TYO : 5401 OTC : NPSCY(ADR)



# FY2021 1Q Earnings Summary

Aug 3<sup>rd</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 1Q Earnings Summary and FY2021 Forecast

- **2. Business Environment**
- **3. Supplementary Material for Financial Results**
- 4. Nippon Steel Engineering's Initiatives for Decarbonization and Low-carbonization

### **5. 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



# FY2021.1Q Earnings Summary and FY2021 Forecast

- Business performance in FY2021 is expected to be a strong V-shaped recovery due to drastic cost reduction in the previous year, selection and concentration of orders with limited integrated capacity, earnings improvement in overseas group companies, etc. The consol. business profit is expected to be record high since the integration of ex-Nippon Steel and ex-Sumitomo Metals.
- Underlying business profits in 1H and 2H excluding inventory valuations and impact on cost and volume due to relining Nagoya BF are expected to be in same level. (240.0 bn. JPY/HY each)

	2H	FY2020	1Q	1H(f)	Vs. FY2020 2H	2H(f)	Vs. FY2021 1H(f)	FY2021(f)	Vs. forecast as of May 7 <sup>th</sup>
Non-consol. crude steel production (MMT)	18.36	33.00	10.18	Approx. 20.50	Approx. <b>+2.14</b>	Approx. <b>19.50</b>	Approx. <b>-1.00</b>	Approx. <b>40.00</b>	-
Non-consol. steel shipment (MMT)	16.77	31.22	9.20	Approx. 18.80	Арргох. <b>+2.03</b>	Approx. <b>17.70</b>	Арргох. <b>-1.10</b>	Approx. <b>36.50</b>	Арргох. <b>+0.50</b>
Sales (Bn. JPY)	2,587.2	4,829.2	1,503.1	Approx. <b>3,100.0</b>	Арргох. <b>+512.8</b>	Approx. <b>3,400.0</b>	Арргох. <b>+300.0</b>	Approx. <b>6,500.0</b>	Арргох. <b>+500.0</b>
Consol. business profit (Bn. JPY)	216.5	110.0	217.0	Approx. 350.0	Approx. +133.5	Approx. 250.0	Approx. -100.0	Approx. 600.0	Approx. +150.0
ROS	8.4%	2.3%	14.4%	Approx. 11.3%	Арргох. <b>+2.9%</b>	Approx. <b>7.4%</b>	Арргох. <b>-3.9%</b>	Approx. <b>9.2%</b>	Approx. <b>+1.7%</b>
Underlying business profit *				Approx. 240.0		Approx. 240.0		Approx. 480.0	

\* Excl. inventory valuation, impact to cost and volume due to relining Nagoya BF.



Consol. Business Profit Variance									
(Bn. JPY)	2020 2H 216.5 ↓ 2021 1H(f) 350.0	2021 1H(f) 350.0 ↓ 2021 2H(f) 250.0	as of May 7 <sup>th</sup> 450.0 ↓ 2021(f) 600.0						
Consol. Business Profit Variance	+133.5	-100.0	+150.0						
Volume	+45.0	-35.0	+5.0						
Steel prices, product mix, raw materials	+44.0	+25.0	+70.0						
Cost reduction	+5.0	+5.0	~						
Domestic group companies	-20.0	+10.0	+5.0						
Overseas group companies	+50.0	-30.0	+70.0						
Consol. inventory valuation	+98.0	-65.0	+40.0						
Non-steel businesses	-17.0	+6.0	+7.0						
Others	-71.0	-16.0	-47.0						



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# V-shaped Recovery of Consol. Business Profit

Aiming to reach record-high profit after integration of ex-Nippon Steel and ex-Sumitomo Metals even with low production and shipment volume in FY2021 (crude steel production volume vs. FY2014 approx. -20%)

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Also aiming ROS of approx. 10% in FY2025, even though volume would further decrease



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

# Steady improvement of operation

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

Tenacious negotiation with customers to realize fair appropriate long-term contractual steel prices <u>Correction of long-term contractual steel prices to</u> <u>secure fair appropriate margin on an international level</u> is needed for keeping our stable supply of, and R&D and investment in high-quality products which customers demand, and we are negotiating with customers from the following perspectives:

- <u>A fair allocation of cost burden for raw materials and</u> <u>commodities among players in the supply chain</u>
- <u>Reflection in steel prices of our high value-added</u> product qualities and solutions

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



**Establishment of furtherly stronger profit structure** by steadily implementing production facility structural measures regardless of short-term improvement of business environment.

#### Effect of structural measures in FY2021: 20.0 bn. JPY/Y

(the accumulation of the effects so far: 55.0 bn. JPY out of 150.0 bn. JPY) Facilities to be shutdown in FY2021 by the end of 1H: upstream facilities in Kure Area, a series of upstream facilities in Wakayama Area, etc. by the end of 2H: steel plate mill in Nagoya Works Major CAPEX within FY2020.4Q~FY2021: 6CGL in Kimitsu Area to start full operation #3 coke oven in Nagoya Works to start operation, #3BF in Nagoya to be refurbished

Deepening and expansion of overseas business

**Production facility structural** 

measures

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

> Implementation of DX strategy

- Thorough implementation of selection and concentration and capturing global demand growth. (The profit from overseas businesses is expected to be at a record-high level)
- Steady implementation of growth strategy such as capacity expansion in AM/NS India, the profit of which has radically improved lately.
- Reorganization to aim developing and practically implementing breakthrough technologies ahead of other countries (Zero-carbon steel project has been launched on Apr. 1<sup>st</sup>, 2021.) (Zero-carbon committee was established in Apr., 2020.)
- Reinforcement of high-functionality products which meet to emerging needs for carbon neutrality (electrical steel sheet, ultra-high-tensile strength steel sheet, etc.)
- Productivity improvement by utilizing IoT and AI: remote operation support, visualization of facility maintenance, predictive monitoring, etc.
- Company-wide optimization of production control by centralized data management on order to manufacturing

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# **Deepening and Expansion of Overseas Businesses**

Profit from overseas businesses in CY2021 1H (Jan.-June) is expected to be at record-high level due to the steady capturing of robust demand and completion of withdrawal from unprofitable businesses through thorough selection and concentration.



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# Additional Line Items, Net Profit, Interim Dividend

		7						
(Bn. JPY)	FY2020	1Q	1H(f)	FY2021(f)	Vs. previous forecast as of May 7 <sup>th</sup>			
Consol. business profit	110.0	217.0	Approx. <b>350.0</b>	Approx. 600.0	Approx. +150.0			
Additional line items	(98.6)	39.3	Approx. <b>(45.0)</b>	Approx. <b>(90.0)</b>	Approx. -5.0			
Net profit (loss)*	(32.4)	162.1	Approx. 200.0	Approx. <b>370.0</b>	Approx. +130.0			

\* Profit (loss) attributable to owners of the parent



#### <Additional line items>

	FY2020: (98.6) bn. JPY
	Losses on inactive facilities: (79.9) bn. JPY
s	(upstream facilities in Kokura Area (39.8) bn. JPY, Nippon Steel
h	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.)
	EV2021/f) additional line items: (90.0) hp. JPV
	Losses on inactive facilities etc.: approx. (130.0) bn. JPY
	(1H(f): upstream facilities in Kure Area, a series of upstream
	facilities in Wakayama Area, etc.
	2H(f): steel plate mill in Nagoya Works, large-shape mill and
	UO pipe mill in Kimitsu, etc.)

