NIPPON STEEL

Towards a Stable Supply of Metallurgical Coal

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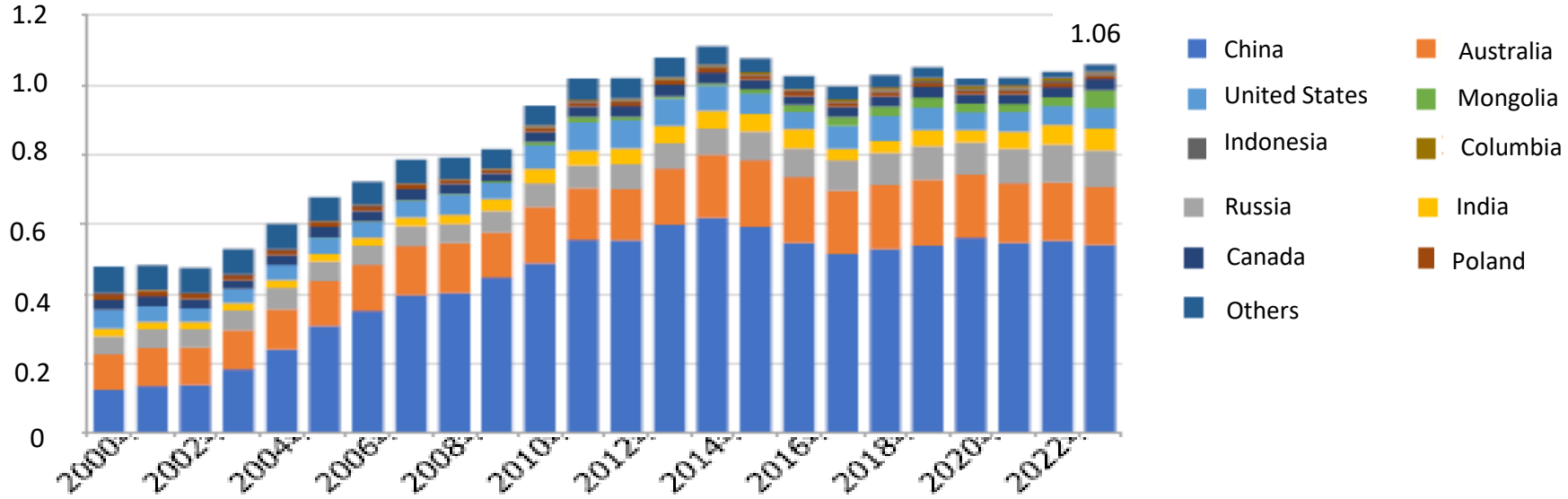
Topics

1. Outline of Metallurgical Coal Market
2. Growth Forecast for the Global Steel Industry
3. Challenges for Carbon Neutral Steel Making
   -Nippon Steel's Green Transformation (GX) Initiatives
4. Challenges for Metallurgical Coal Industry
5. Towards a stable supply of Metallurgical Coal
   - Nippon Steel's Initiative
6. Conclusion

1. Outline of Metallurgical Coal Market

Global Metallurgical Coal Production



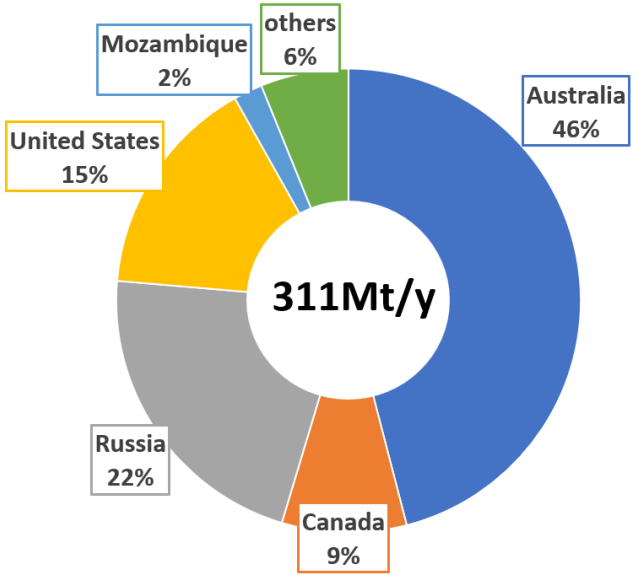
<billion tons>

Global metallurgical coal production has been stable around 1 billion tons since 2011.

