 -



#### Initiatives in FY2021 and in Medium- to Long-Term - Steady Promotion of the Four Major Initiatives in the



zero carbon

Deepening and expansion of overseas business Thorough selection and concentration of overseas businesses

Capturing global steel demand growth

Medium- to Long-Term Management Plan -

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 CO<sub>2</sub> 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)



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# Initiatives in FY2021 and in Medium- to Long-Term

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

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

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

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

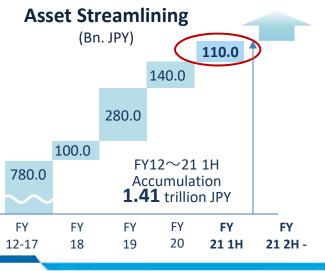
To strengthen financial structure to continue to carry out agile and reliable growth strategy over the medium- to long-term.

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.





**DX** strategy

Improvement of financia

healthiness

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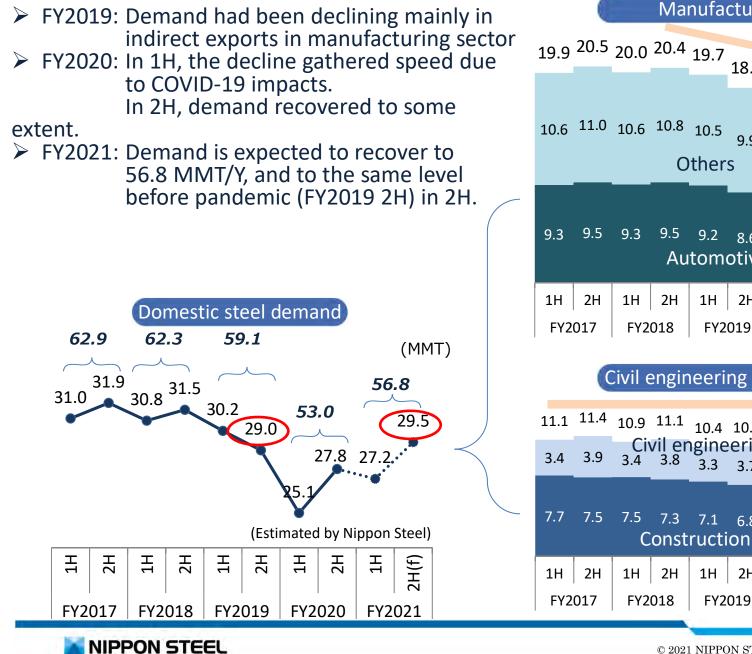
### **World Steel Demand**

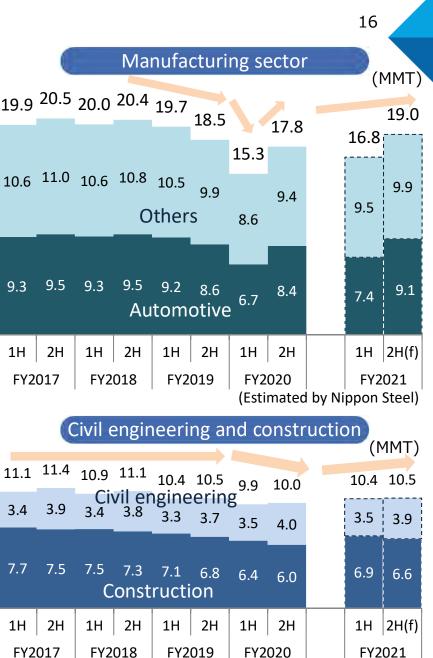
(Source: World Steel Association forecast as of Oct., 2021, apparent steel use)

				•				
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)	1,855	58	985	53	75	104	130	159
vs as of Apr. 2021	-19	+2	-40	+2	+2	-2	+7	+4
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
021->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%
1,239492212351551553536378418	USM Japa 1,322 1,153 50 216 37 145 131 43 58 58 58 58 58 58 58 58 58 58 58 58 58	n 1,419 1,317 50 1777 112 45 588 641	ASEAN5 India 1,546 1,446 59 175 133 59 55 64 660 741	43       40       1         149       154       1         146       134       1         62       67       63         76       80       7         711       672       6	41       1         39       164         158       138         131       74         76       64         84       89         581       774       8	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Other Central-S Americ Russia EU28 USMC ASEAN South Ko Japar India
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#### **Domestic Steel Demand**



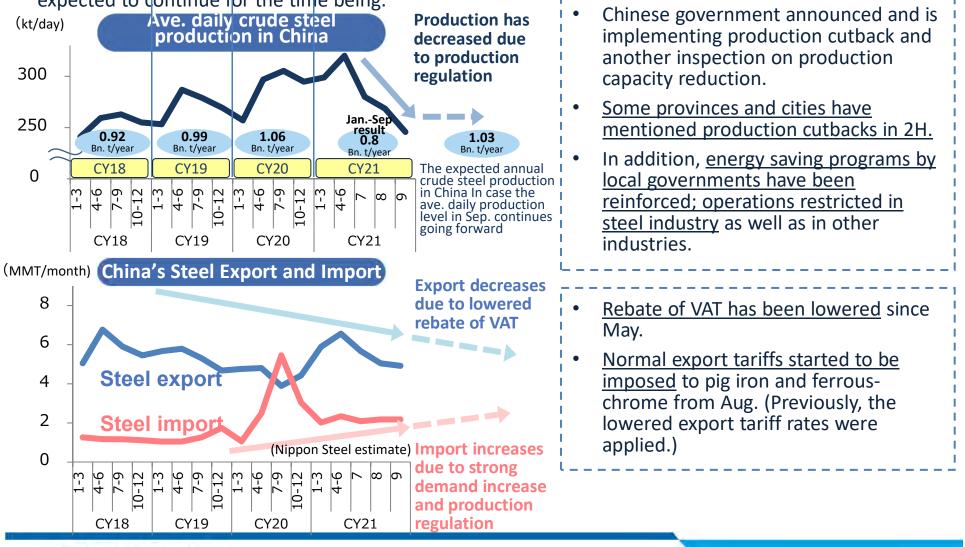


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(Estimated by Nippon Steel)

## **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.

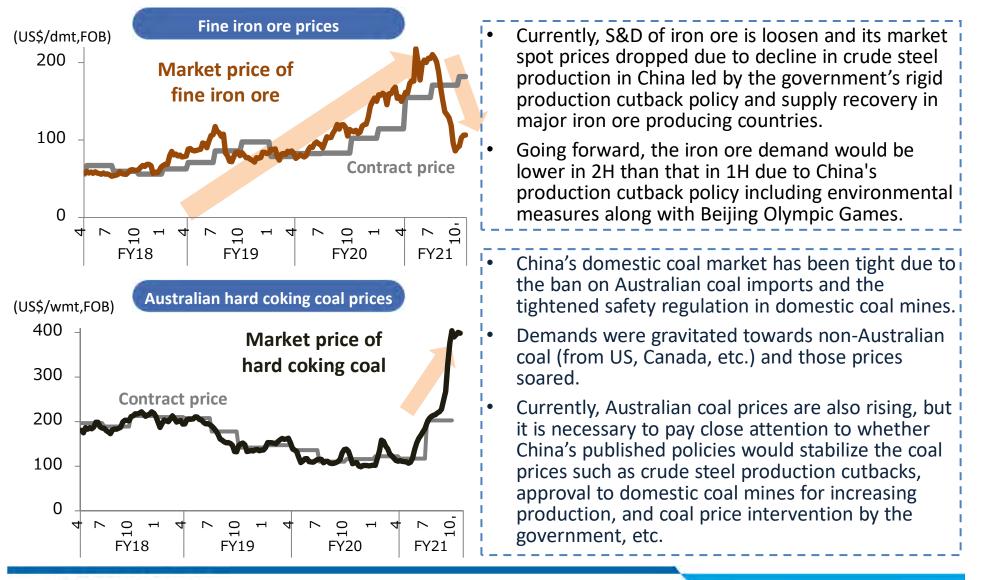


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#### **Raw Material Prices**

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.

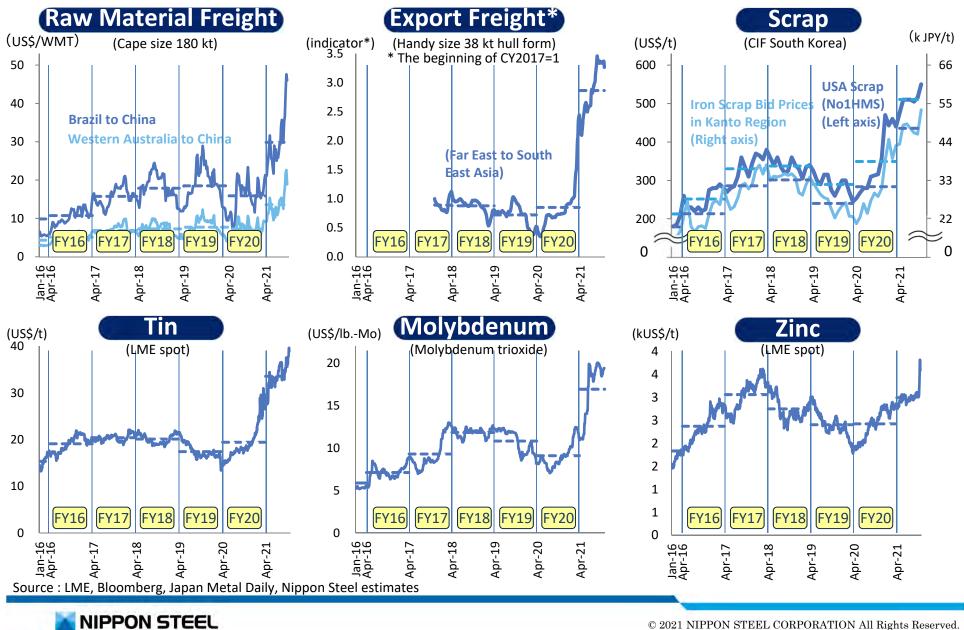


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## **Commodity Prices Hike**

(Dot lines = each fiscal year's average)

Prices of commodities including freight costs are rising recently.

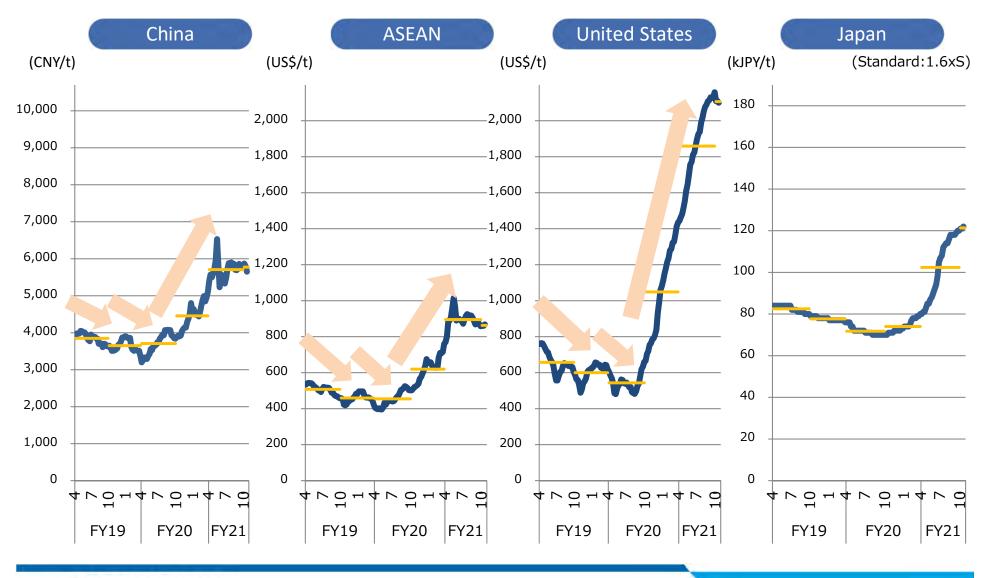


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### **HRC Prices**

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.