9

Gain on sale of land (ex-Tokyo Works etc.): approx. 40.0 bn. JPY

#### <Interim dividend>

In accordance with the dividend policy, we plan to pay <u>55 JPY/share (consol.</u> <u>pay-out ratio: approx. 25%)</u> taking into account the business outlook for the current fiscal year.

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### **Domestic Steel Demand**



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11

17.5

9.3

8.2

1H(f) 2H(f)

FY2021

(MMT)

10.3

3.4 ¦ 3.8

6.4 | 6.5

1H(f) 2H(f)

FY2021

9.9

(MMT)

18.9

9.8

9.1

# **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 remain high.

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)

\* The beginning of CY2016=1,

(as for export freight, the beginning of Nov., 2017=1)

Prices of commodities including freight costs are rising recently.

As for raw materials, prices such as lump iron ore premium are rising.



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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 in Japan has been rising recently, but are still relatively lower than international levels.



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

(Bn. JPY)	FY20 2H [A]	FY20 FY21 2H 1H(f) [A] [B]			
Business Profit	216.5	350.0	+133.5		
<underlying profit=""></underlying>	<204.5>	<240.0>	<+35.5>		
Steel	180.2	340.0	+159.8		
Non-steel	35.0	18.5	-16.5		
Adjustment	1.2	(8.5)	-9.7		

\*1 Crude steel production: approx. +2.14 MMT (18.36->approx. 20.50) Steel shipment: approx. +2.03 MMT (16.77->approx. 18.80) **\*2** Incl. carry over +47.0 (23.0->70.0)

- **\*3** Incl. increase in depreciation cost -13.0
- **\*4** Improve: Stainless steel, Sanvo Special Steel, etc. Deteriorate: Re-rollers, operational supports, etc.

**\*5** Engineering -10.4, Chemicals & Materials -3.7, System Solutions -2.3



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

(Bn. JPY)	FY21 1H(f) [A]	FY21 FY21 1H(f) 2H(f) [A] [B]			
Business Profit	350.0	250.0	-100.0		
<underlying profit=""></underlying>	<240.0>	<240.0>	<->		
Steel	340.0	230.0	-110.0		
Non-steel	18.5	24.5	+6.0		
Adjustment	(8.5)	(4.5)	+4.0		

\*1 Crude steel production: approx. -1.00 MMT (approx. 20.50->approx. 19.50) Excl. one-off factor: approx. -0.60 MMT (approx. 20.50->approx. 19.90) Steel shipment: approx. -1.10 MMT (approx. 18.80->approx. 17.70) Excl. one-off factor: approx. -0.70 MMT (approx. 18.80->approx. 18.10)
\*2 Incl. carry over -14.0 (70.0->56.0)
\*3 Incl. increase in depreciation cost -8.0
\*4 Improve: Re-rollers, operational supports, etc. Deteriorate: Sanyo Special Steel, EAFs, etc.

**\*5**Engineering +4.0, Chemicals & Materials -1.0, System Solutions +3.0



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

	(Bn. JPY)	FY20 [A]	FY21(f) [B]	Change [A→B]	
ſ	Business Profit	110.0	600.0	+490.0 <+339.0>	
	<underlying profit=""></underlying>	<141.0>	<480.0>		
	Steel	63.5	570.0	+506.5	
	Non-steel	49.2	43.0	-6.2	
	Adjustment	(2.7)	(13.0)	-10.3	



**\*5** Engineering -13.7, Chemicals & Materials +6.4, System Solutions +1.1



### Business Profit Variance (Prev. FY21(f) as of May 7th vs. FY21(f))

	(Bn. JPY)	Prev. FY21(f) [A]	FY21(f) [B]	Change [A→B]		
$\square$	Business Profit	450.0	600.0	+150.0		
•	<underlying profit=""></underlying>	<366.0>	<480.0>	<+114.0>		
	Steel	420.0	570.0	+150.0		
	Non-steel	36.5	43.0	+6.5		
	Adjustment	(6.5)	(13.0)	-6.5		

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\*1 Crude steel production: +0.00 MMT (approx. 40.00->approx. 40.00) Steel shipment: approx. +0.50 MMT (approx. 36.00->approx. 36.50)

**\*2** Incl. carry over +84.0 (42.0->126.0)

\*3 Improve: Stainless steel, Sanyo Special Steel, EAFs, etc.

**\*4** Engineering +1.0, Chemicals & Materials +5.5, System Solutions +0.0



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# **Non-Steel Businesses**



0										Prev			
& BUSINESS Pr (3 non-steel busines	SSES tot	tal) (bn.	JPY)	Engineering & construction	2H	FTZU	1Q	1H(f)	Prev. FY21(f)	(f)	FY20→ FY21(f)	FY21(f)→ FY21(f)	
122.3 407.0	Rever	nue	422.0	Revenue	172.9	324.4	59.1	120.0	270.0	280.0	-44.4	+10.0	
<b>0</b> 352 2	403.4	372.(	423.0	Business profit	10.4	17.7	(0.5)	0.0	3.0	4.0	-13.7	+1.0	
552.2		$\sim$		Chemicals &		FY20				FY21	FY20→	Prev.	1
55.3				Materials	2H		1Q	1H(f)	FY21 prev. (f)	(f)	FY21(f)	FY21(f)→ FY21(f)	
49.2	2	43	.0	Revenue	99.7	178.6	57.8	125.0	200.0	250.0	+71.4	+50.0	
		[]		Business profit	11.2	7.6	6.2	7.5	8.5	14.0	+6.4	+5.5	
31 5	35.0			System Solutions		FY20				FY21	FY20→	Prev.	
23.8		18.5	24.5		2H		1Q	1H(f)	FY21 prev. (f)	(f)	FY21(f)	FY21(f)→ FY21(f)	
s profit		_	, <b>–</b> – ,	Revenue	130.7	252.4	66.4	127.0	265.0	265.0	+12.6	+0.0	
FY19 FY19 FY20 1H 2H 1H	FY20 2H	FY21 1H (f)	FY21 2H (f)	Business profit	13.3	23.9	7.7	11.0	25.0	25.0	+1.1	+0.0	
				FY2020 vs. F	Y202	1(f)							
While the strong inve FY2020 due to a decre environment and ene	While the strong investment in the energy sector is expected, the business environment is expected to be worse than FY2020 due to a decrease in investment in steel mills, a cyclical drop in sales for large-scale construction project in environment and energy sectors, and intensifying competition in urban infrastructure sector, etc.												
The revenue and profit are expected to increase due to the recovery of demand and prices of needle coke ahead of forecast and improving sales of functional and composite materials.													
													ĺ



Segment

**Engineering &** Construction

**Chemicals &** 

Materials

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#### **Nippon Steel Engineering:** 24 Making engineering solution to the formation of a decarbonized and recycling-oriented society as a main business domain



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### Nippon Steel Engineering's carbon neutral-related products

#### **STAGE-1**

#### Offshore wind power plant



Abundant achievements and experience in marine engineering Provide integrated service from designing, manufacture, construction, operation to maintenance of offshore wind power generation facilities.