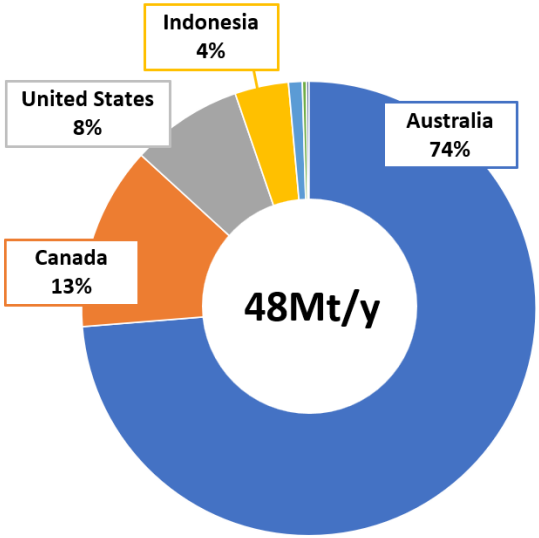
Source: JOGMEC

Metallurgical Coal Seaborne Trade

World Met Coal Seaborne Trade Volume in 2024

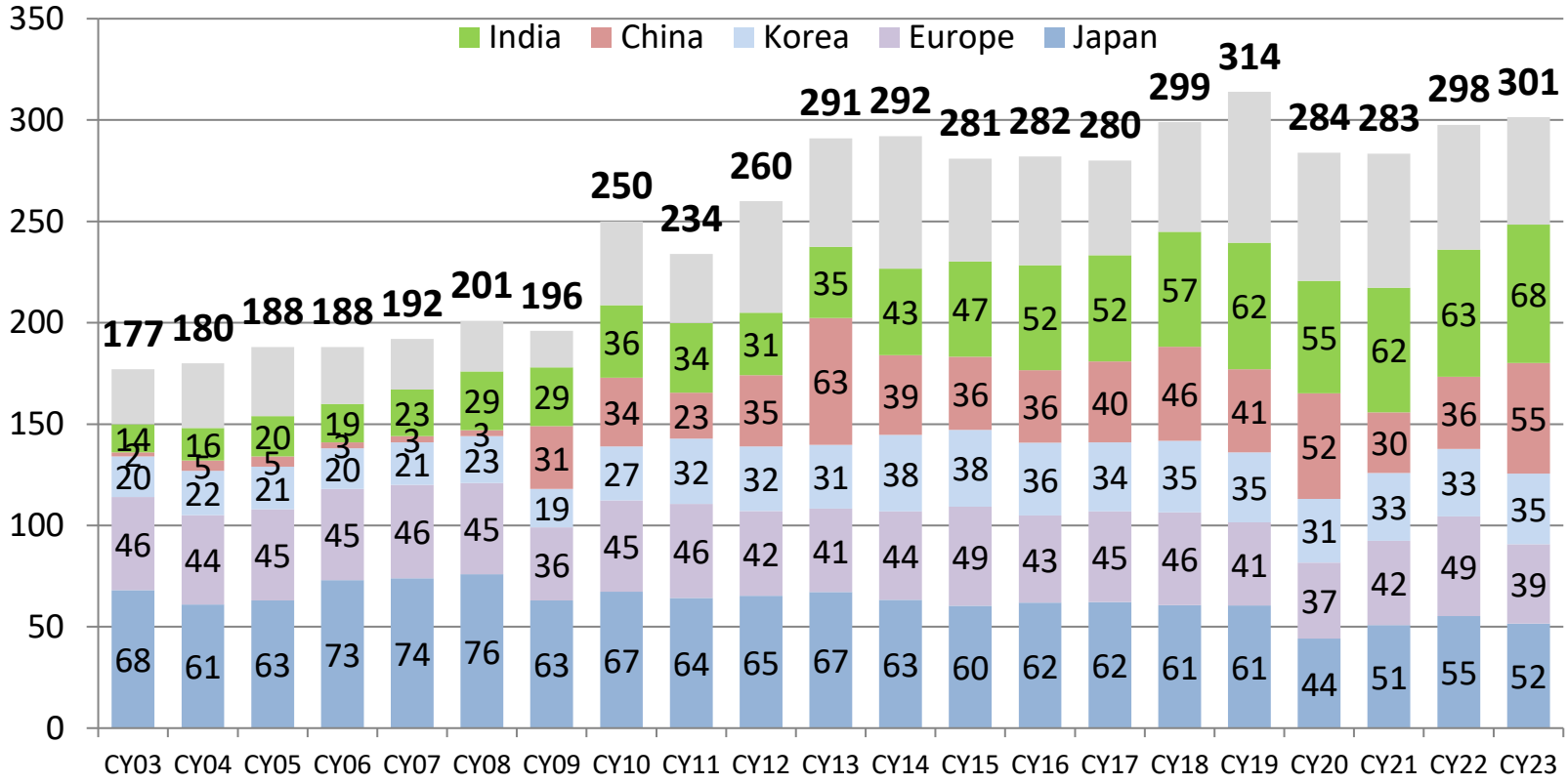


Japanese Met Coal Import Volume in 2024



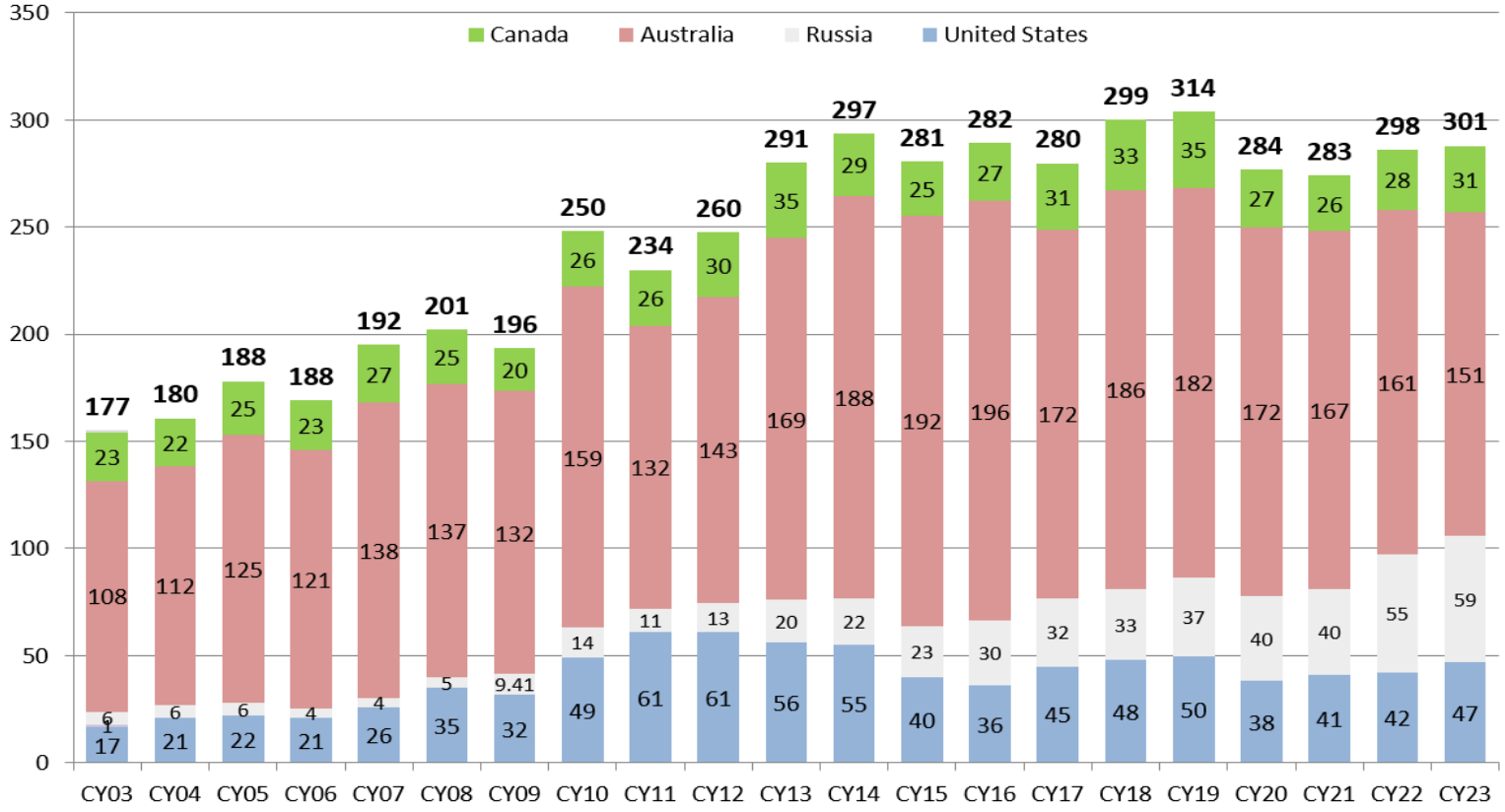