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(Adjustment page)



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

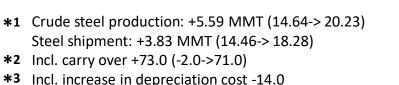
**Appendix 3. Carbon Neutral Vision 2050** 

**Appendix 4. Related Indicators** 

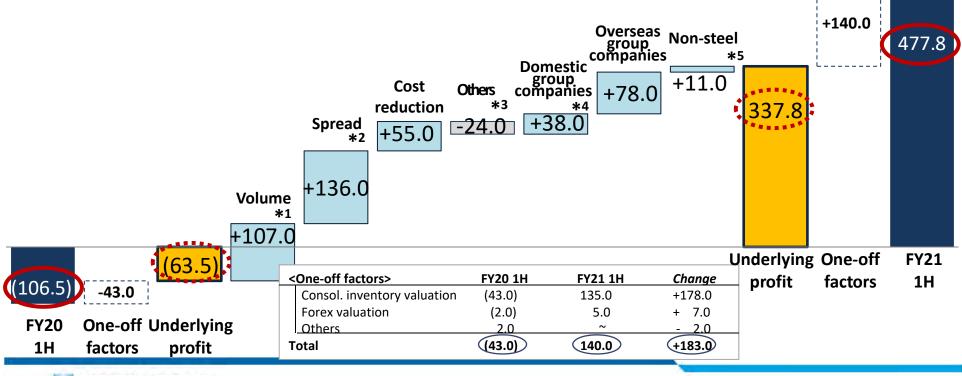


### Business Profit Variance (FY20 1H vs. FY21 1H)

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

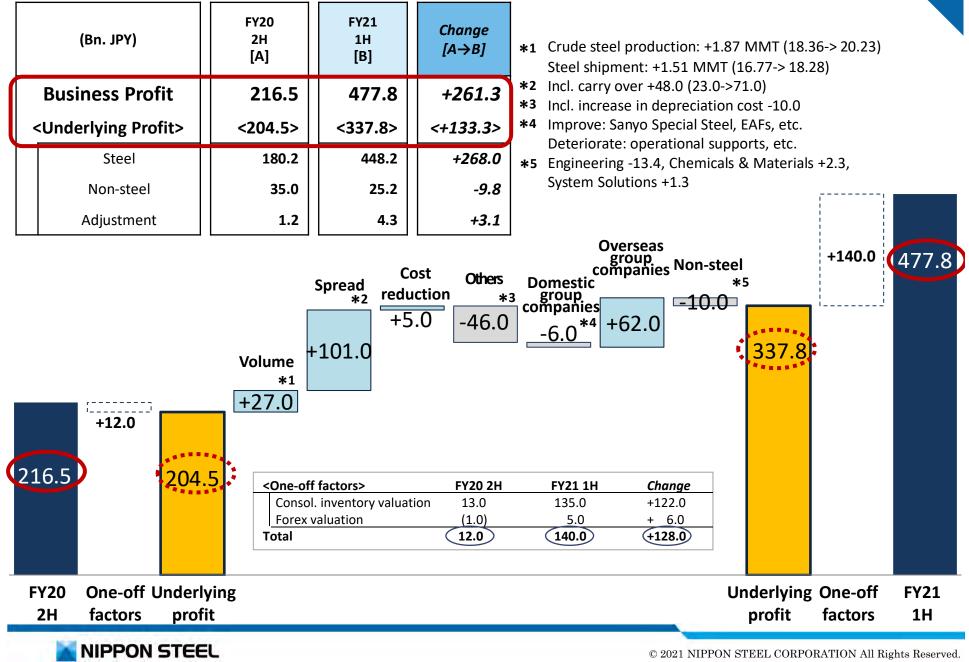


- **\*4** Improve: Re-rollers, Stainless steel, operational supports, Sanyo Special Steel, etc.
- **\*5** Engineering -10.1, Chemicals & Materials +17.1, System Solutions +4.0

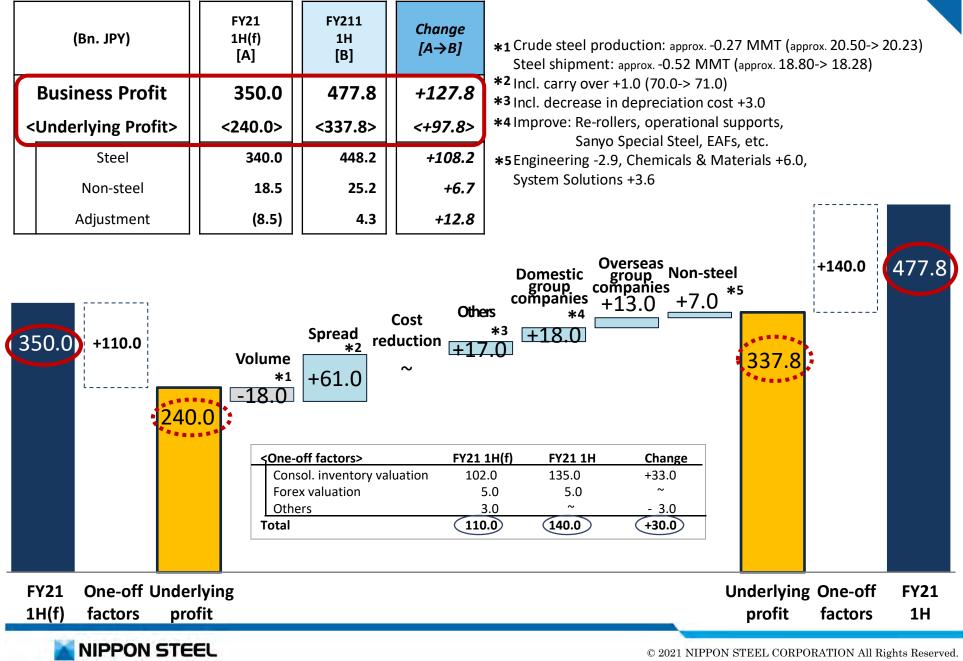


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#### Business Profit Variance (FY20 2H vs. FY21 1H)



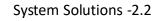
## Business Profit Variance (FY21 1H(f) vs. FY21 1H)

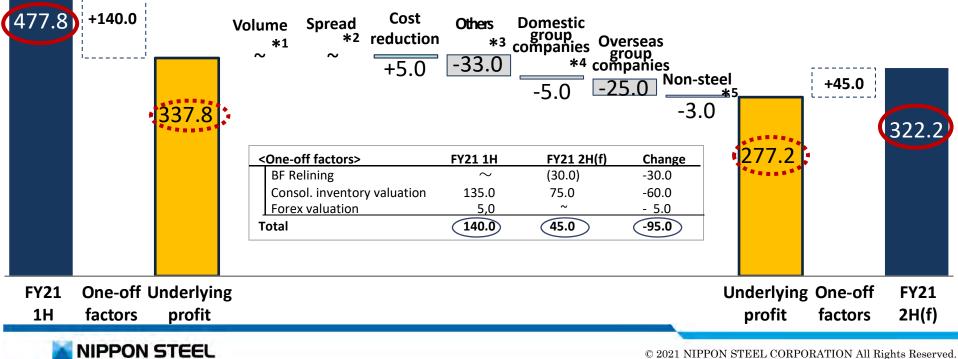


### Business Profit Variance (FY21 1H vs. FY21 2H(f))

(Bn. JPY)		FY21 1H [A]	FY21 2H(f) [B]		nge ≽B]
$\left[ \right]$	Business Profit	477.8	322.2	-1	55.6
<	Underlying Profit>	<337.8>	<277.2>	<-6	0.6>
	Steel	448.2	311.8	-1	.36.4
	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,





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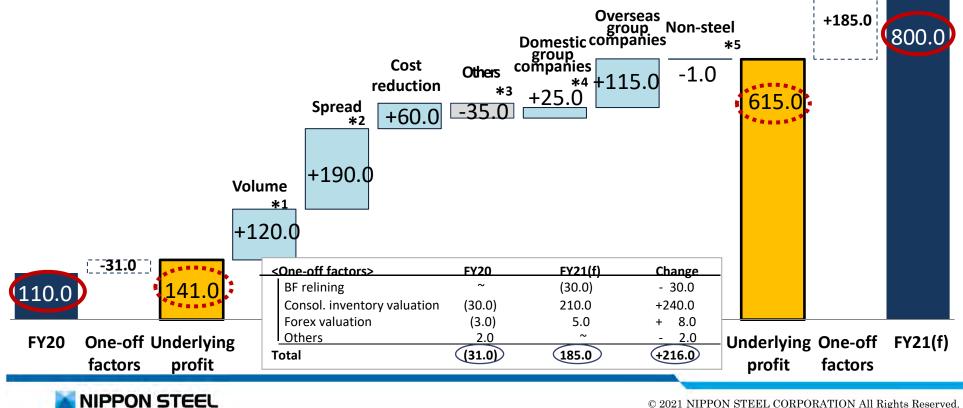
#### Business Profit Variance (FY20 vs. FY21(f))

	(Bn. JPY)	FY20 [A]	FY21(f) [B]	Change [A→B]
ſ	Business Profit	110.0	800.0	+690.0
l	<underlying profit=""></underlying>	<141.0>	<615.0>	<+474.0>
	Steel	63.5	760.0	+696.5
	Non-steel	49.2	48.0	-1.2

\*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,

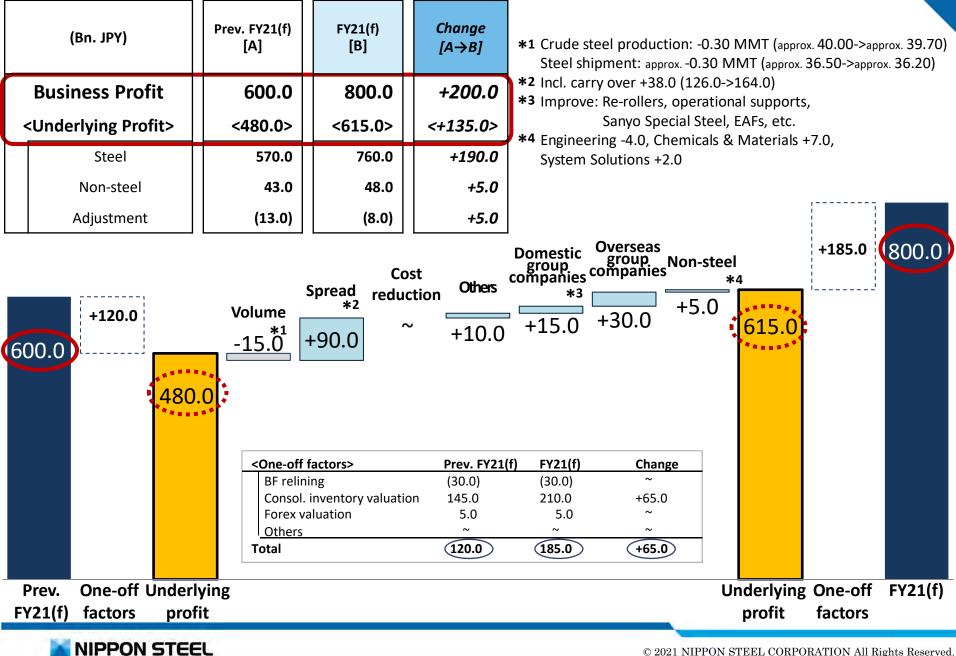
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System Solutions +3.1

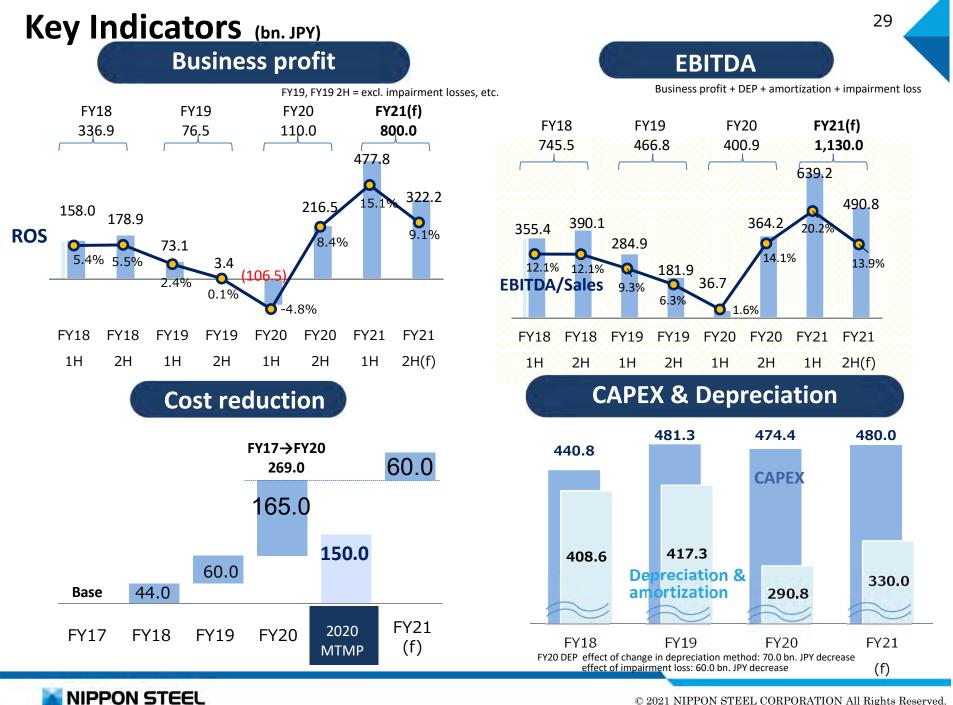


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#### Business Profit Variance (Prev. FY21(f) as of Aug 3rd vs. FY21(f))