#### Sewage sludge biomass "J-COMBI System""



Adoption by local governments is accelerating

Converts sewage, which has been disposed of by landfill or incinerator, into carbon-neutral coal alternative fuel by using granulation and drying process.

#### Coke dry quenching (CDQ)

A system where hot coke removed from coke ovens at a temperature of approximately 1,000° C is cooled and kept dry with inert gas and the resulting steam produced in a waste heat recovery boiler is used to generate electricity.

#### **Geothermal power plant**



### Domestic share: over 50% (steam production facility)

25

Since 1980's, we have been working on designing, material procurement and construction of steam production facilities for geothermal power generation use. Binary power generation system has also been on sale

We are working on construction of

a large-scale wood biomass power

generation plant taking advantage

engineering know-how acquired

over many years in the group

of the power generation

### Biomass power plant since 2016 largest class biomass power plant in Japan (75MW) stated





#### Waste to energy plant

Electric power generated by residual heat of waste disposal is "local production for local consumption", which is a stable clean energy. We are contributing to the formation of a "regional circular and ecological spheres" through the supply of electricity from 35 waste to energy plants nationwide.

STAGE-2

Products we aim to

disseminate

#### Hydrogen refueling station etc.



In partnership with Air Products & Chemicals, Inc. (USA), we are working to realize a hydrogen society in Japan with highly safe field-proven technology.

#### **Energy Saving CO₂ Absorption Process ESCAP<sup>™</sup>**



Enables separation and recovery of high-purity  $CO_2$  from gases including  $CO_2$  with other impurities, and it can be applied to food and chemical raw material uses CO2 removal in chemical processes, CCS and crude oil mining, etc.



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### Nippon Steel Engineering's Strengths in Offshore Wind Power Plant Busines<sup>26</sup>

Highly successful track record of marine steel structure construction in domestic and overseas marine resource development projects, i.e. specialized technologies and know-how, the best in Japan

- Designing Capability that meets domestic technical standards and that takes into consideration the natural conditions unique in Japan.
- In-house yards in Japan and overseas where foundation structure can be fabricated with many track record of fabrication and installation of jacket-type structures\*
  \*Marine steel structure foundation with steel pipe truss and piles
- Two vessels for marine construction owned, equipped with derrick cranes

DLB (Derrick Lay Berge) Kuroshio, equipped with a high-performance derrick crane (2,500 ST capacity) and capable of 24-hour construction, has highly successful track records of offshore installations. (Now in service in ASEAN)



Jacket structure (for revetment)









2MW wind power generation plant under construction (floating type)



Offshore wind power demonstration research in Kitakyushu City (bottom mounted type)



DLB (Derrick Lay Berge) Kuroshio





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**Topics - ESG** \*NEDO: The New Energy and Industrial Technology Development Organization (A national research and development agency)

# Started technological development that contributes to multifaceted use of marine biomass for steelmaking

- 3 organizations including Nippon Steel and Nippon Steel Chemical & Material were awarded the contract of the R&D project on blue carbon technology announced by NEDO\*.
- > We are considering the use of blue carbon in steelmaking process.

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We will actively breed seaweed by utilizing the technology which has been developed in the creation of seaweeds beds using steel slag generated in steelmaking process.

### Selected for the "FTSE4Good Index Series", "FTSE Blossom Japan Index", leading indices for ESG investment four years in a raw

- Nippon Steel Solutions was also selected for both indices three years in a raw.
- URL: FTSE4Good Index Series <u>https://www.ftserussell.com/products/indices/FTSE4Good</u> FTSE Blossom Japan Index <u>https://www.ftserussell.com/products/indices/blossom-japan</u>

#### Seamless OCTGs, line pipes, and SMart BEAM<sup>™</sup> were given EcoLeaf Environmental Labels

- > Our seamless OCTG and line pipes were given EcoLeaf labels first for steel pipe products made in Japan.
- SMart BEAM<sup>TM</sup> was given EcoLeaf label first in Japan as a welded lightweight H-section beam. SMart BEAM<sup>TM</sup> is an H-section beam continuously manufactured from a hot-rolled steel sheet with highfrequency resistance welding. It is thicker and has more precise dimension than normal hot-rolled H-section beams.
- We have acquired 15 EcoLeaf environmental labels for our products. We will continue to aim for acquiring the label for other products.



FTSE Blossom

Japan





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### Started research, development and demonstration projects on CO<sub>2</sub> ship transportation

- Japan CCS Co. Ltd. (JCCS), Engineering Advancement Association of Japan (ENAA), Itochu Corporation, and Nippon Steel have been awarded the contract of the projects announced by NEDO\*.
- In collaboration with Itochu, we will study business models regarding CO<sub>2</sub> transportation from various mass CO<sub>2</sub> emission sources in Japan, including the steel industry, for the purpose of CCUS.

### High alloy OCTG seamless pipe selected by CCS project in the North Sea

- Selected by Northern Lights Joint Venture, CCS project, which is lead by Equinor ASA (Headquarters: Kingdom of Norway). Supply starts in October 2021.
- The high alloy OCTG has been proven to perform the world's best corrosion resistance and can be used in a high concentration CO<sub>2</sub> environment without causing corrosion.



- Succeeded in world's first "green" direct synthesis of polycarbonate diol from CO<sub>2</sub> and diol at atmospheric pressure without using dehydrating agents in collaboration with Osaka City University and Tohoku University. This effective catalytic process includes use of CeO<sub>2</sub> as a catalyst and was published in Green Chemistry.
- This new catalytic process is expected to contribute to the chemical CO<sub>2</sub> immobilization, and we plan to improve and scale up the process for future commercial use.







# **Topics – Sophistication of product mix**

### Expansion of NSafe<sup>™</sup>-AutoConcept solutions lineups

#### New technologies developed:

- 1) Press forming technologies for ultra-high-tensile strength steel and hot stamp steel
- 2) Evaluation and analysis technologies (for car body rigidity and crash test, virtual designing, etc.)
- Lineups expansion:
  - 1) For electric vehicles: integrated solution for battery, car body structure including battery box, motor, etc.
  - 2) For next-generation automobiles: dieless forming solution ideal for multi-model small lot production
- Nippon Steel Automobile Online Lab:

The contents of the latest products and technologies we propose for the development of next-generation automobiles are available (only in Japanese) on the special page in our website.

https://www.nipponsteel.com/product/use/car/ auto\_online/index.html



### Development of visible light responsive-type photocatalytic steel sheet (anti-virus)

- We have developed a visible light responsive-type photocatalytic steel sheet with an antiviral effect using titanium oxide. The product development is the world's first; <u>99.99%\* of virus on the steel sheet was</u> inactivated at as a low illuminance level as an indoor environment; the antiviral effect is given by adding a photocatalytic function to a surface-treated steel sheet without damaging the stylish design.
- We have evaluated and confirmed the effect with our hairline-finished electroplated steel sheet, FeLuce<sup>®</sup> and are <u>now verifying the inactivation of COVID-19</u>.