Source: Customs statistics etc.

Metallurgical Coal Seaborne Trade (Import)



Source: Customs statistics etc.

Metallurgical Coal Seaborne Trade (Export)

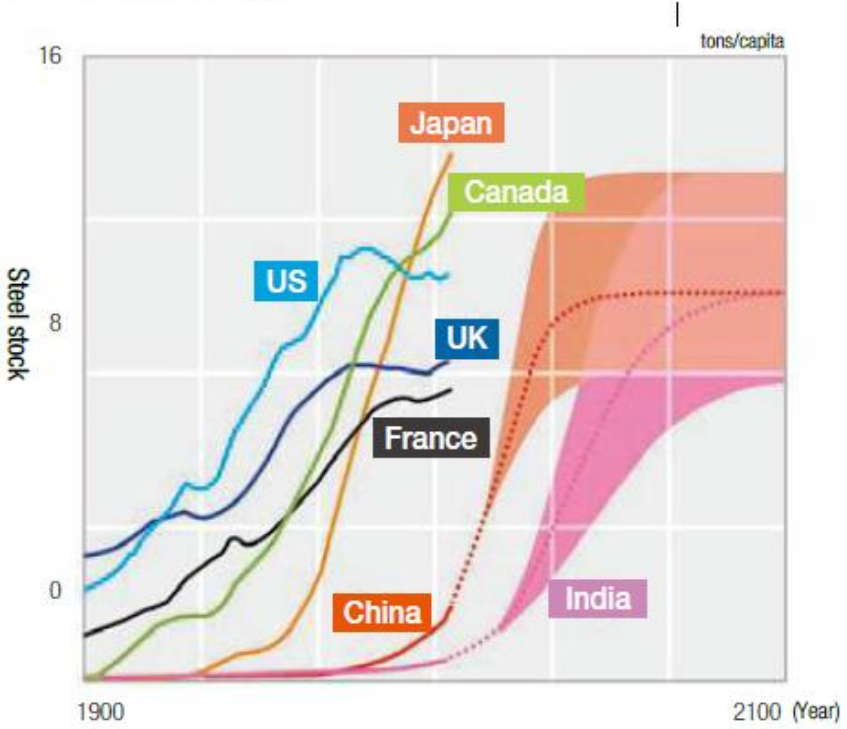


Source: Customs statistics etc.