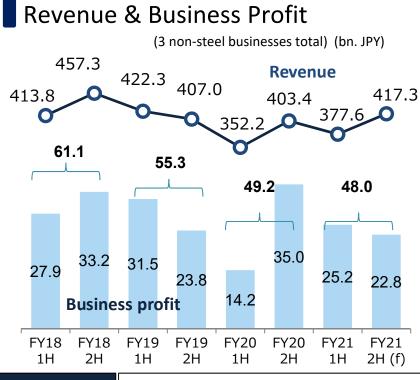


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## **Non-Steel Businesses**



Engineering &		FY20			FY21	FY20→	Prev.	
construction	1H		1H	Prev. FY21(f)	(f)	FY21(f)	FY21(f)→ FY21(f)	
Revenue	151.5	324.4	123.8	280.0	280.0	-44.4	+0.0	
Business profit	7.2	17.7	(2.9)	4.0	0.0	-17.7	-4.0	
Chemicals &		FY20			FY21	FY20→	Prev.	
Materials	1H		1H	FY21 prev. (f)	(f)	FY21(f)	FY21(f)→ FY21(f)	
Revenue	78.9	178.6	122.5	250.0	245.0	+66.4	-5.0	
Business profit	(3.6)	7.6	13.5	14.0	21.0	+13.4	+7.0	
		FY20	FY21			FY20→	Prev.	
System Solutions	1H		1H	FY21 prev. (f)	(f)	FY21(f)	FY21(f)→ FY21(f)	
Revenue	121.7	252.4	131.2	265.0	270.0	+17.6	+5.0	
Business profit	10.6	23.9	14.6	25.0	27.0	+3.1	+2.0	
FY2020 vs. F	Y2021	(f)						

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.

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## **Electrical Steel Sheets - Investment Details -**



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** Electrical steel sheet is an energy-saving material that exhibit good magnetic properties, controlled of its **steel sheet** 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.

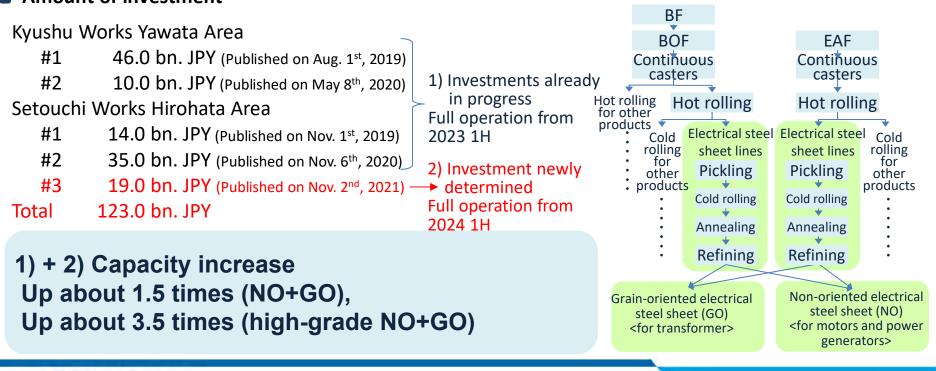
#### Amount of investment

#### Target facilities

**Kyushu Works** 

Yawata Area

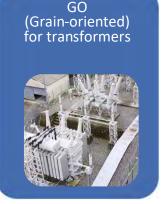
Remodeling/ new installation of electrical steel sheet lines such as pickling, cold rolling, annealing, refining, transportation, etc.



Setouchi Works

**Hirohata Area** 

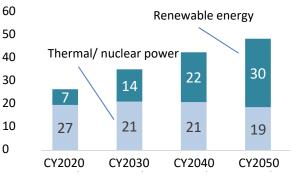
#### **Electrical Steel Sheet – Demand Growth and Quality Sophistication**<sup>33</sup>



Demand growth

#### Outlook for world electricity generation

(PWh, estimated by Nippon Steel)



#### Quality sophistication

#### Tightening regulation of electric transformer efficiency

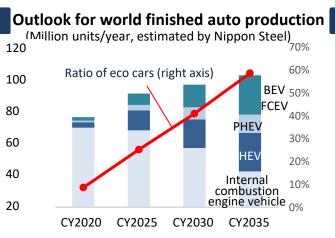
High-grade GO is essential to improve electric transformer's efficiency  $\rightarrow$  Demand for high-grade GO is expected to steadily grow.

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	То Ве
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%]

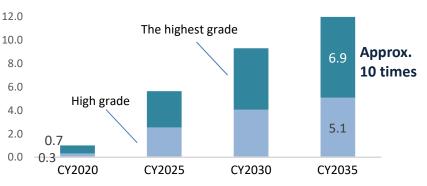






#### World demand outlook for electrical steel sheets for autos

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

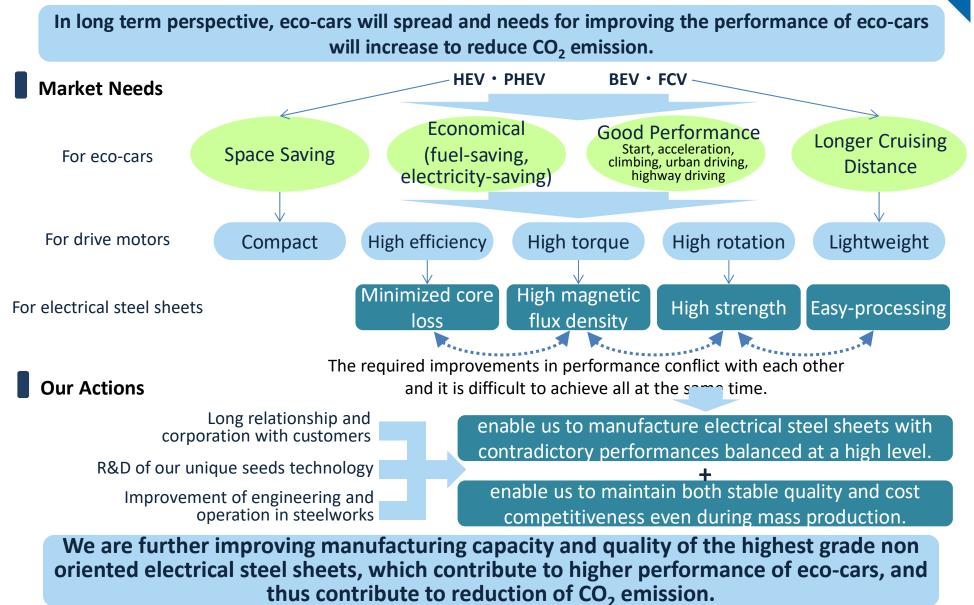


Although global demands for transformers and eco-cars have temporarily declined due to COVID-19 pandemic, environmental regulations for transformers and autos are being tightened world-wide, and the demands for high-efficiency transformers and eco-cars are expected to dramatically grow in the medium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

14.0



#### Electrical Steel Sheets – Market Needs and Our Strategy for Non-oriented ESS For Autos



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## **Topics - Sophistication of Order Mix -**

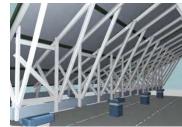
Sales launch of ZEXEED<sup>™</sup>, a new coated steel with high corrosion resistance, twice higher than conventional high corrosion resistant coated steel sheets and ten times higher than normal coated steel sheets

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.

Wind fence/ snow fence Boxes for switchboards Solar panel stand







SuperDyma ZAM-EX

X 5

GI

NIPPON STEEL CORROSION RESISTANT COATED STEEL

ZEXEED

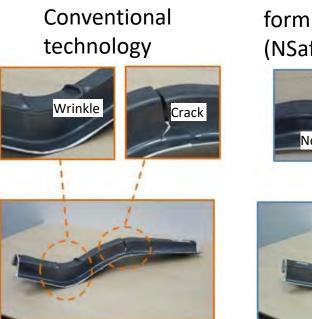
# **Topics - Sophistication of Order Mix -**

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

Achieved <u>the world's first application of</u> <u>1,180MPa class high-tensile strength</u> <u>steel to front side members</u>, 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



New sheering press forming technology (NSafe<sup>™</sup>-FORM-SS)



Going forward, we will continue proposals for expanding the application of the NSafe<sup>™</sup>-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.

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### Topics - DX Promotion Strategy : Application of Drones in Steelworks -

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. High-rise structure

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

#### Advantages to apply drones

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- 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





Vast site

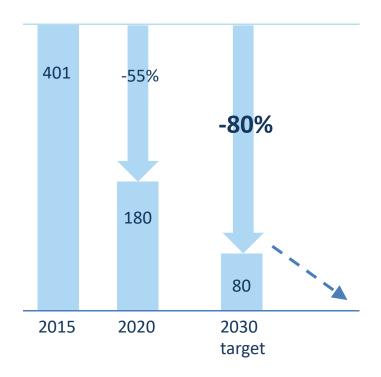
# **Engagement to Carbon Neutrality by OVAKO**

Ovako has set a policy to reduce 80% of CO<sub>2</sub> 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 CO<sub>2</sub> emissions

Scope1+2 kt-CO<sub>2</sub>/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  $CO_2$  emissions in the heating process, reduction of 20 kt- $CO_2$ /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.



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### Topics - ESG

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#### Our OCTG pipes and "NSMAXTM-GR-PS," a special connection for oil well pipes

#### newly developed, been adopted for an EOR research project

Our OCTG pipes and "NSMAX<sup>TM</sup>-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 CO<sub>2</sub>. We will promote the expansion of the production of the NSMAX<sup>TM</sup>-GR-PS, which is capable of meeting diversifying needs, looking ahead to capturing international demand.

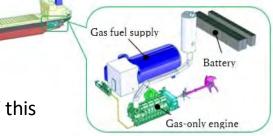
### Agreement to construct a vessel with a hybrid propulsion system using a gas-only

### 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 CO<sub>2</sub> 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.





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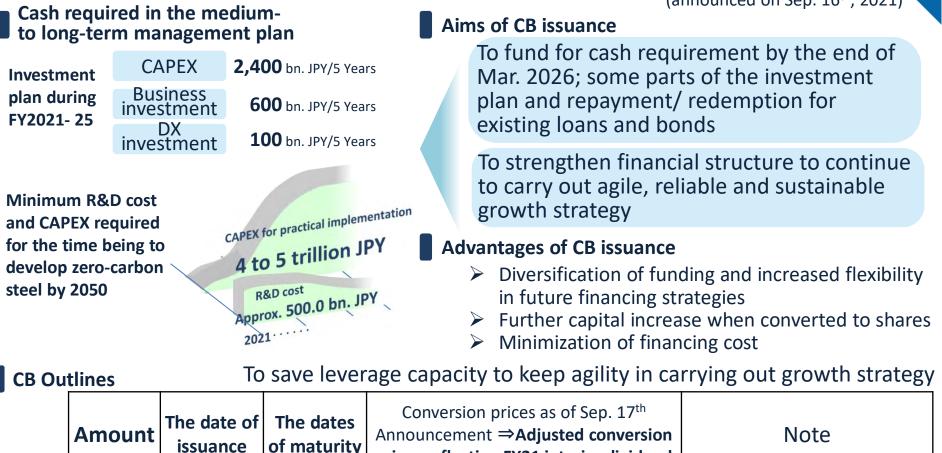


Promotion Organization

# Issuance of Convertible Bonds 300.0 bn. JPY

(announced on Sep. 16<sup>th</sup>, 2021)