\*The data was obtained by conducting testing according to JIS R 1756 and is not intended to warrant the prevention of infection in the actual environment. The actual effectiveness varies depending on what conditions the product is used in and how it is used.

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# (Appendix) China's Policy Regarding Steel Industry

**1. Steel production cutbacks** 

- Jan. 26<sup>th</sup> : Ministry of Industry and Information Technology announced crude steel production cutbacks in 2021.
- Mar. 24<sup>th</sup> : Announced production cutbacks by 30% for sintering, blast furnace, and oxygen furnace in Tangshan city to reduce CO2 emissions from March 20<sup>th</sup> to the end of December.

#### 2. Re-inspection for capacity reduction and announcement of crude steel production cutbacks

- Apr. 1<sup>st</sup>: The National Development and Reform Commission and the Ministry of Industry and Information Technology announced that they will conduct a nationwide survey of capacity reduction status that has been conducted since 2016, and also announced to reduce crude steel production.
- May 10<sup>th</sup> : Specifically announced that a site inspection was to be conducted from June 1<sup>st</sup> to around the end of July.

#### 3. Revision on VAT refund rate for export and import tariffs

- Apr. 28<sup>th</sup> : The Ministry of Finance, etc. announced abolishment of the full refund of 13% VAT on almost all hot rolled steel products and color-coating steel sheets (export volume of the target products in 2020 was approx. 36 million tons) and exemption of 2% import tariffs on pig iron, scrap, semi-finished products, etc. from May 1<sup>st</sup> customs clearance. (import volume of the target products in 2020 was approx. 27 million tons)
- \* There had been many speculation articles about the introduction of this policy from the end of Jan.

#### 4. Revision on capacity replacement policy

May 6<sup>th</sup>: The replacement ratios for capacity swaps were revised to no less than 1.5:1 in priority areas such as Hebei, Yangtze River Delta, Pearl River Delta, etc. (previously 1.25:1), and 1.25:1 in the other areas (previously no restrictions). As for companies to be merged, the ratios were also revised to no less than 1.25:1 in priority areas and 1.1:1 in the other areas.

There are some reports that: export tax are under consideration / production cutbacks to be strengthened in the second half.

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## Agenda

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- **3. Supplementary Material for Financial Results**
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- **5. 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** 



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

Legend : New measure 🛠 Plan 🛧 Done 🛠 Cancelled

\*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 End of FY20: full-scale operation started May-19: completion  $\star$ (Tobata) New continuous casting (Tobata) Closure of a continuous casting × End of FY20: closure (Kokura) Closure of the upstream processes End of EY20: closure - Schedule moved up 🛨 Sep-20: closure Feb-20 Upstream  $\bigstar$ End of FY211H: closure  $\bigstar$ End of FY23 1H: (Kure) Closure of the upstream processes Feb-20 of upstream processes closure of the others and the hot-rolling lines ★ EY22 1H: closure Feb-20 (Wakavama) Closure of a BF 🔀 FY22 1H: closure of #4 coke oven, etc. and related facilities The end of FY21 1H: closure of #1BF, Mar-21 - Schedule partially moved up #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 🛠 EV22 2H: closure Feb-20 🔀 The end of FY21: closure - Schedule moved up Nov-20 (Kashima) Closure of the steel plate mill 🔀 FY24 2H: closure 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 - withdrawal from UO pipe business Pipe (Kimitsu) Closure of the UO pipe line Mar-21 & 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)

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

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	9 X FY21 2H: closure							
	- Schedule moved up (Hanshin Sakai)Closure of some sheet lines	Feb20	The end of FY20: closure							
Ste	Closure of some hot-dip galvanizing lines	Mar21	The end of FY22: closure (1G/ The end of FY22: closure (1G/ The end of FY24: closure (1CGL)							
el she	(Kashima) Closure of a pickling lines	Mar21	The end of FY22 1H: closure							
	(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 the end of FY23							
	(Wakayama) Closure of all steel sheet lines	Mar21					The end of FY24 1H:			
	(Kimitsu) Closure of a hot-dip galvanizing line	Mar21	The end of F							
Titan special sta	(Oita Hikari Pipe & Tube) Closure of titanium welded pipe production line	Feb20	The end of FY21 1H: closure							
	(Naoetsu) Closure of a special stainless steel line	Mar21	The end of FY21: closure							
inless	(Kansai Osaka) Closure of the titanium raw material plant	Mar21	The end of FY22 1H: closure							
steel	(Kansai Osaka) Closure of the special equipment for titanium round bar manufacturing	Feb20				T	The end of FY22: closure			
S	(Nippon Steel Stainless Steel Kinuura) Closure of the hot strip mill - Schedule moved up	Feb20 Nov20	The end of Dec20: closure The end of Oct20: closure							
itain	Closure of the dedicated facility for production of precision products	Feb20	★ Sen -20: closure							
less	Closure of all other facilities	Mar21	The end of FY21: closure							
stee	(Nippon Steel Stainless Steel Kashima) Closure of a part of appealing lines	Mar21			★ Jun21:	closure				
	(Nippon Steel Stainless Steel Shunan)	Mar21			$\star$ The end of	FY20~	🔆 ~Jun26: closure			
	Closure of an EAF	Mar21					The end of FY23: closure			

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

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	Completior	ı				
(Hokkai) 5 Coke Oven	Jun-17	★ Sep-19 : Completion						
(Nagoya) 3 Coke Oven	Nov-18	(00		🖈 May	-21: Comple	tion		
(Yawata) New Continuous Casting Facility	Mar-16	★ May-19	: Completi	on				
(Hirohata) Scrap Melting Process	Nov-19	★ FY22 1H: EAF Completic ★ FY23 1H: Me furnace closu						
(NIPPON STEEL Structural Shapes) Close Steelmaking Mill Cancellation	Mar-18	18 End of FY19: Close steelmaking facility ar its production to Wakayama Works						
(Nagova) Installment of a next	Feb-20		ancelled t	ine shutdo	own of the	FY26.1Q: Start		
generation hot strip mill	Mar-21	operation (after the start of full oper of the new mill, the existing hot strip mill will be shutch						
				1				