2. Growth Forecast for the Global Steel Industry

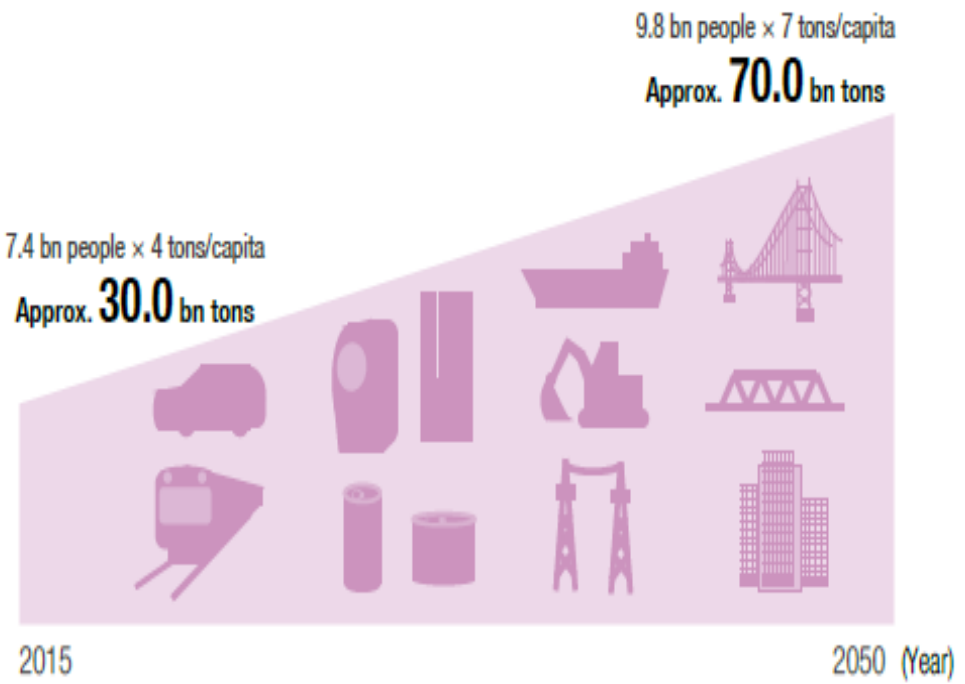
Global Steel Stock Increases

[Steel stock per capita]



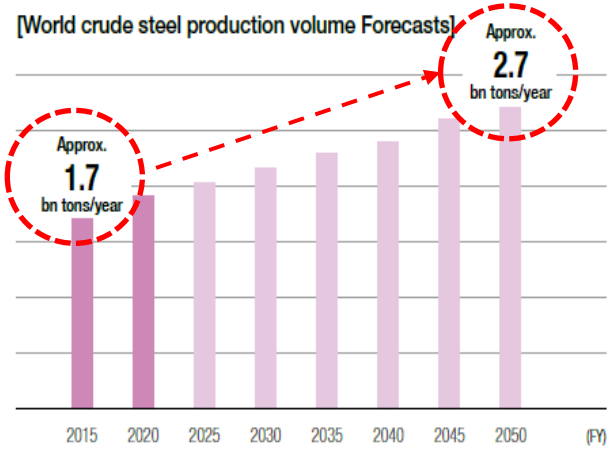
Source: "Sustainable steel: at the core of a green economy," World Steel Association, 2012

[Assumption of world steel accumulation trends]

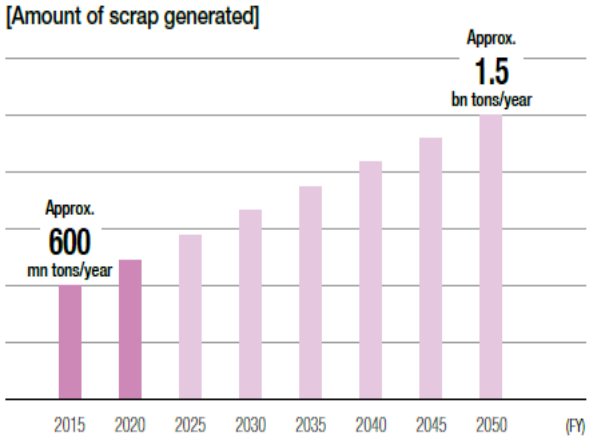


Source: The Japan Iron and Steel Federation

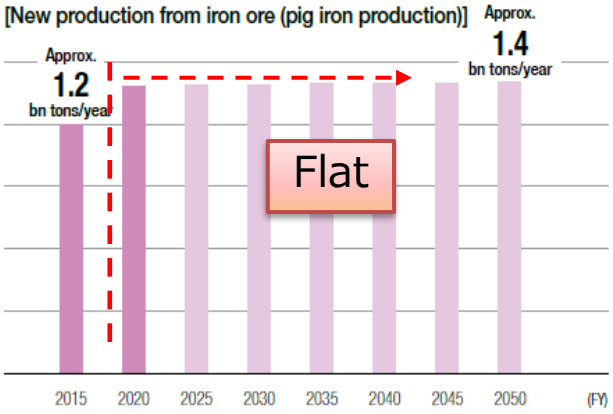
Primary Steel Production is Necessary to Increase Steel Stock in the Future



Crude steel production needed to meet global steel stock growth will continue to increase.



Availability of scrap increases as the increase of steel stock.