40



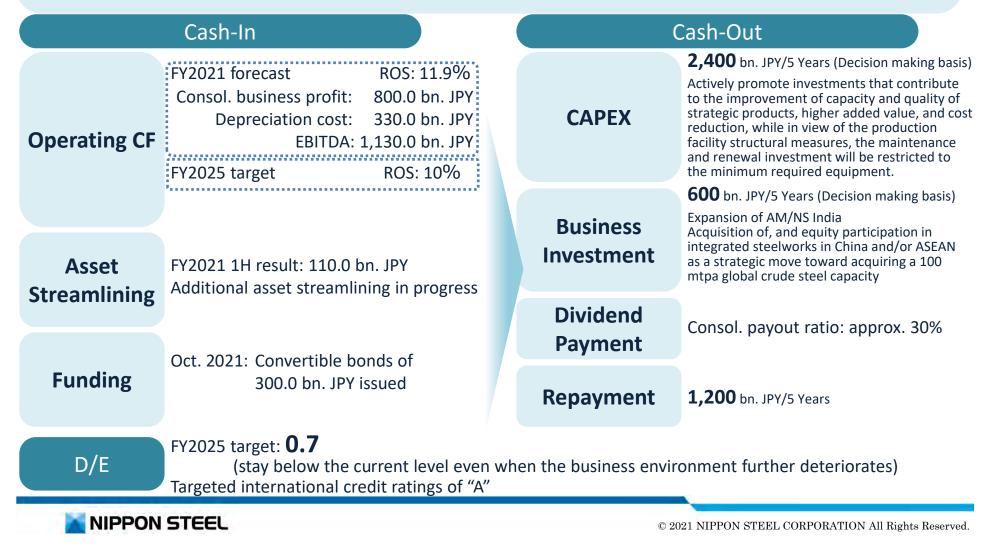
	Amount	issuance	of maturity	prices reflecting FY21 interim dividend	Note
3 Years	150.0 bn. JPY	Oct. 4 <sup>th</sup> ,	Oct. 4 <sup>th</sup> , 2024	2,884 JPY <b>⇒2,786.3 JPY</b>	
5 Years	150.0 bn. JPY	2021	Oct. 5 <sup>th</sup> , 2026	3,022 JPY <b>⇒2,919.6 JPY</b>	Early redemption may be made by 130% call option attached

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## **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 nonfinancial information in our integrated report that would lead to the enhancement of medium- to long-term corporate value.



- The Securities Analysts Association of Japan
- The ratings improved in four criteria from the previous year, resulting in our receipt of the 2021 Award for Excellence in the industry category.

### Publication of Integrated Report and Sustainability Report 2021

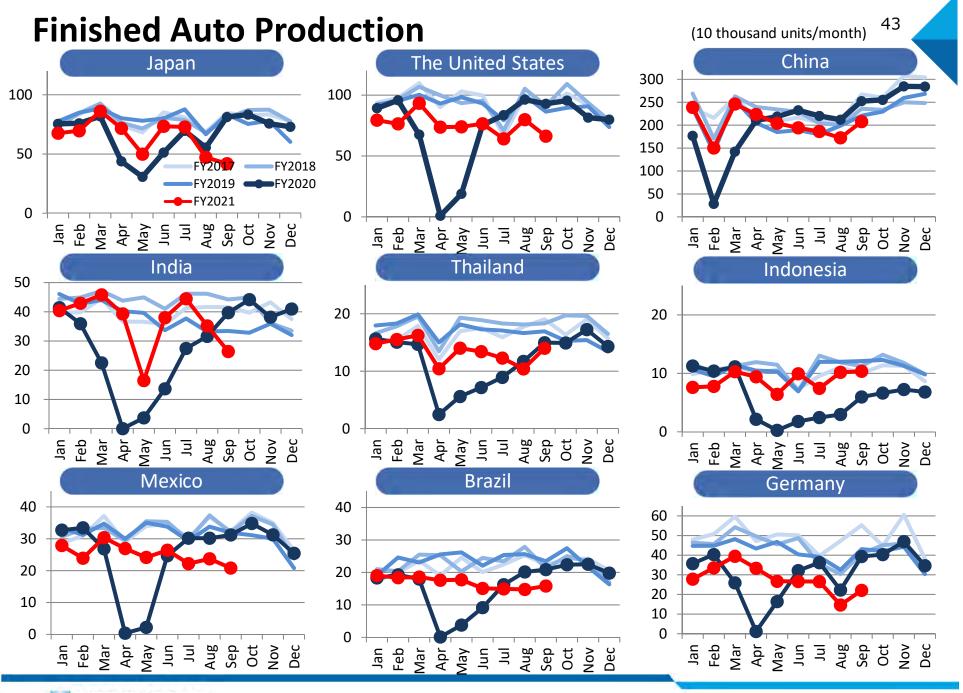
> Through dialogues with stakeholders, the reports are improved, easier to read and richer in content. The integrated report is constituted along the lines of the "International IR Framework" developed by the International Integrated Report Council (IIRC). Details on specific initiatives to ESG factors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

Integrated Report: <a href="https://www.nipponsteel.com/en/ir/library/annual">https://www.nipponsteel.com/en/ir/library/annual</a> report.html Sustainability Report: https://www.nipponsteel.com/en/csr/report/



2020 Award for Excellence in Corporate Disclosure

- Industries -



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# 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



\*BF = Blast Furnace

Early transition to domestic optimal production system and strengthening of competitiveness **FY20** ~FY19 **FY21** Action **FY22** FY23~ Publication (Yawata) Optimization of upstream processes Mar-16 ★ May-19: completion ★ End of FY20: full-scale operation started (Tobata) New continuous casting (Tobata) Closure of a continuous casting End of FY20: closure (Kokura) Closure of the upstream processes End of FY20: closure - Schedule moved up 🖈 Sep-20: closure Feb-20 (Kure) Closure of the upstream processes ☆End of FY211H: closure ☆End of FY23 1H: Feb-20 of upstream processes closure of the others Upstream and the hot-rolling lines FY22 1H: closure FY22 1H: closure of parts of #3 CC, (Wakayama) Closure of a BF Feb-20 and related facilities etc. The end of FY24: - Schedule partially changed Nov-21 closure of #4 coke oven The end of FY21 1H: closure of #1BF, - Schedule partially moved up Mar-21 #5 coke oven, #5-1 sintering 🛧 The end of FY21: closure (Kimitsu) Closure of a continuous caster Mar-21 (Kashima) Closure of one series of The end of FY24: Mar-21 🛠 closure upstream facilities (Nagoya) Closure of the steel plate mill Steel plate 🛠 FY22 2H: closure Feb-20 🔀 The end of FY21: closure - Schedule moved up Nov-20 🛠 FY24 2H: closure (Kashima) Closure of the steel plate mill Mar-21 Shapes (Kimitsu) Closure of the large-shape mill 🔀 The end of FY21: closure Mar-21 🛧 The end of FY24: (Kashima) Closure of the large-shape mill Mar-21 closure ★ Oct-19: closure (Kashima) Closure of the UO pipe line May-19 The end of FY21: closure Pipe (Kimitsu) Closure of the UO pipe line Mar-21 - withdrawal from UO pipe business & tube (Kimitsu Tokyo) Closure of the smalldiameter seamless pipe mill ★ May-20: closure Mar-18 (Wakayama Kainan) Closure of a small-The end of FY25: Mar-21 closure diameter seamless pipe mill (west)

Legend : New measure  $\bigstar$  Plan  $\bigstar$  Done  $\bigstar$  Cancelled

Early transition to domestic optimal production system and strengthening of competitiveness

	Action	Publication	~FY19	FY20	FY21	FY22	FY23~	
	(Hirohata) Closure of the tinplate line	Nov19	v19 <b>V</b> FY21 2H: closure					
	- Schedule moved up	Feb20	The end of FY20: closure					
	(Hanshin Sakai)Closure of some sheet lines	Feb20			★ The end of	FY20: closure	<u>∧</u>	
Ste	Closure of some hot-dip galvanizing lines	Mar21	The end of FY20: closure The end of FY22: closure The end of FY22: closure The end of FY22: closure Closure (1CGL)					
e	(Kashima) Closure of a pickling lines	Mar21				🗙 The e	end of FY22 1H: closure	
sheet	(Kure) Closure of hot strip mill and pickling lines	Feb20					The end of FY23 1H:	
et	(Hanshin Osaka) Closure of the site	Mar21					The end of FY23 1H to the end of FY23: closure	
	(Wakayama) Closure of all steel sheet lines	Mar21					The end of FY24 1H: closure	
	(Kimitsu) Closure of a hot-dip galvanizing line	Mar21					The end of FY24:	
spec	(Oita Hikari Pipe & Tube) Closure of titanium velded pipe production line Feb20			end of Sep21	21: closure			
i Itan cial sta	(Oita Hikari Pipe & Tube) Closure of titanium welded pipe production line (Naoetsu) Closure of a special stainless steel line (Kansai Osaka) Closure of the titanium raw material plant (Kansai Osaka) Closure of the special equipment for titanium round	pecial stainless Mar21 Arrow The end of FY21: closure			FY21: closure			
inless	(Kansai Osaka) Closure of the titanium raw material plant	Mar21				🛧 The e	end of FY22 1H: closure	
steel	bar manufacturing	Feb20				7	The end of FY22: closure	
	(Nippon Steel Stainless Steel Kinuura)	Feb20			e end of Dec	20: closuro		
	Closure of the hot strip mill - Schedule moved up	Feb20 Nov20		✓ 11	end of Oct20			
St	Closure of the dedicated facility for	NOV20		× me	end of Oct20	closure		
ain	production of precision products	Feb20		★ Sep	-20: closure			
ess	Closure of all other facilities	Mar21			•	🛠 The end of	FY21: closure	
Stainless stee	(Nippon Steel Stainless Steel Kashima)	Mar21			★ Jun21:	closure		
eel	Closure of a part of annealing lines (Nippon Steel Stainless Steel Shunan) Closure of some cold-rolling and annealing lines	Mar21			$\star$ The end of		☆~Jun26: closure	
	Closure of an EAF	Mar21					The end of FY23: closure	

Legend : New measure 🛠 Plan ★ Done 🛠 Cancelled

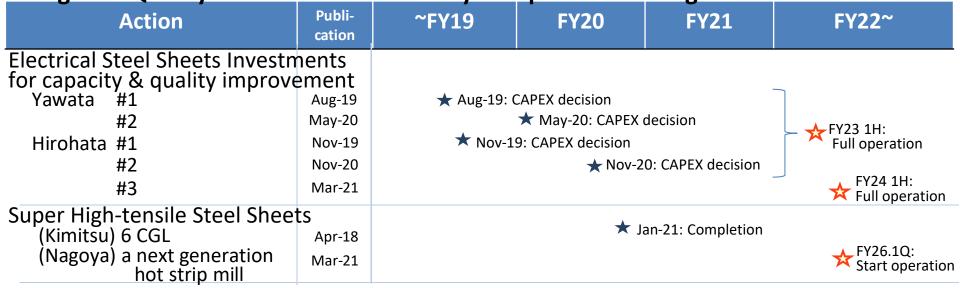
### Early transition to domestic optimal production system and strengthening of competitiveness

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 Coke Oven Refurbishment	Sep-15	★ May-18 :	Completio	'n			
(Kimitsu) 5 Coke Oven	Apr-16	★ Feb-19 : 0	Completio	า			
(Hokkai) 5 Coke Oven	Jun-17	★ Sep-19 : Completion (Completed refurbishment for all coke ovens in Hokka)				ke ovens in Hokkai)	
(Nagoya) 3 Coke Oven	Nov-18	★ May-21: Completion					
(Yawata) New Continuous Casting Facility	Mar-16	★ May-19	: Completi	on			
(Hirohata) Scrap Melting Process	Nov-19	FY22 1H: EAF Completion FY23 1H: Melti furnace closure					
(NIPPON STEEL Structural Shapes)		~	Find of F	<del>Y19: Close</del>	steelmaking	; facility and transfer	
Close Steelmaking Mill	Mar-18				<del>Vakayama W</del>	-	
Cancellation	Feb-20	C	ancelled t	the shutdo	own of the	steelmaking facilit	
(Nagoya) Installment of a next						FY26.1Q: Start	
generation hot strip mill	Mar-21	(after the start of full oper of the new mill, the existin hot strip mill will be shutd					

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# Legend : New info Strengthen Quality and Volume of Globally-competitive Strategic Products



#### Strengthen Overseas Business Responding to Local Consumption Trend

Action	Publi- cation	~FY19	FY20	FY21	FY22~
AM/NS India	Mar-18	★N ★[ ★	ed AM as the succes AM's resolution plan ov-19 : AM's reso approved Dec-19: Joint acqu Mar-20: Loan ag ★Jul-20: Acqu	was conditionally a plution plan was by Indian Suprer isition complete reement with JBI isition of OSPIL*	ne Court. d C
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)	<b>★</b> [	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