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

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

Action	Publi- cation	~FY19	FY22~		
AM/NS India	Mar-18	<ul> <li>★ Mar-18: Basic agree</li> <li>★ Oct-18: CoC declar</li> <li>★ Mar-19 : A</li> <li>★ N</li> <li>★ C</li> <li>★ Capa</li> </ul>	ement ed AM as the succes AM's resolution plan ov-19 : AM's reso approved Dec-19: Joint acqu Mar-20: Loan ag tril-20: Acqu ncity expansion	ssful applicant was conditionally a plution plan was by Indian Suprer uisition completed reement with JBI uisition of OSPIL* from 7 to 14M	pproved by NCLT. ne Court. d C MT/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

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

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: S	topped producti	on				
Sale of Partnership Interests in I/N Tek and Kote (Cold rolled and galvanized steel sheet business in the US)		★ De	ec-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: Iss re	sue of international s garding life cycle inv	standard (ISO 20915) entory calculation methodology for steel products										
Eco-Products <sup>®</sup> High-Tensile Steel Sheet	★ Jan-19: Es "NSafe <sup>®-</sup> A	tablished 🛧 Jan utoConcept"	-21: Operation of 6CGL in Kimitsu Area started  The started Starte										
Electrical Steel Sheet	★ Aug- ★ Nov	<ul> <li>★ Aug-19: Electrical steel sheets CAPEX (Yawata #1) determined</li> <li>★ Nov-19: Electrical steel sheets CAPEX (Hirohata) determined</li> <li>★ May-20: Electrical steel sheets CAPEX (Yawata #2) determined</li> <li>★ Nov-20: Electrical steel sheets CAPEX (Hirohata #2) determined</li> <li>★ FY24 1H: (Hirohata #3) full operation</li> </ul>											
Others	★Sep-1 ★De	9: <u>Beverly®Unit</u> wor cc-19: 9 H-beams pro Mar-20: Mega NSH ★ Oct-20:	n the Excellence Award in EcoPro 2019 (Japanese preeminent environmental exhibition) oducts were given EcoLeaf environmental label IYPER BEAM ™ was given EcoLeaf 3 tinplate products were given EcoLeaf ★ May-21: OCTGs and line pipes were given EcoLeaf ★ Jul-21: SMart BEAM ™ was given EcoLeaf										
	ا★ ر	Feb-20: NSafe™-Hull Feb-21: NSafe™-H ★ Mar-21: NSafe™ ★ Apr-21: Ultra awa	was awarded Okochi Memorial Production Prize ull was awarded Japan Open Innovation Prize <sup>M</sup> -Hull was awarded Naoji Iwatani Memorial Award -high-tensile strength steel wire for bridge cables was rded Commendation for Science and Technology										
Eco-Solution	★ Dec-16: Achieved ★ Dec-16: Achieved (10)	a cumulative total c a cumulative total c )6 as of the end of F	of 50 CDQ* orders in China (73 as of the end of FY18) of 100 CDQ* orders overseas Y18, 20.74 MMT-CO2 / year of CO2 emission reduction)										
Aiming for	★ May-19 ★Oct-	: Expressed our sup 19: Integrated repo	port for recommendations of TCFD rt and sustainability report were published										
Carbon-free and	★ De	ec-19: Held the 1 <sup>st</sup> su ★Jun-20 : Expre	ustainability briefing ssed support for "Challenge Zero" program of Japan										
Circular Society		Busin	ess Federation, and released 10 innovative challenges										
Nippon 2030	Steel has annour Target: 30% or r	nced CO2 emissi more reduction	Japan Index", Leading Indices for ESG Investment 4 years in a row ons reduction scenario in total CO2 emissions vs 2013										
2050	Vision: Carbon	neutral											

#### Progress: Digital Transformation, Responses to Work Style Change 40

Legend : New info 🛧 Plan 🛧 Done 🛠 Cancelled

## **Enhancement of Digital Transformation**

Action	~FY19	FY20	FY21~							
Reorganization to Enhance Digital Transformation	<ul> <li>★ Apr-16: Newly</li> <li>★ Apr-16: NSSOL</li> <li>★ Oct-17: NSSOL</li> <li>★ Apr-18: Newl</li> </ul>	-created "Advanc newly-created "I newly-created " y-created Intellige Apr-20: Newly-	ed Application Technology Planning Dep." oX Solution Business promotion Dep." AI Research & Development Center" ent Algorithm Research Center created "Digital Innovation Div."							
Utilizing Advanced IT in Steelmaking	★ Sep-18: Co ★ Apr-1	mpany-wide Safe 9: Introduction of ★ Jun-20: Imp	ty Support Project (Installment of smart devices to manufacturing front-lines) NS-DIG <sup>™</sup> Ilementation of AI image recognition system							
Process	۲	Apr-20: Full-scal	cale system for WFH prepared ec-20: Demonstration for establishment of basis for operation nonitoring in steelworks utilizing NEC's AI technology started in Kimitsu							
Local 5G Private Network		★ Aug-20: demo	Started FS of local 5G network system Instration provided by NSSOL in Muroran Works							

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

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Action	~FY19	FY20	FY21~									
24 Hour Nursery	★ Apr-1	Apr-19 : The 5 <sup>th</sup> 24 hour in-house nursery in Hirohata Area (Oita, Kimitsu, Yawata, Nagoya, <u>Hirohata Area</u> (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 ope Jan-22 : The 7 <sup>th</sup> 24 hour in-house nursery in <u>Muroran</u> Works to										
Work System	★ Apr-16: Career ★ Apr-19	return system an 9: Trial introductic retireme Apr-20: Transfer	d accompany leave system started on of WFH system (official introduction in November) nt age 65 years old policy decision r exemption system started									
System Improvement to support WFH	7 ★ Se 	Apr-20: Implem p-19: Developme planning to end u	entation of Microsoft Teams (Company-wide) nt of general-purpose workflow system sing "hanko" stamp and implement electronic seal authentication system									

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# Toward Medium- to Long-Term Management Plan FY2025 Targets <sup>42</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 long-term contractual 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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#### Medium- to Long-Term Management Plan: Improvement of BEP by FY2025

FY2020 2H x2



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Medium- to Long-Term Plan (FY2025)

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

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	Announ- cement	Steelworks	Facilities for shutdown	Approximate time of shutdown (●: completed)
	New	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
	New	East Nippon Works Kimitsu Area	No.1 continuous casting machine	The end of FY2021
Upstream	Feb. 2020		Currently-suspended facilities in one series of upstream facilities (No.1 BF, No.5 coke oven, No.5-1 sintering machine)	FY2022 1H $\rightarrow$ Moved up to the end of FY2021 1H
facilities	$\rightarrow$ Moved up this time	Kansai Works Wakayama Area	Running facilities in one series of upstream facilities (No.4 coke oven, part of No.3 continuous casting machine)	FY2022 1H
	Feb. 2020	Setouchi Works Kure Area	All upstream facilities (including BF, sintering, steelmaking)	The end of 1H FY2021
	Feb. 2020	Setouchi Works Hirohata Area	Melting furnace ( $\rightarrow$ New EAF)	FY2023 1H
	Mar. 2015	Kyushu Works Yawata Area (Kokura)	Upstream facilities (BF, sintering, steelmaking)	●Sep. 2020
Steel plate	New	East Nippon Works Kashima Area	Steel plate mill	FY2024 2H
Steer plate	Feb. 2020	Nagoya Works	Steel plate mill	The end of FY2021
Construc-	New	East Nippon Works Kimitsu Area	Large Shape mill	The end of FY2021
product	New	East Nippon Works Kashima Area	Large shape mill	The end of FY2024
	New	Kansai Works Wakayama Area (Kainan)	Small-diameter seamless pipe mill (West)	The end of FY2025
Pipe &	New	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)**