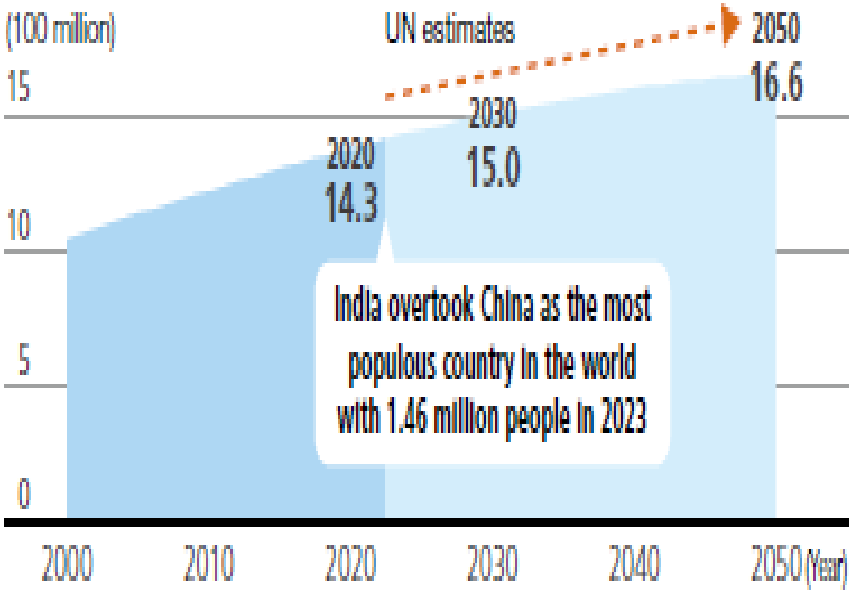


Even if all the scrap is recycled, it is insufficient to meet the annual need for crude steel production, and steel production from iron ore will need to be at the same scale in the future.

Source: The Japan Iron and Steel Federation

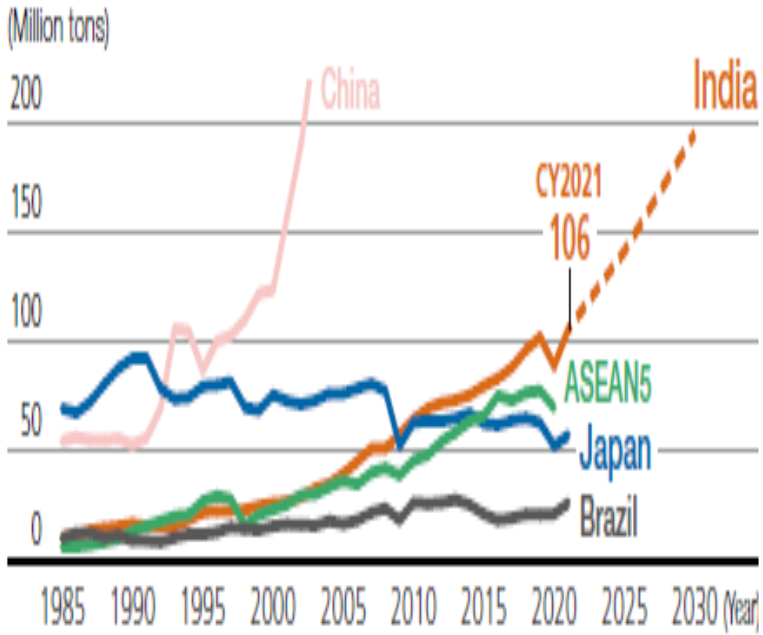
Growing Steel Demand from India

[India's population]



Source: United Nations

[Demand for steel products]