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 <sup>®</sup> High-Tensile Steel Sheet	<ul> <li>★ Jan-21: Operation of 6CGL in Kimitsu Area started</li> <li>"NSafe<sup>®</sup>-AutoConcept"</li> <li>★ May-21: Expansion of "NSafe<sup>®</sup>-AutoConcept" solution lineup</li> <li>★ Oct-21: New press forming technology "NSafe<sup>®</sup>-RORM-SS" established</li> </ul>								
Electrical Steel Sheet		v-19: Electrical steel ★ May-20: Electr	heets CAPEX (Yawata #1) determined sheets CAPEX (Hirohata) determined ical steel sheets CAPEX (Yawata #2) determined 20: Electrical steel sheets CAPEX (Hirohata #2) determined KFY24 1H: (Hirohata #3) full operation						
Others	🛨 De	<ul> <li>★Sep-19: <u>Beverly®Unit</u> won the Excellence Award in EcoPro 2019 (Japanese preeminent environmental exhibition</li> <li>★ Dec-19: 9 H-beams products were given EcoLeaf environmental label</li> <li>★ Mar-20: Mega NSHYPER BEAM ™ was given EcoLeaf</li> <li>★ Oct-20: 3 tinplate products were given EcoLeaf</li> <li>★ May-21: OCTGs and line pipes were given EcoLeaf</li> <li>★ Jul-21: SMart BEAM ™ was given EcoLeaf</li> </ul>							
		★ Feb-21: NSafe™-H ★ Mar-21: NSafe <sup>™</sup> ★ Apr-21: Ultra	★ Sep-21: Steel plates for building structure were given EcoLeaf I was awarded Okochi Memorial Production Prize Iull was awarded Japan Open Innovation Prize M-Hull was awarded Naoji Iwatani Memorial Award N-high-tensile strength steel wire for bridge cables was rded Commendation for Science and Technology						
Eco-Solution			of 100 CDQ* orders overseas Y19, 20.74 MMT-CO <sub>2</sub> / year of CO <sub>2</sub> 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								
2030		<u>more reduction</u>	ons reduction scenario in total CO <sub>2</sub> emissions vs 2013						

#### Progress: Digital Transformation, Responses to Work Style Change 51

Legend : New info 🛧 Plan 🛧 Done 🛠 Cancelled

### **Enhancement of Digital Transformation**

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

### **Responses to Work Style Change**

Action	~FY19	FY20	FY21~				
24 Hour Nursery	★ Apr-19 : The 5 <sup>th</sup> 24 hour in-house nursery in Hirohata Area (Oita, Kimitsu, Yawata, Nagoya, <u>Hirohata</u> ) ↓ Dec-21 : The 6 <sup>th</sup> 24 hour in-house nursery in <u>Kashima</u> Area to open ↓ Jan-22 : The 7 <sup>th</sup> 24 hour in-house nursery in <u>Muroran</u> Works to oper						
Work System	<ul> <li>★ Apr-16: Career return system and accompany leave system started</li> <li>★ Apr-19: Trial introduction of WFH system (official introduction in November)</li> <li>★ Apr-20: Transfer exemption system started</li> <li>★ Apr-19: Retirement age 65 years old policy determined →★ Apr-21: application</li> </ul>						
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							



# Agenda



- 1. FY2021 2Q Earnings Summary and FY2021 Forecast
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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 <sup>53</sup> 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

Improve group companies' profits

Improve non-steel business profits

### 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

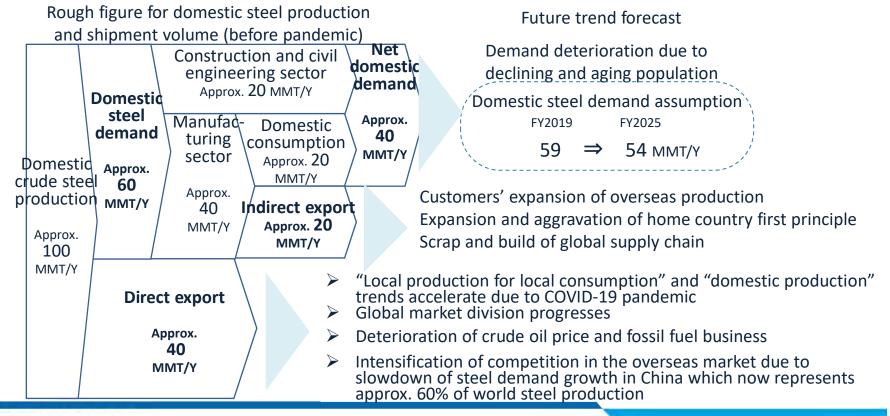
- Fixed cost reduction including the effect of production facility structural measures, which offsets cost increase in DEP and other cost temporarily been reduced during pandemic
- Boosting profits in overseas businesses
- Strengthening group companies' competitiveness and profitability
- Enhancement 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
- 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

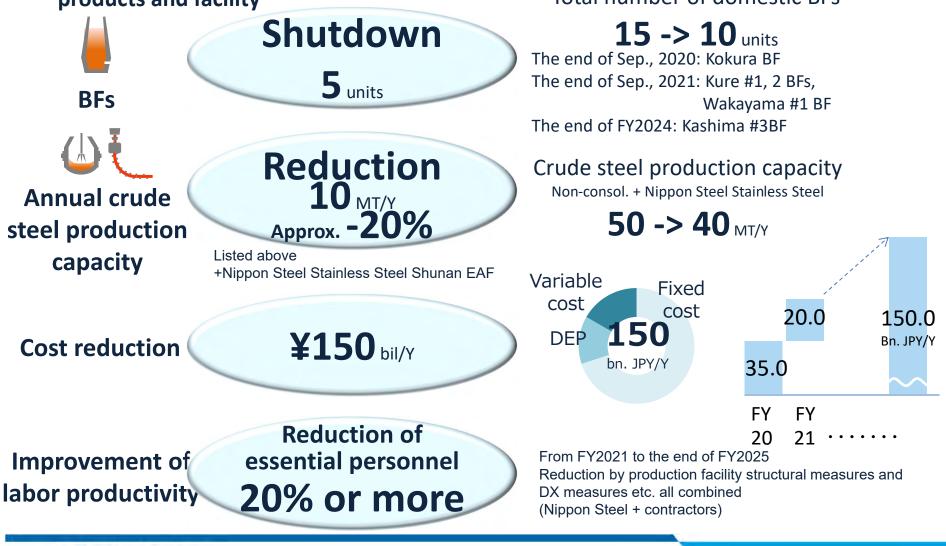




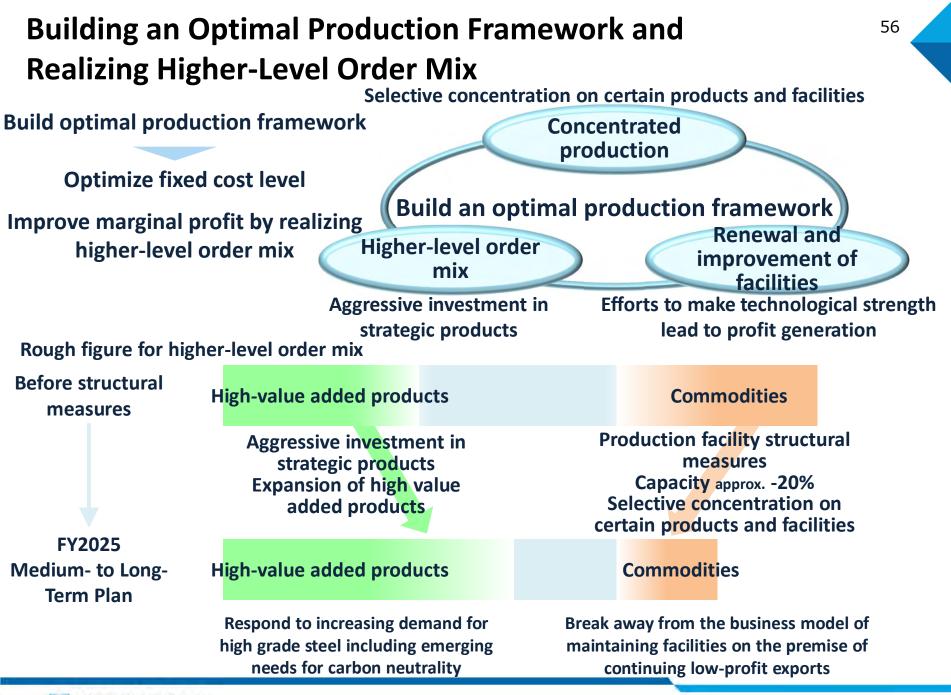
# **Production Facility Structural Measures**

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 onproducts and facilityTotal number of domestic BFs



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## **Outline of Production Facility Structural Measures (1/2)**

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	Announ- cement	Steelworks	Facilities for shutdown	Approximate time of shutdown (●: completed)
	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		No.1 BF, No.5 coke oven, No.5-1 sintering machine	FY2022 1H →●Sep. 2021
Upstream	Mar. 2021 → Partially	Kansai Works Wakayama Area	Parts of No.3 continuous casting machine	FY2022 1H
facilities	changed Nov. 2021		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
	Mar. 2021	East Nippon Works Kashima Area	Steel plate mill	FY2024 2H
Steel plate	Feb. 2020	Nagoya Works	Steel plate mill	The end of FY2021
Construc-	Mar. 2021	East Nippon Works Kimitsu Area	Large Shape mill	The end of FY2021
tion product	Mar. 2021	East Nippon Works Kashima Area	Large shape mill	The end of FY2024
	Mar. 2021	Kansai Works Wakayama Area (Kainan)	Small-diameter seamless pipe mill (West)	The end of FY2025
Pipe &	Mar. 2021	East Nippon Works Kimitsu Area	UO pipe line	The end of FY2021
tube	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

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## Outline of Production Facility Structural Measures (2/2) 58

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	Announce -ment	Steelworks	Facilities for shutdown	Approximate time of shutdown (●: completed)
	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
Steel sheet	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
	Mar. 2021	East Nippon Works Naoetsu Area	Special stainless steel line	The end of FY2021
Titanium &	Mar. 2021	Kansai Works Osaka Area	Titanium raw material plant	The end of FY2022 1H
special stainless steel	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
	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
Stainless steel	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 Sub	-	(Production facil Announced	ity structur	al measures) 59	
	Announced before Mar. 2021		Total	Before $\rightarrow$ After	
BFs	-4	-1	-5	<b>15</b> → <b>10</b>	
Continuous casters	-5	-3	-8	$32 \rightarrow 24$	
Steel plate lines	-1	-1	-2	<b>4</b> → <b>2</b>	
Large shape lines	-	-2	-2	<b>4</b> → <b>2</b>	
Seamless pipe lines	-	-1	-1	<b>3</b> → <b>2</b>	
UO pipe lines	-1	-1	-2	<b>2</b> → <b>0</b>	
Hot strip lines	-1	_	-1	<b>7</b> → <b>6</b>	
Cold rolling lines	-	-2	-2	<b>17</b> → <b>15</b>	
Galvanizing lines	-	-3	-3	<b>19</b> → <b>16</b>	
Special stainless steel rolling lines	-	-2	-2	<b>4</b> → <b>2</b>	
Titanium raw material line	) -	-1	-1	<b>1</b> → <b>0</b>	
Titanium round bar line	-1	-	-1	<b>1</b> → <b>0</b>	
🖛 Titanium welded pipe line	<b>-</b> 1	-	-1	<b>1</b> ightarrow <b>0</b>	
Nippon Steel Stainless Steel cold rolling lines	-	-4	-4	<b>13</b> → <b>9</b>	
Nippon Steel Stainless Steel EAFs	-	-1	-1	$4 \rightarrow 3$	
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### Domestic Steelworks: Upstream Facilities and Products