	Announce -ment	Steelworks	Facilities for shutdown	Approximate time of shutdown (●: completed)
	New	East Nippon Works Kimitsu Area	No.1 hot-dip galvanizing line (No.1 CGL)	The end of FY2024
	New	East Nippon Works Kashima Area	No.1 pickling line	The end of FY2022 1H
	New	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
• • • •	New	Kansai Works Wakayama Area	All steel sheet lines	The end of FY2024 1H
Steel sheet	New	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
	New	East Nippon Works Naoetsu Area	Special stainless steel line	The end of FY2021
Titanium &	New	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	The end of FY2021 1H
	New	Nippon Steel Stainless Steel Kinuura Works	All lines (the cold-rolling line and all other lines thereafter)	The end of FY2021
	New	Nippon Steel Stainless Steel Kashima Works	A part of annealing lines	●The end of June 2021
Stainless steel	New	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) 49 Announced Already Total **Before** $\rightarrow$ **After** announced this time $15 \rightarrow 10$ BFs \_1 -5 -4 -8 $32 \rightarrow 24$ **Continuous casters** -5 -3 $4 \rightarrow 2$ **Steel plate lines** -2 -1 -1 -2 $4 \rightarrow 2$ Large shape lines -2 $3 \rightarrow 2$ Seamless pipe lines -1 **UO pipe lines** $2 \rightarrow 0$ -2 -1 -1 Hot strip lines $7 \rightarrow 6$ -1 **Cold rolling lines** -2 $17 \rightarrow 15$ -2 $19 \rightarrow 16$ **Galvanizing lines** -3 -3 **Special stainless steel** -2 -2 $4 \rightarrow 2$ rolling lines Titanium raw material line $1 \rightarrow 0$ -1 -1 Titanium round bar line -1 $1 \rightarrow 0$ Titanium welded pipe line -1 $1 \rightarrow 0$ **Nippon Steel Stainless Steel** $13 \rightarrow 9$ -4 -4 cold rolling lines **Nippon Steel Stainless Steel** ╡╢┚ $4 \rightarrow 3$ -1 -1 **EAFs**

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## Domestic Steelworks: Upstream Facilities and Products

	Upstream facilitie								<u>.s)</u>					Products							
<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>	晖	BOF	EAF	Continuous caster	Hot strip mill	Cold strip mill	ଜ ନ	ts Tinplate	Electrical	B/ Bar	⊗ Wire	F Seamless	Pipes O	ERW	Plates	Con: Shape	struc Rail	tion Spiral	Machinery	Titanium	Special stainless
North Nippon Works (from Apr. 2022)	1	2	1	1						0	0										
Muroran Area (Muroran Works until Mar. 2022)         Muroran City           Kamaishi Area (East Nippon Works until Mar. 2022)         Kamaishi City	/ 1 y	2	1	1						0	00										
East Nippon Works	4⇒3	10⇒7		9⇒6	0	0	$\Diamond$		:		0	•	•	0	$\Diamond$	•		0		0	$\Diamond$
Kimitsu AreaKimitsu CityKashima AreaKashima CitNaoetsu AreaJoetsu City	2 2⇒1	5 5⇒2		5⇒4 4⇒2	00	0	<b>◊</b> 0				0	•	* *	0	<ul><li>○</li><li>◆</li></ul>	* *		0		0	$\diamond$
Nagoya Works Tokai City	2	6		3	0	0	0	0						0	•						
Kansai Works	2⇒1	3	2	6⇒5		•						$\diamond$				0			0	•	
Wakayama Area (Wakayama, Kainan, Sakai) Osaka Area Amagasaki Area Amagasaki C	etc. 2⇒1 itv	3	1 1	6⇒5		•						<b>◊</b>				0			0	•	
Setouchi Works	2⇒0	6⇒0	0⇒1	4⇒2	$\diamond$	$\diamond$	$\Diamond$	٠	0												
Hirohata Area Kure Area -> all shutdown Kure City	2-20	3⇒0	0⇒1	2	0	0	0	٠	0												
Hanshin Area (Osaka) -> all shutdownOsaka CityHanshin Area (Kanzaki)Amagasaki CHanshin Area (Sakai)Sakai CityHanshin Area (Toyo)Saijo City	z→0	3⇒0		2⇒0	•	<ul> <li>♦</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> </ul>	<b>\$</b> 0														
Hanshin Area (Osaka) -> all shutdown Hanshin Area (Kanzaki)Osaka City Amagasaki C Sakai City Banshin Area (Sakai)Hanshin Area (Sakai)Sakai City Saijo CityKvushu WorksKushu Korks	2→0 ity	3⇒0 11 <b>⇒</b> 7		2⇒0 <b>9⇒7</b>	•	<ul><li>♦</li><li>○</li><li>○</li><li>0</li><li>0</li><li>0</li></ul>	<b>◇</b> ○ <b>○</b>	0	0	0	0	0		0	0	0	0	0		$\diamond$	
Hanshin Area (Osaka) -> all shutdown Hanshin Area (Kanzaki)Osaka City Amagasaki C Sakai City Saijo CityHanshin Area (Sakai) Hanshin Area (Toyo)Sakai City Saijo CityKyushu WorksKitakyushu Ci etc.Yawata Area (Tobata, Kokura, Yahata, Hikari Titanium Production) Oita Area (Oita)Kitakyushu Ci etc.	ity $4 \Rightarrow 3$ $2 \Rightarrow 1$ $2 \Rightarrow 1$	3⇒0 <u>11⇒7</u> 8⇒4 3		2⇒0 <b>9⇒7</b> 6⇒4 3	• 0 0	<ul> <li>♦</li> <li>○</li> <li>○</li></ul>	<ul><li>♦</li><li>0</li><li>0</li></ul>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	0		0	0	<b>0</b>	<b>0</b> 0	<b>0</b>		<ul><li>♦</li><li>0</li></ul>	
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## Agenda

- 1. FY2021 1Q Earnings Summary and FY2021 Forecast
- **2. Business Environment**
- **3. Supplementary Material for Financial Results**
- 4. Nippon Steel Engineering's Initiatives for Decarbonization and Low-carbonization
- **5. 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,.



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[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



> EAF: Improvement of <u>productivity</u> 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



challenge

External

conditions

- Scaling-up 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

- 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

## **EXAMPLEX 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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(Adjustment page)



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## **Tectonic Shift to Secure Non-consol. Operating Profit**



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## Quick Response to Demand Decrease and Increase

We have quickly responded to the sharp demand change, decrease due to COVID-19 and its recovery, with banking and resumption of BFs, taking production facility structural measures into consideration, which have already been announced on Feb. 2020.