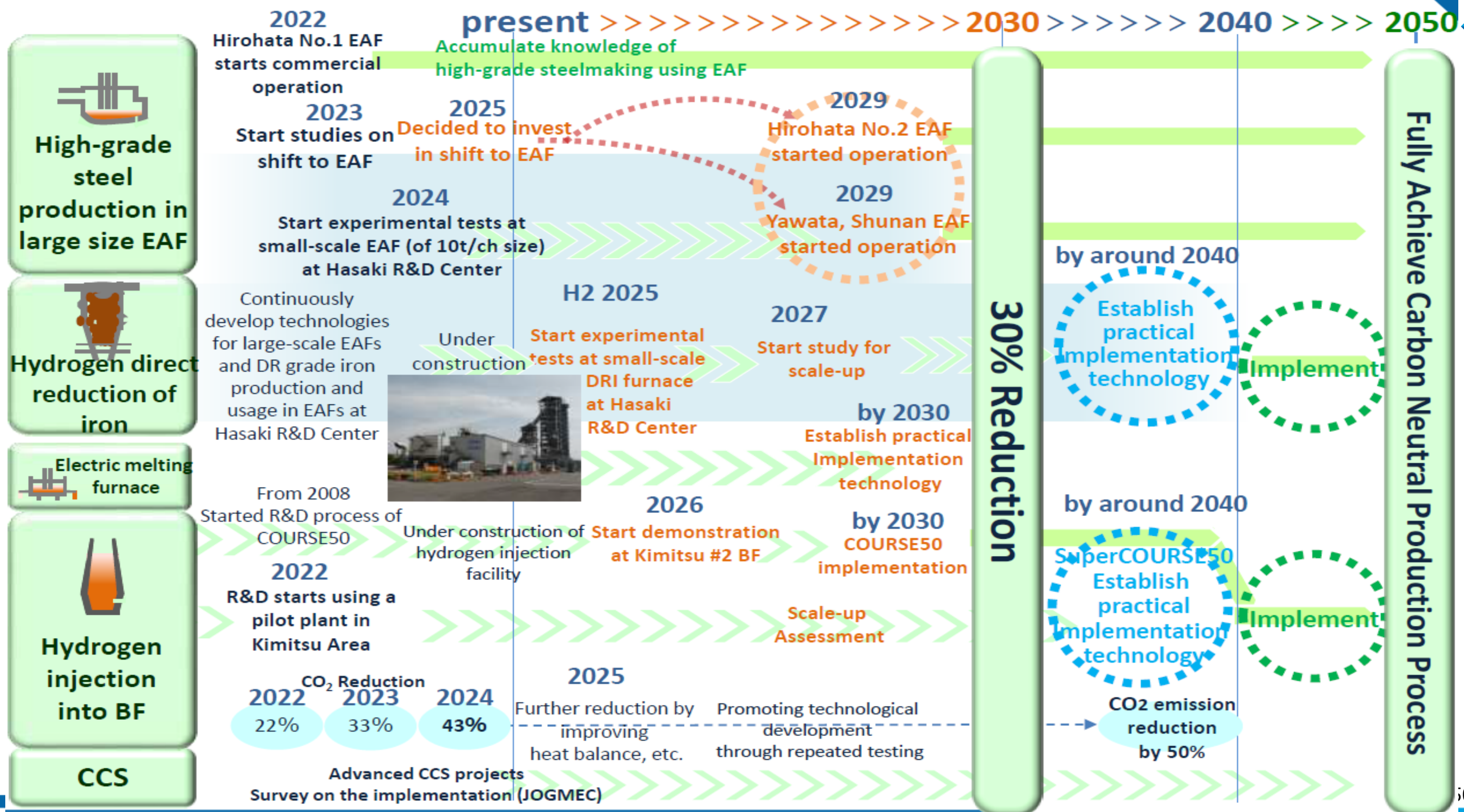
Source: World Steel Association

Key Message 1

“ Society needs Steel ”

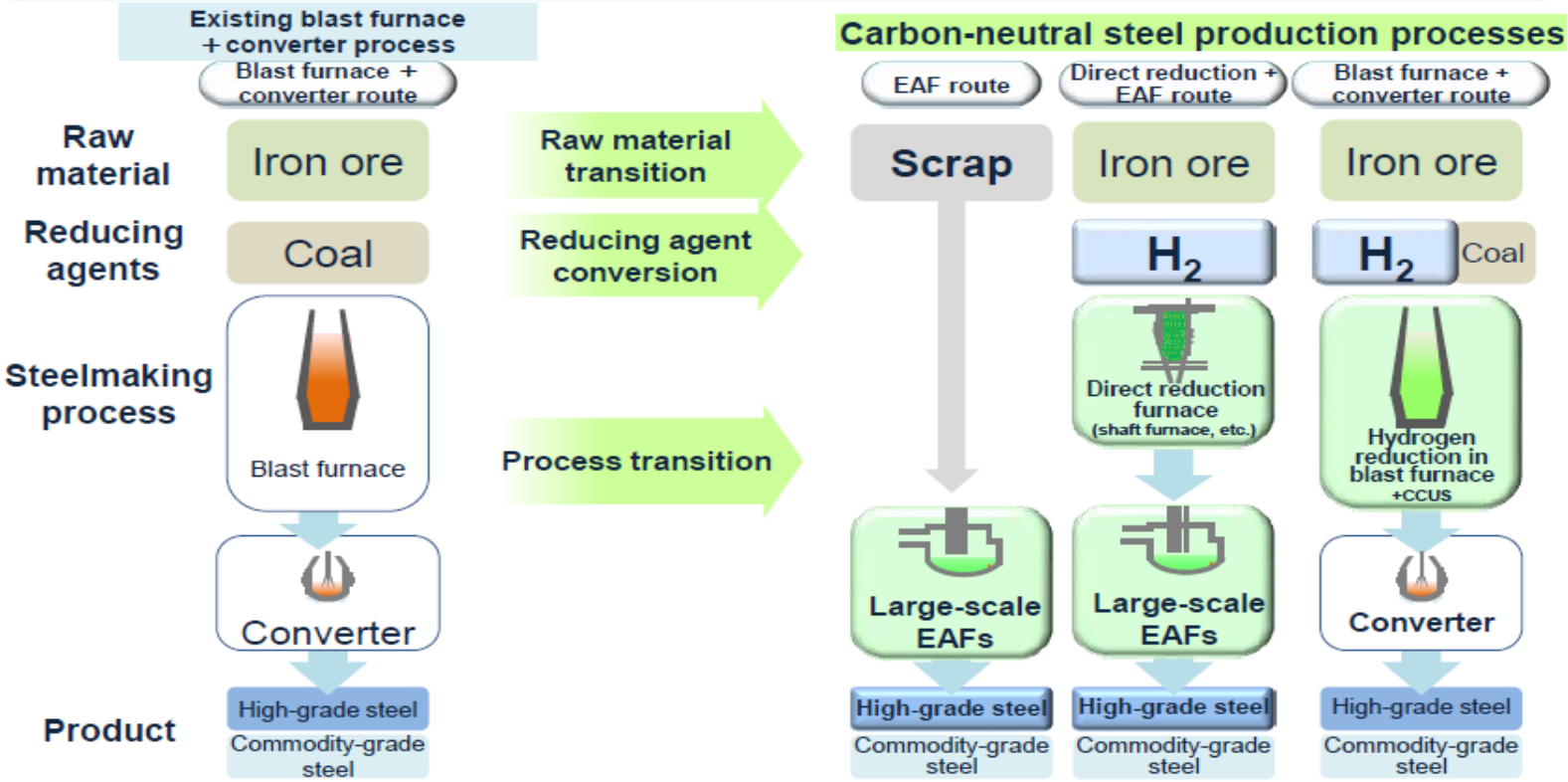
3. Challenges for Carbon Neutral Steel Making -Nippon Steel's Green Transformation (GX) Initiatives