		Upstream facilities (un											Pr	oduo	cts							
<ul> <li>◆: All of the related lines are to be or already been shutdown</li> <li>◇: Some of the related lines are to be or already been shutdown</li> </ul>		BF	BOF	EAF	Continuous caster	Hot strip mill	<sup>00</sup> Cold strip mill	G G A	ts Tinplate	Electrical	B/ Bar	⊗ Wire	Seamless	Pipe: C		Plates	Con Shape	Rai	ction Spiral	Machinery	Titanium	Special stainless
North Nippon Works (from Apr. 2022)		1	2	1	1						Ο	0										
Muroran Area (Muroran Works until Mar. 2022) Kamaishi Area (East Nippon Works until Mar. 2022)	Muroran City Kamaishi City	1	2	1	1		-				0	0 0										
East Nippon Works		4⇒3	10⇒7		9⇒6	0	0	$\diamond$	:	:		0	٠	•	0	$\Diamond$	٠		0		0	$\diamond$
Kimitsu Area Kashima Area Naoetsu Area	Kimitsu City Kashima City Joetsu City	2 2⇒1	5 5⇒2		5⇒4 4⇒2	0	0 0	Ó				0	•	* *	00	•	* *		0		0	$\diamond$
Nagoya Works	Tokai City	2	6		3	0	0	0	0	<u> </u>					0	•		<u> </u>	:			
Kansai Works		2⇒1		2	6⇒5		٠	:	-	-			$\diamond$	-			0			0	•	
Wakayama Area (Wakayama, Kainan, Sakai) Osaka Area Amagasaki Area	Wakayama City etc. Osaka Citty Amagasaki City	2⇒1	3	1 1	6⇒5		•						<b>◇</b> 0				0			0	٠	
Setouchi Works	÷ ,	2⇒0	6⇒0	0⇒1	4⇒2	$\diamond$	\$	$\diamond$		0			<u> </u>					-				
Hirohata Area	Himeji City		3 <b>⇒</b> 0		2	Ŏ				0												
Kure Area -> all shutdown	Kure City	2⇒0		U I	2⇒0	٠								-								
Hanshin Area (Osaka) -> all shutdown	Osaka City						٠	-	-	-								-				
Hanshin Area (Kanzaki)	Amagasaki City						0			-								-				
Hanshin Area (Sakai)	Sakai City						Ο	$\diamond$	-	-								-				
Hanshin Area (Toyo)	Saijo City						O	•	-	-				-				-				
Kyushu Works		4⇒3	11⇒7		9⇒7	0	0	0	0	0	0	0	0		0	0	0	0	0		$\Diamond$	
Yawata Area (Tobata, Kokura, Yahata,	Kitakyushu City,	2⇒1	8⇒4		6⇒4	0	0	0	0	0	0	0					0	0	0		0	
Hikari Titanium Production)	etc. Oita City	2	3		3	0				-						0						
Oita Area (Oita) Oita Area (Hikari Pipe & Tube)	Hikari City	2	3		3				-	-			0		0			-			$\diamond$	
Nippon Steel Stainless Steel Corp.	T incart Oity			4⇒3	4		$\diamond$				0	0				0		:				<u>                                     </u>
Kashima Works	Kashima City			- <u>+</u> - U			0		-			-				-						
Yamaguchi Works	Shunan City, Hikari City			4⇒3	4		$\Diamond$				0	0										
Kinuura Works -> all shutdown	Hekinan City						•	-		-												
Yawata Works	Kitakyushu City															0						
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# 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** 



### Zero-Carbon Steel: Our CO<sub>2</sub> Emissions Reduction Scenario

2030 Target

### 30% or more reduction in total CO<sub>2</sub> emissions vs. 2013

#### [Means]

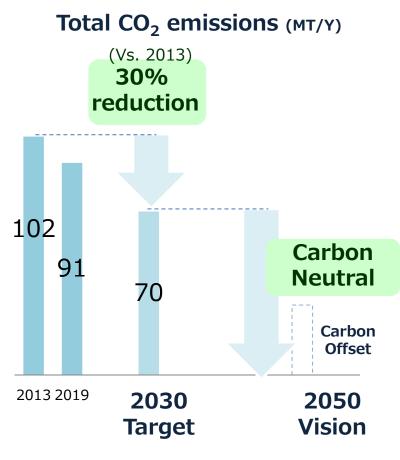
- Actual implementation of the COURSE50 in the existing BF and BOF process
- Reduction of CO<sub>2</sub> emissions in existing processes
- Establishment of an efficient production framework.

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 BFs; direct reduction of 100% hydrogen)
- Multi-aspect approach, including CCUS\* and other carbon offset measures,.



[Scope of Scenario]

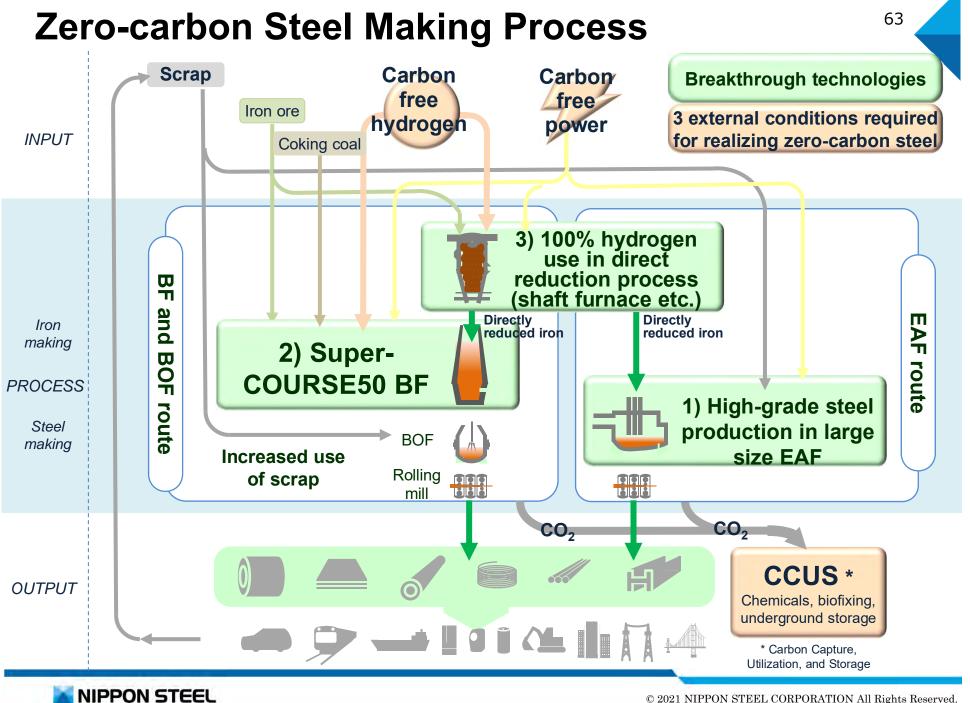
Domestic

SCOPE I + II

(Receipt of raw materials to product shipment) + ( $CO_2$  at the time of purchase power production)

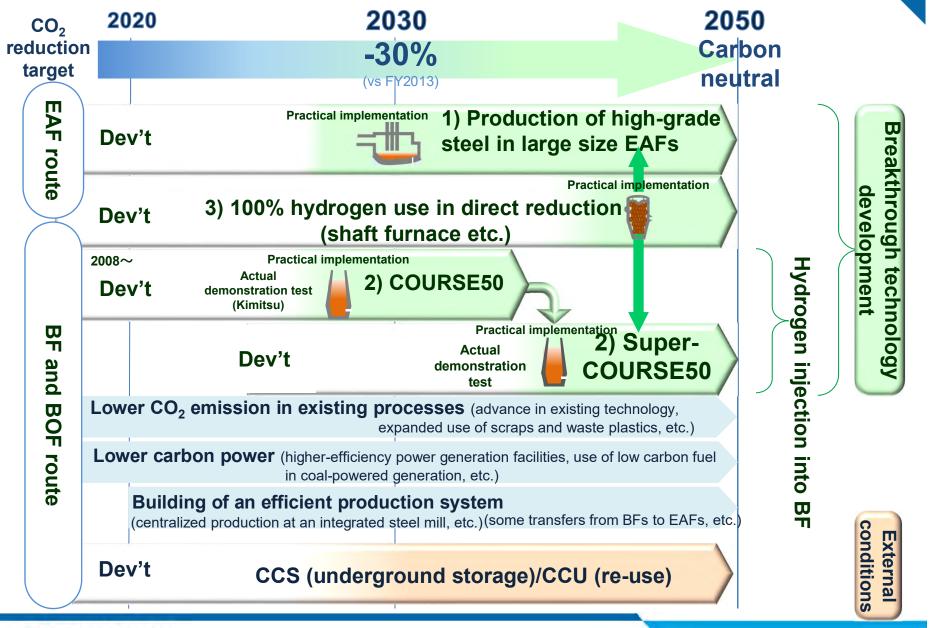
\*Carbon dioxide Capture, Utilization, and Storage





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# Technological Challenges and Required External Conditions

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

Technological > Scrap: Elimination of the effect of hazardous impurities using DRI

> EAF: Improvement of productivity with larger scale and higher efficiency

Cost-effective fossil-free power

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

- Preheating and injection of high-temp hydrogen for endothermic reactions
- Stable gas flow in BF with less coke

**Technological** > <u>Scaling-up</u> from experimental to actual super-large-scale BF

- Establishment of the technology to offset remaining CO<sub>2</sub> emissions (CCUS)
- Implementation of CCU and CCS
- Large supply of <u>carbon-free hydrogen</u>

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

Technological challenge External conditions

External

conditions

challenge

External

conditions

- Establishment of the technology of hydrogen direct reduction
- Large-amount supply of carbon-free hydrogen

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# Challenges to Realize Zero-carbon Steel and Collaborations with Society

Take on the challenge to <u>develop and practically implement breakthrough technologies ahead of</u> <u>the other countries</u> 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

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

## CAPEX for practical implementation **¥4 to ¥5 trillion** R&D cost Approx. **500.0 billion** 2021.....

\* Minimum level estimated to be required for the time being

#### 1) A national strategy to realize a "virtuous cycle of environment and growth"

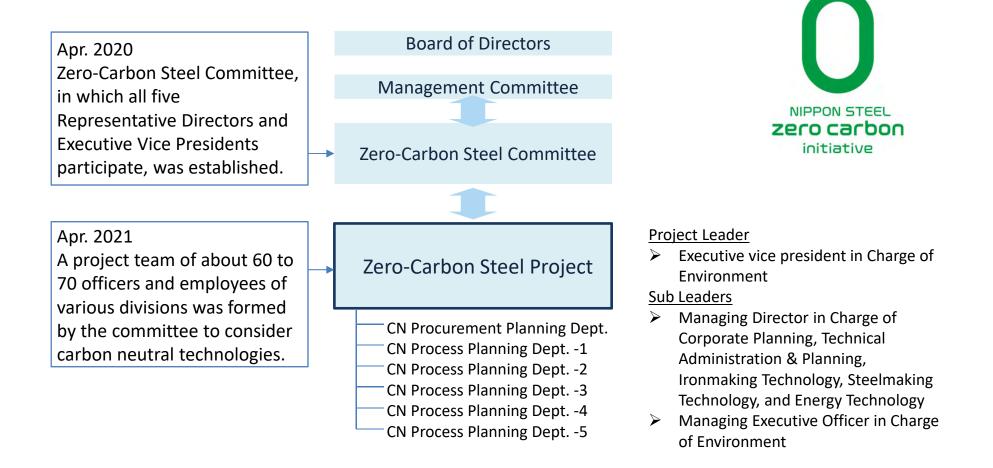
- Long-term and continuous government support for R&D in the field of breakthrough innovation etc.
- Establishment of inexpensive and stable large-scale hydrogen supply infrastructure
- Realization of carbon free power at an international competitive cost
- Promotion of national projects for the development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

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## **Structure to Promote the Zero-carbon Steel Initiative**