Stoolworks	Aroa	Valu	$m \circ m^3$	2019	2020				2021FY	2022~	
SLEEIWOIKS	Aled	VOIL	ime m°	4Q	1Q	2Q	3Q	4Q			
Muroran		2BF	2,902	F	efurbishme	en <mark>t from Ju</mark>	I. 8 <sup>th</sup> R	estarted op	eration on Nov. 21 <sup>st</sup>		
	Kachima	1BF	5,370		Ba	nking from	Apr. 15 <sup>th</sup>	Resta	rted operation on Jan.	19 <sup>th</sup> Shutdown by	the end
East	NdSIIIIId	3BF	5,370							of EV2024 (pl	annod)
Nippon	Kimitau	2BF	4,500		Banki	ng from Ju	n. 14 <sup>th</sup> 🛑	Restarted	operation on Nov. 23 <sup>rd</sup>	01 FY2024 (pi	anneu)
	KIMItsu	4BF	5,555								
Nessue		1BF	5,443								
мадоуа		3BF	4,300						Refu	urbishment (planned)	
Kansai	Makayama	1BF	3,700		Bar	hking from .	Apr. 25 <sup>th</sup>	:	Shutdown b	y the end of FY2021 1H	(planned)
Kdfisdi	vvakdydffid	2BF	3,700			Ŭ					
Cotovoki	Kuno	1BF	2,650						Shutdown b	y the end of FY2021 1H	(planned)
Setouchi	Kure	2BF	2,080		Banl	king from F	eb.25 <sup>th</sup>		Shutdown b	y the end of FY2021 1H	(planned)
	Yawata	4BF	5,000								
14ala	(Kokura)	2BF	2,150		Banking fro	m Jul 18 <sup>th</sup>	Already b	een shutdo	wn by the end of Sep.,	2020	
Kyushu	0:+-	1BF	5,775								
	Olta	2BF	5 775								

BF: Blast Furnace \*Banking is a measure to temporarily stop BF production but make it possible to restart production at a later date by stopping the air blast flow.



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## **Raw Material Prices**



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## **FY2021** Earnings Summery

											cha	nge	
(bn. JPY)	1Q	1H	2H	FY2020	1Q	1H (f) <sub>*5</sub>	2H (f) <sub>*5</sub>	Prev. FY2021( <u>f)</u> <b>*4</b>	FY2021 (f) <sub>*5</sub>	FY20.2H →FY21.1H(f) *5	FY21.1H(f) →FY21.2H(f) *5	FY20 →FY21(f) *5	Prev. FY21(f) →FY21(f) *5
Sales	1,131.6	2,241.9	2,587.2	4,829.2	1,503.1	3,100.0	3,400.0	6,000.0	6,500.0	+512.8	+300.0	+1,670.8	+500.0
<b>Business Profit</b>	(27.5)	(106.5)	216.5	110.0	217.0	350.0	250.0	450.0	600.0	+133.5	-100.0	+490.0	+150.0
Additional Line Item	IS 0.0	(42.2)	(56.3)	(98.6)	39.3	(45.0)	(45.0)	(85.0)	(90.0)	+11.3	+0.0	+8.6	-5.0
Net Profit <sub>*1</sub>	(42.0)	(191.1)	158.7	(32.4)	162.1	200.0	170.0	240.0	370.0	+41.3	-30.0	+402.4	+130.0
ROS	-2.4%	-4.8%	8.4%	2.3%	14.4%	11.3%	7.4%	7.5%	9.2%	+2.9%	-3.9%	+7.0%	+1.7%
Earning per Share (JPY/ share)	(46)	(208)	172	(35)	176	217	185	261	402	+45	-32	+437	+141
EBITDA *2	41.2	36.7	364.2	400.9	297.0	510.0	420.0	780.0	930.0	+145.8	-90.0	+529.1	+150.0
EBITDA/Sales	3.6%	1.6%	14.1%	8.3%	19.8%	16.5%	12.4%	13.0%	14.3%	+2.4%	-4.1%	+6.0%	+1.3%
EBITDA/t *3 (Thousand JPY/t)	5.0	2.2	17.5	10.6	25.0	21.7	18.7	17.0	20.2	+4.3	-3.0	+9.6	+3.3

\*1 Profit attributable to owners of the parent

\*2 Business profit + depreciation cost

\*3 EBITDA/ consolidated crude steel production

\*4 Forecast as of May. 7<sup>th</sup>, 2021 \*5 Forecast as of Aug. 3<sup>rd</sup>, 2021



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## **Operational Highlights**

Forecasts are rough figures.

		FY20					_	FY21		Change				
(MMT)	1H	2H		1Q	1H(f) *2	2H(f) *2	(f) *1	(f) *2	FY20 2H → FY21 1H(f) *2	FY21 1H(f) → 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	20.20				+1.95					
Consolidated Crude Steel Production	16.78	20.87	37.65	11.88	23.50	22.50	46.00	46.00	+2.63	-1.00	+8.35	+0.00		
Non-Consolidated Crude Steel Production	14.64	18.36	33.00	10.18	20.50	19.50	40.00	40.00	+2.14	-1.00	+7.00	+0.00		
Non-Consolidated Steel Shipments	14.46	16.77	31.22	9.20	18.80	17.70	36.00	36.50	+2.03	-1.10	+5.28	+0.50		
Seamless Pipe Shipments	0.34	0.29	0.63	0.15	0.31				+0.02					
Average Steel Selling Price (k JPY/ton)	83.6	88.3	86.1	97.2	106				+17.7					
Steel Export Ratio (Value basis (%))	38	35	36	43	45				+10					
Forex (USD•JPY)	107	105	106	110	110	110	105	110	Depreciated Yen <b>+5</b>	Depreciated Yen <b>+0</b>	Depreciated Yen <b>+4</b>	Depreciated Yen <b>+5</b>		