Carbon Neutral Vision 2050 Roadmap



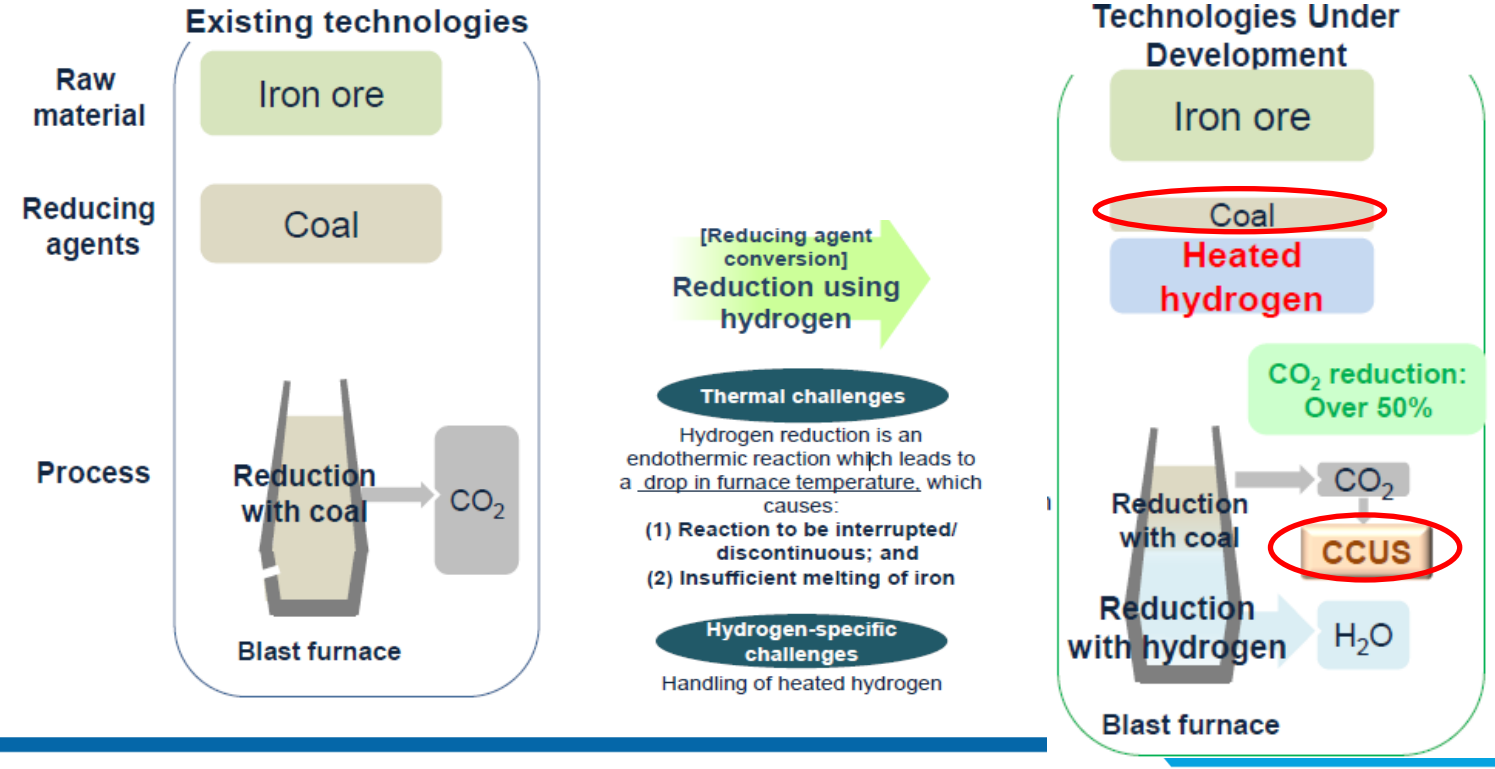
Nippon Steel's Carbon-Neutral Steel Production Processes

Necessary to pursue a multi-pathway that combines "hydrogen reduction in blast furnace + CCUS" and "hydrogen direct reduction + EAFs"



Overview and Challenges of Hydrogen Reduction in Blast Furnace Technology

Reduce CO_2 emissions by over 50% by converting BF reducing agent from coking coal to hydrogen. Carbon neutrality achieved with the combined use of CCUS.



Importance of Metallurgical Coal in Carbon Neutral Steel Making

Incorrect Understanding	Coal will no longer be needed in carbon neutral steel making processes

Reality

Base Year	Interim Target	Carbon Neutral Target	Action
2013	30% by 2030	2050	High grade steel production in large size EAF/Hydrogen direct reduction of iron/ **Hydrogen injection into BF/ CCUS**