# Agenda



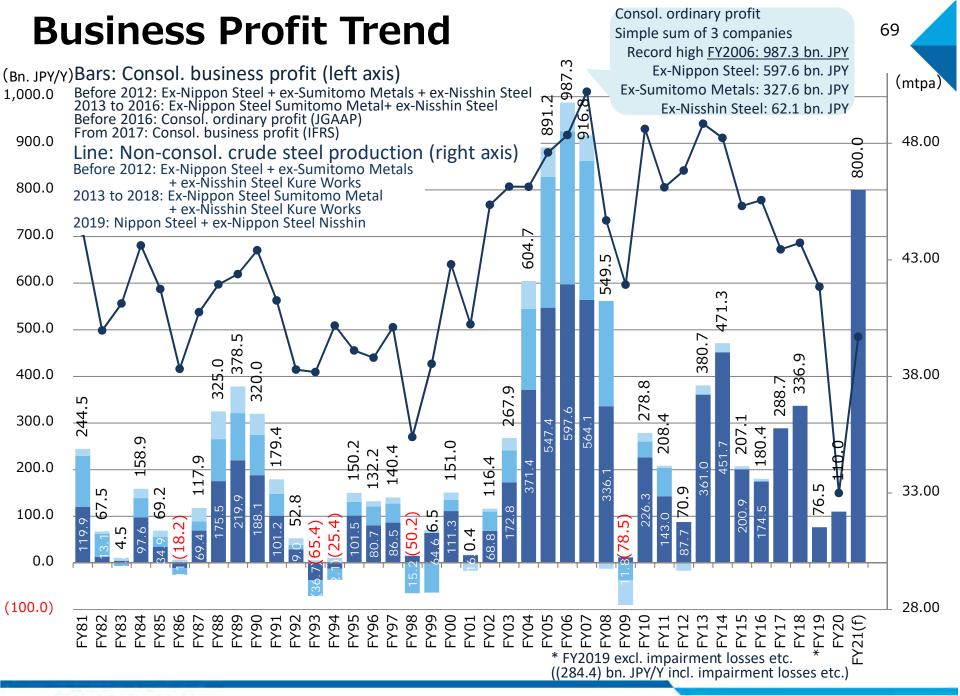
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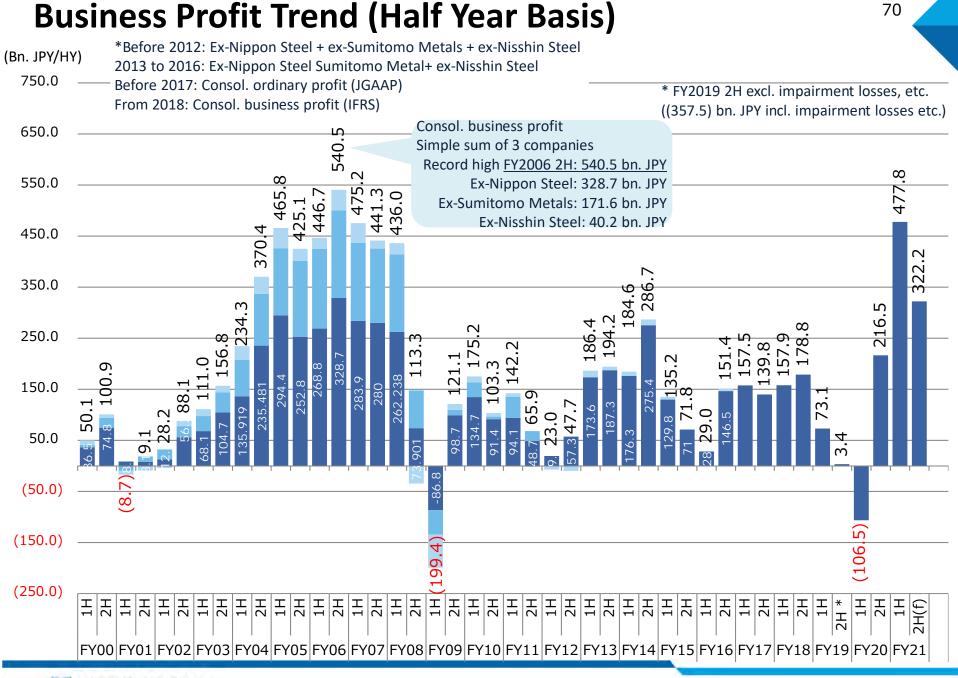
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**Appendix 4. Related Indicators** 

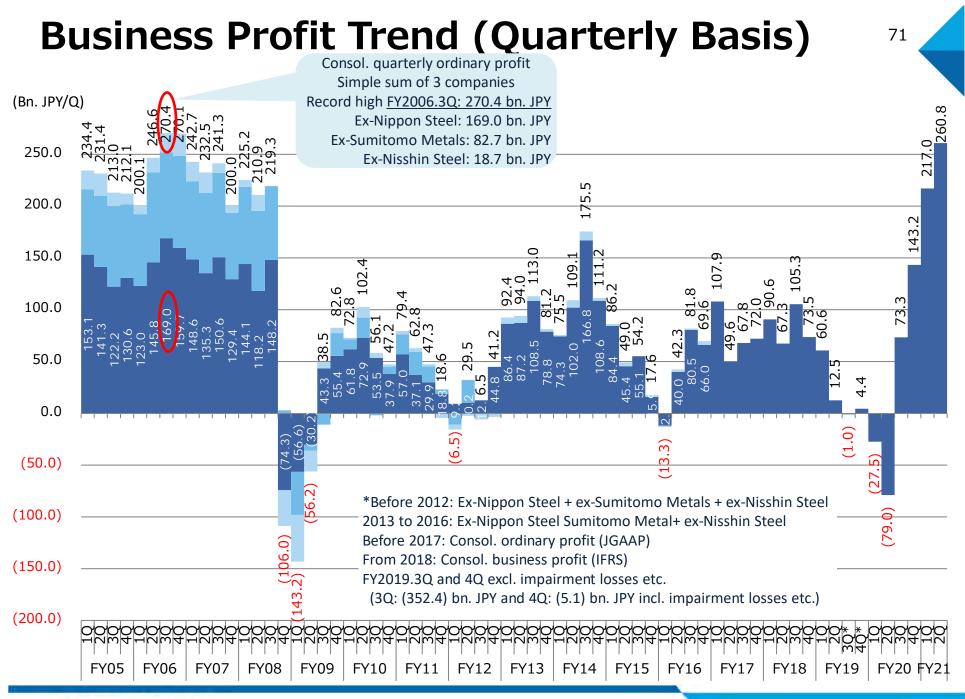




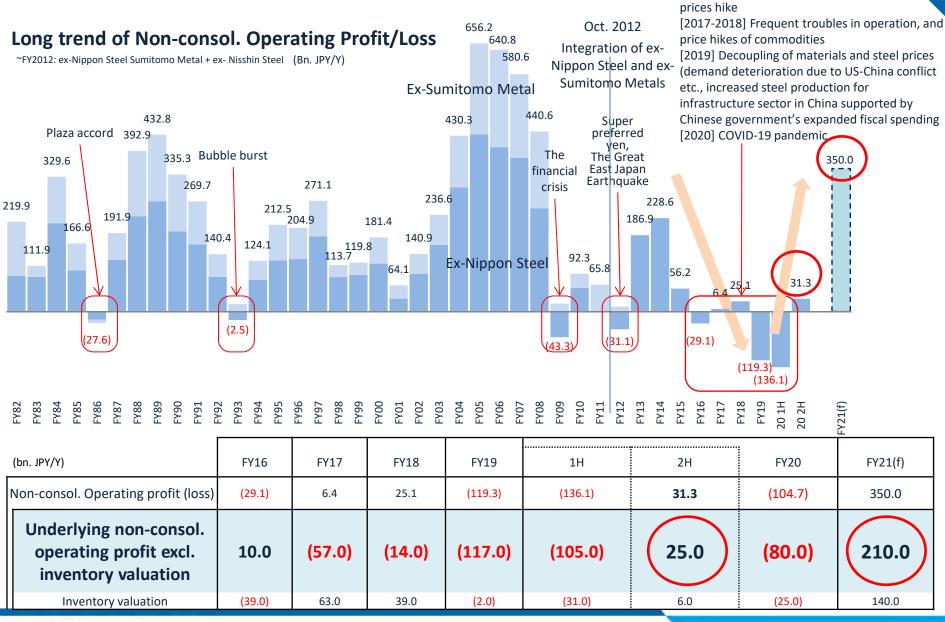
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#### **Tectonic Shift to Secure Non-consol. Operating Profit** [2016] Over capacity in China resulting



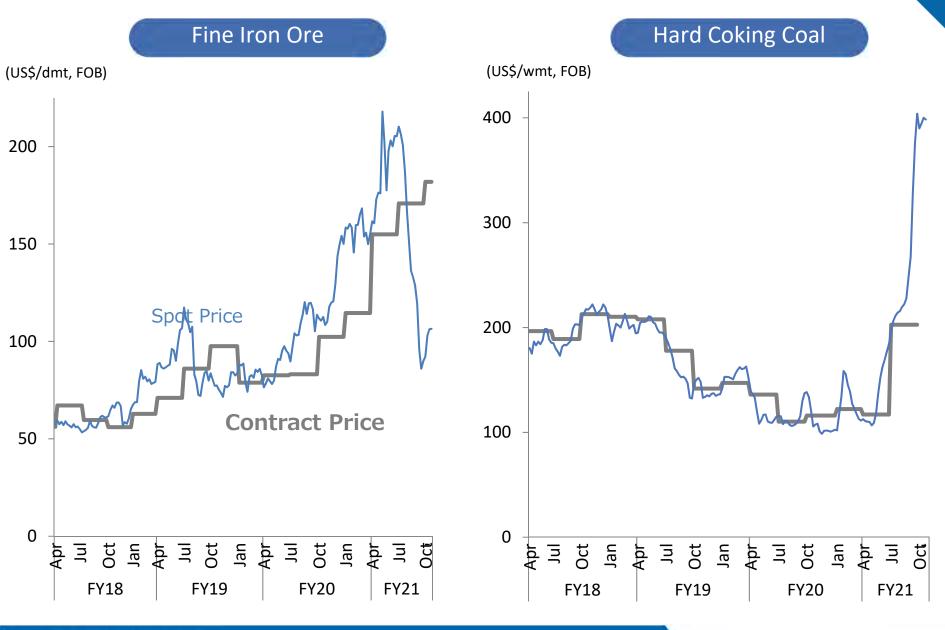
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enormous steel export from China, and coal

## **Raw Material Prices**



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## **FY2021** Earnings Summery

									change						
(bn. JPY)	1H	2H	FY2020	Prev. 1H(f)	1H	2H (f) <sub>*5</sub>	Prev. FY2021(f) <b>*4</b>	FY2021 (f) <sub>*5</sub>	FY20.1H →FY21.1H	FY20.2H →FY21.1H	FY21.1H →FY21.2H(f) *5	FY20 →FY21(f) *5	Prev. FY21(f) →FY21(f) <b>*4</b> *5		
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		
<b>Business Profit</b>	(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 Item	is (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 <sub>*1</sub>	(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

\*2 Business profit + depreciation cost

\*3 EBITDA/ consolidated crude steel production

\*4 Forecast as of Aug. 3<sup>rd</sup>, 2021 \*5 Forecast as of Nov. 2<sup>nd</sup>, 2021



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# **Operational Highlights**

Forecasts are rough figures .

							FY21	Change							
(MMT)	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) <b>* 2</b>	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/to	n) <b>83.6</b>	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 <b>+0</b>	Depreciated Yen <b>+4</b>	Appreciated Yen <b>-0</b>

**\*1** Forecasts as of Aug. 3<sup>rd</sup>, 2021

**\*2** Forecasts as of Nov. 2<sup>nd</sup>, 2021



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## **Key Indicators of Demand**

					FY21			Change						
[ Domestic ]		1H	2Н		1Q	2	2Q	1H	2H (f) *1	(f) *1	FY20 1H → FY21 1H	FY20 2H → FY21 1H	FY21 1H → FY21 2H(j *1	FY20 → FY21(f) *1
Housing Starts (mil. hous	ses)	0.41	0.40	0.81	0.2	2	0.22	0.45	0.41	0.86	+0.03	+0.05	-0.0	3 +0.05
Non-residential Construction Starts (mil.	m²)	23.37	21.55	44.92	12.7	6 1	0.91	23.67	22.50	46.20	+0.30	+2.12	-1.1	7 +1.28
Public Works Orders (bn. J	PY)	5,654	6,383	12,037	2,64	6 3,	,431	6,077	6,500	12,580	+423	-306	+42	3 +543
Finished Auto Productior (mil. un		3.33	4.63	7.97	1.9	6	1.64	3.60	4.60	8.20	+0.27	-1.03	+1.0	0 +0.23
Export of Finished Auto (mil. units)		1.46	2.22	3.68	0.9	8	0.83	1.81	2.20	4.00	+0.35	-0.41	+0.3	9 +0.32
Overseas Auto Production (8 Japanese car makers) (mil. units)		6.50	9.01	15.51	3.9	3	3.50	7.43			+0.93	-1.59		
Large & Middle Sized Shovel Production <sub>(thousand un</sub>	iits)	32	42	74	2	3	22	45	45	90	+13	+3		1 +16
Metal Machine Tool Production (thousand to		112	137	249	7	9	80	159	180	340	+47	+22	+2	1 +91
Keel-laid New Ships (mil. gross tons)		4.82	4.68	9.50	1.9	0	2.05	3.95	4.65	8.60	-0.87	-0.73	+0.7	-0.90
Rig Count CY1		CY13	CY14	CY15	CY16	CY17	CY18	CY19	CY20	Late	est	Peak		Bottom
USA	1,919	1,761	1,862	977	510	875	1,032	2 <b>944</b>	436	479	(Jul.16 <sup>th</sup> )	<b>2,031</b> (S	ep-08)	<b>44</b> (Aug-20)
Deep well (≧15,000ft)	324	326	354	205	126	222	230	227	104	169	(Jul.16 <sup>th</sup> )	413 <sup>(N</sup>	ov-11)	<b>55</b> (Sep-20)
World Total Excl. N. America, Russia & China	1,234	1,296	1,337	1,167	955	948	988	3 <b>1,098</b>	825	758	(Aug-21)	<b>1,382</b> (	<sup>Jul-14)</sup> 6	56 (Oct-20)