**\*1** Forecasts as of May. 7th, 2021

\*2 Forecasts as of Aug. 3rd, 2021



## **Key Indicators of Demand**

		F	Y20				F	Y21				Change	2
[ Domestic ]	1H		2Н			1Q	1H (f) *1	2H (f) *	:1	(f) *1	FY20 2H → FY21 1H(f) *1	FY21 1H(f) → FY21 2H(f)	$\begin{array}{c} FY20 \\ \rightarrow \\ FY21(f) \\ \ast 1 \end{array} $
Housing Starts (mil. houses)	0.4	11	0.40	0.8	1	0.22	0.42	0.40	ס	0.82	+0.02	-0.0	2 +0.01
Non-residential Construction Starts (mil. m <sup>2</sup> )	23.3	37 2	1.55	44.9	2 1	2.76	21.90	22.30	0 4	4.20	+0.35	+0.4	0 -0.72
Public Works Orders (bn. JPY)	5,65	54 5	5,954	11,60	8 2	,199	5,630	6,500	) 12	2,130	-324	+87	0 +522
Finished Auto Production (mil. units)	3.3	3	4.63	7.9	7	1.96	4.15	4.9	D	9.05	-0.48	+0.7	5 +1.08
Export of Finished Auto (mil. units)	1.4	6	2.22	3.6	8	0.98	2.10	2.4	5	4.55	-0.12	+0.3	5 +0.87
Overseas Auto Production (8 Japanese car makers) (mil. units)	6.5	50	9.01	15.5	1	3.93							
Large & Middle Sized Shovel Production <sub>(thousand units)</sub>	3	32	41	7	3	21	40	4	5	85	-1	+	5 +12
Metal Machine Tool Production (thousand tons)	11	2	129	24	1	75	150	17(	0	320	+21	+2	0 +79
Keel-laid New Ships (mil. gross tons)	4.8	80	4.20	9.0	0	1.90	3.75	4.50	D	8.25	-0.45	+0.7	5 -0.75
Rig Count CY12 C	Y13	CY14	CY15	CY16	CY17	CY18	CY19	CY20	La	test	Pe	ak	Bottom
USA 1,919	1,761	1,862	977	510	875	1,032	944	436	479	(Jul.16 <sup>th</sup> )	2,031	(Sep-08)	<b>244</b> (Aug-20)
<b>Deep well</b> (≧15,000ft) 324	326	354	205	126	222	230	227	104	169	(Jul.16 <sup>th</sup> )	413	(Nov-11)	<b>55</b> (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)	<b>656</b> (Oct-20)

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

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



## **Domestic Steel Consumption by Industrial Sector**

			FY20				FY21	_	Change				
(MMT)		1H	2H		1Q	1H(f) *2	2H(f) *2	Prev. (f) *1	(f) *2	FY20 2H → FY21 1H(f) <sub>*2</sub>	FY21. 1H(f) → FY21. 2H(f) <sub>*2</sub>	FY20 → FY21(f) <sub>*2</sub>	Prev. FY21(f) → *1 FY21(f) <sub>*2</sub>
Domestic Crude Steel Production		37.09	45.70	82.78	24.35	49.00				+3.30			
Domestic Steel Consumption (A + B)		25.14	27.80	52.94	13.31	27.30	29.20	55.00	56.50	-0.50	+1.90	+3.56	+1.50
%	for manufacturing sector	60.8	64.0	62.5	63.3	64	65	64	64	-0	+1	+2	+1
(	Ordinary Steel Consumption (A)	20.00	22.04	42.04	10.43	21.40	22.90	43.00	44.30	-0.64	+1.50	+2.26	+1.30
	Construction	9.53	9.68	19.21	4.72	9.50	10.00	19.00	19.50	-0.18	+0.50	+0.29	+0.50
	Manufacturing	10.47	12.36	22.83	5.71	11.90	12.90	24.00	24.80	-0.46	+1.00	+1.97	+0.80
	Shipbuilding	1.64	1.30	2.94	0.62	1.30	1.50		2.80	+0.00	+0.20	-0.14	
	Automotive	3.92	5.26	9.18	2.29	4.90	5.45		10.35	-0.36	+0.55	+1.17	
	Industrial Machine	1.93	2.24	4.17	1.18	2.40	2.40		4.80	+0.16	+0.00	+0.63	
	Electronic Machine	1.27	1.49	2.77	0.67	1.40	1.45		2.85	-0.09	+0.05	+0.08	
Special Steel Consumption (B)		5.14	5.76	10.89	2.88	5.90	6.30	12.00	12.20	+0.14	+0.40	+1.31	+0.20

Source : Nippon Steel's estimation

**\*1** Forecasts as of May.7<sup>th</sup>, 2021 **\*2** Forecasts as of Aug 3<sup>rd</sup>, 2021





		CY08	CY09	CY10	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18	CY19	CY20	<b>CY2</b> (f)	1
W	orld 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]	6.0
	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	[5.1]	5.6
	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	[6.4]	7.0
	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	[4.4]	4.6
	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	[3.3]	2.8
	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	[6.7]	6.3
	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	[8.4]	8.1
	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	[12.5]	9.5
	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	[3.8]	4.4
	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	[3.7]	5.3

(GDP growth rate)

Source : IMF



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

## **World Crude Steel Production**

	CY19			CY20					CV21					
(MMT)		Jan - Mar	Apr - Jun	Jul - Sep	Oct Dec.	[A]	Jan - Mar	Apr	Мау	Jun	Apr - Jun	Jan - Jun [B]	[C] (B*12/6)	Change [A] →[C]
World *	1,844.1	442.3	437.5	470.6	481.3	1,831.7	487.2	170.9	174.8	167.9	513.6	1,000.8	2,001.6	+169.9
[YoY]	[+3.1%]	[-1.3%]	[-8.9%]	[+1.4%]	[+6.6%]	[-0.7%]	[+10.1%]	[+24.3%]	[+16.8%]	[+11.6%]	[+17.4%]	[+13.7%]		
Japan	99.3	24.1	18.1	19.0	22.0	83.2	23.7	7.8	8.4	8.1	24.3	48.1	96.1	+12.9
[YoY]	[-4.8%]	[-3.4%]	[-30.7%]	[-22.7%]	[-7.0%]	[-16.2%]	[-1.7%]	[+18.9%]	[+42.2%]	[+44.4%]	[+34.4%]	[+13.8%]		
Korea	71.4	16.9	15.6	17.1	17.5	67.1	17.6	5.8	5.9	6.0	17.6	35.2	70.4	+3.3
[YoY]	[-1.5%]	[-4.8%]	[-14.7%]	[-3.3%]	[-1.2%]	[-6.1%]	[+3.9%]	[+13.3%]	[+9.2%]	[+17.3%]	[+13.2%]	[+8.3%]		
USA	87.8	21.7	14.7	17.3	19.0	72.7	20.4	7.1	7.4	7.1	21.6	42.0	84.1	+11.3
EU28	157.4	38.4	30.7	31.8	38.3	139.2	39.7	13.5	14.4	13.9	41.9	81.6	163.2	+24.0
Russia	71.7	18.1	17.1	17.9	18.5	71.6	19.0	6.4	6.6	6.4	19.3	38.2	76.5	+4.8
Brazil	32.6	8.2	6.3	8.0	8.8	31.4	8.7	3.1	3.2	3.1	9.4	18.1	36.1	+4.7
India	111.4	26.8	17.3	26.7	29.5	100.3	30.1	9.4	9.1	9.4	27.8	57.9	115.9	+15.6
China	995.8	233.9	272.1	280.8	271.1	1,057.9	269.0	97.9	99.5	93.9	291.2	560.2	1,120.4	+62.5
[YoY]	[+7.9%]	[+1.5%]	[+4.2%]	[+9.4%]	[+9.5%]	[+6.2%]	[+15.0%]	[+13.4%]	[+6.6%]	[+1.5%]	[+7.0%]	[+10.7%]		

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**



Source : Japan Metal Daily



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## **Domestic Steel Inventory**



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