Source: Baker Hughes, Smith international, Nippon Steel's estimate

**\*1** Forecasts as of Nov 2<sup>nd</sup>, 2021



# **Domestic Steel Consumption by Industrial Sector**

		FY20					FY21				Change					
(MMT)	1H	2H		1Q	2Q	Prev. 1H(f) <sub>*1</sub>	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) $\rightarrow *1$ FY21(f) *2	
Domestic Crude Stee 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	or 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 Machin	e <b>1.93</b>	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 Machin	e <b>1.27</b>	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. 3<sup>rd</sup>, 2021 **\*2** Forecasts as of Nov. 2<sup>nd</sup>, 2021





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

(GDP growth rate)

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

Source : IMF



## **World Crude Steel Production**

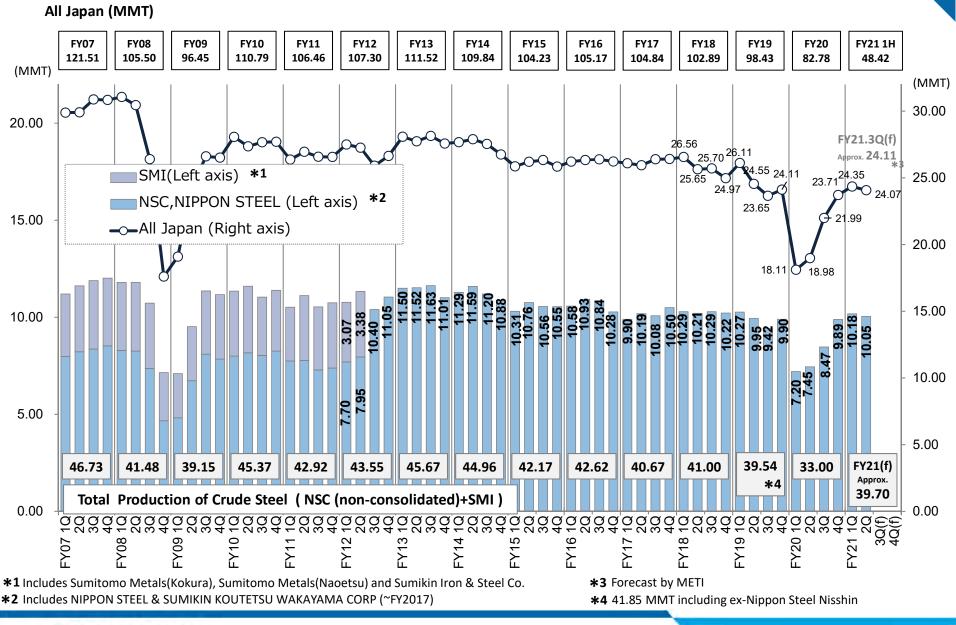
	CY19			CY20						CY21					
(MMT)		Jan - Mar	Apr - Jun	Jul - Sep	Oct Dec.	[A]	Jan - Mar	Apr - Jun	Jul	Aug	Sep	Jul - Sep	Jan Sep. [B]	[C] (B*12/9)	Change [A] →[C]
World <b>*</b> Total	1,844.1	443.0	438.5	474.7	482.0	1,838.2	486.9	514.3	159.4	154.4	144.4	458.2	1,459.3	1,945.7	+107.5
[YoY]	[+3.1%]	[-1.1%]	[-8.7%]	[+2.3%]	[+6.7%]	[-0.3%]	[+9.9%]	[+17.3%]	[+1.7%]	[-3.1%]	[-8.9%]	[-3.5%]	[+7.6%]		
Japan	99.3	24.1	18.1	19.0	22.0	83.2	23.7	24.3	8.0	7.9	8.1	24.1	72.1	96.2	+13.0
[YoY]	[-4.8%]	[-3.4%]	[-30.7%]	[-22.7%]	[-7.0%]	[-16.2%]	[-1.7%]	[+34.4%]	[+32.5%]	[+22.9%]	[+25.6%]	[+26.9%]	[+17.9%]		
Korea	71.4	16.9	15.6	17.1	17.5	67.1	17.6	17.6	6.1	6.1	5.5	17.7	52.9	70.5	+3.4
[YoY]	[-1.5%]	[-4.8%]	[-14.7%]	[-3.3%]	[-1.2%]	[-6.1%]	[+3.9%]	[+13.2%]	[+10.8%]	[+5.7%]	[-5.0%]	[+3.7%]	[+6.7%]		
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	995.8	233.9	272.1	284.3	271.1	1,061.4	269.0	291.2	86.8	83.2	73.8	243.8	804.0	1,072.0	+10.6
[YoY]	[+7.9%]	[+1.5%]	[+4.2%]	[+10.8%]	[+9.5%]	[+6.6%]	[+15.0%]	[+7.0%]	[-8.4%]	[-13.2%]	[-21.2%]	[-14.2%]	[+1.7%]		

Source : World Steel Association

\* Total of 64 countries



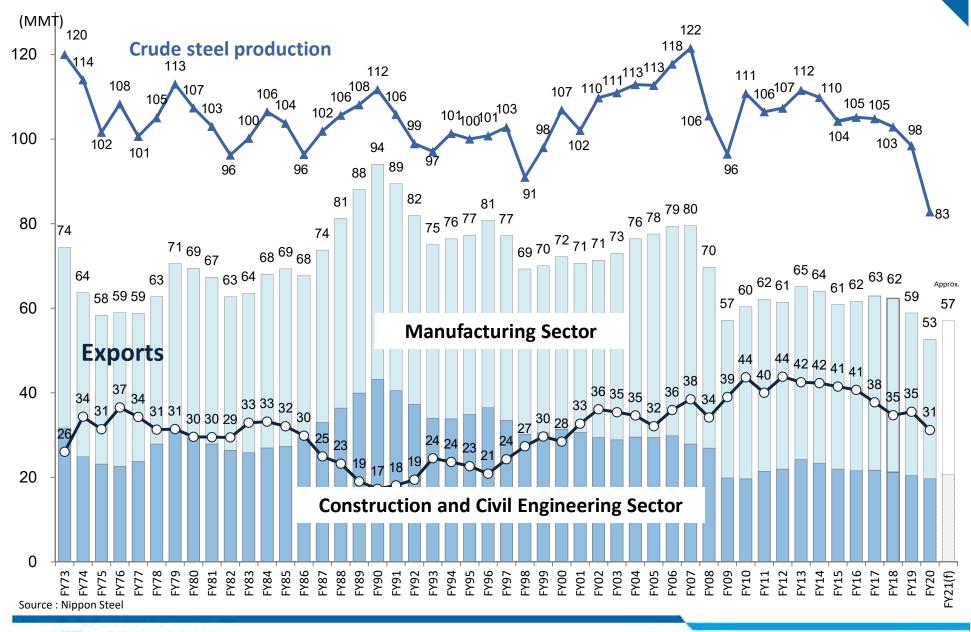
### **Domestic Crude Steel Production**



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#### **Domestic Steel Consumption Trend**



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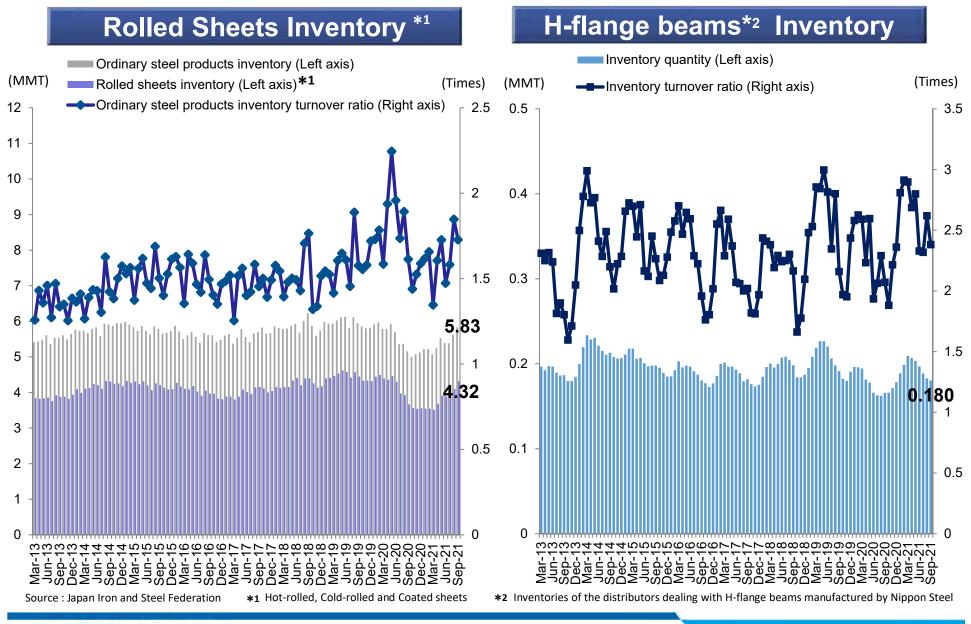
#### **Domestic Steel Products Spot Prices**

**Plates & H-flange beams** Hot-rolled sheets & Cold-rolled sheets (k JPY / ton ) (k JPY / ton ) 140 140 137.0 H-flange beams (200×100) Hot-rolled sheets (1.6xS) 130 130 128.0 Plates(19mm) Cold-rolled sheets (1.0xS) 122.0 120 120 110 110 108.0 100 100 90 90 80 80 70 70 60 60 50 50 0 0 Andrew Construction of the second sec Sun-2200 Sun

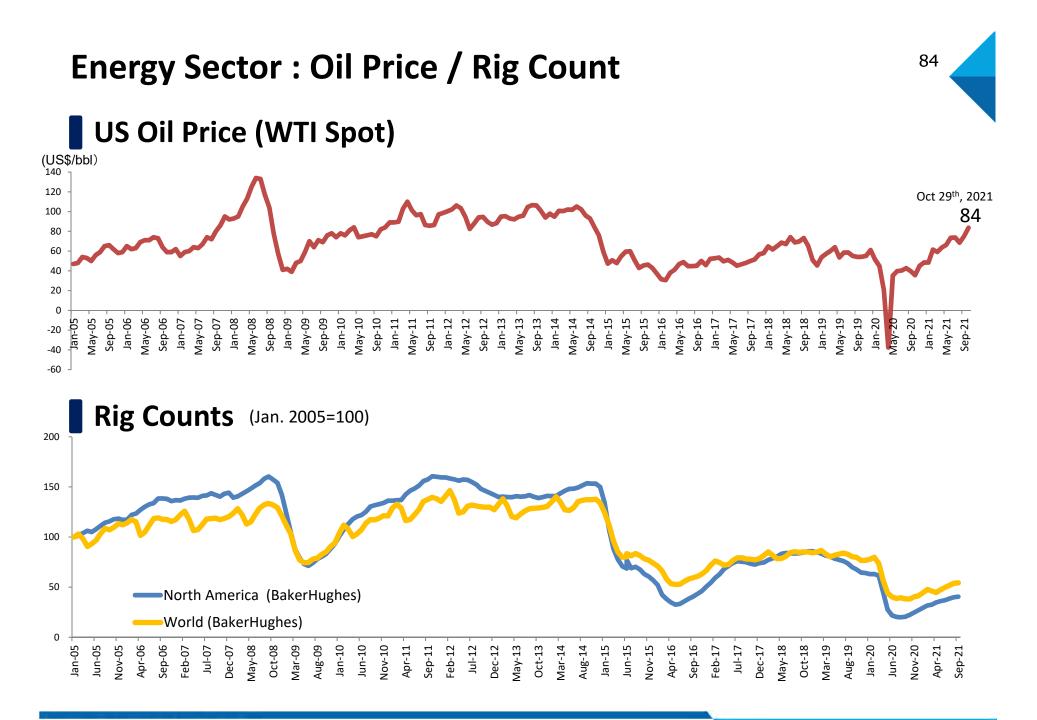
Source : Japan Metal Daily



#### **Domestic Steel Inventory**



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