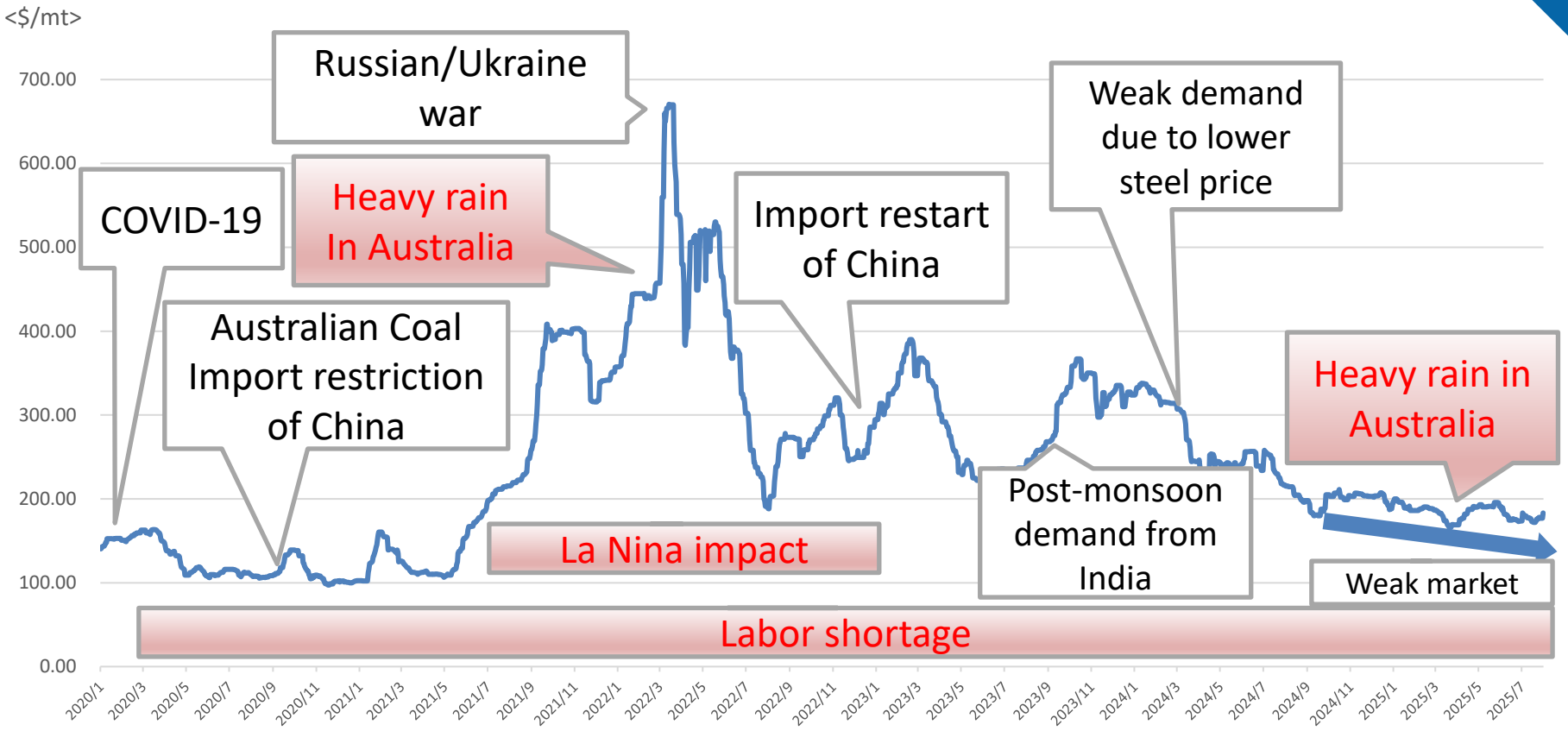
Nippon Steel will keep using met coal in BF operation even in 2050.

Key Message 2

“Metallurgical Coal is essential for steel making“

4. Challenges for Metallurgical Coal Industry

Background - Volatile Met Coal Market



Challenges for the Coal Industry①
- More Severe Weather (Impact of La Nina)-

La Nina and other weather incidents had a significant impact on coal supply.

✓Impact of La Nina (2021-2022)
More severe weather caused flooding and damage to facilities.

Continuous improvement of the resiliency of the coal supply chain is vitally important.

Challenges for the Coal Industry②
-Labor Shortage-

Fundamental shortage of labor,
Especially in the mining industry

Especially in the Coal Industry…

Decarbonization trend

Absenteeism

Coal Supply Instability
(Lack of operators, rail cancellation etc.)

Challenges for the Coal Industry③ -surging operational cost

Labor

- Labor shortages
- Increasing labor cost

ex. 3.5% increase of minimum wage, July 2024 to July 2025 (Australia)

Government

- High royalty rates
- Longer process for getting approvals

Mining Operation

- Increasing strip ratios
- Declining mine productivity

Other costs

- Additional costs in many areas

ex. fuel, electricity, machinery, etc.

Mining Companies are facing the increase of operational costs

Challenges for the Coal Industry④
- Changing Government Policies, cases in Australia -

QLD Coal Royalty (2022)

- The tax burden for coal producers is significantly heavier with an increased royalty

Safeguard Mechanism (2023)

- Companies which emit large amounts of CO2 are obliged to reduce CO2 emission or face penalty

NSW Domestic Coal Reservation (2023-2024)

- TC producers are required to reserve their product to secure domestic supply with a price cap

NSW Modified Coal Royalty (2024)

- In July 2024, the NSW Government replaced the domestic coal reservation scheme with a modified coal royalty system
- The royalty were increased by 2.6%

Challenges for the Coal Industry⑤ -Uncertainty for Continuous Investment-

Difficulty in funding

- Changes of financial institutions' policy
- Changes of investors' attitudes

Financial institutions' financing policy in the coal industry

Country	Financial Institution	Policy
JP	Japanese Mega Banks	No financing for new thermal coal mining projects; gradual reduction in coal exposure
AU	ANZ	No financing for new thermal coal mining; complete exit from thermal coal lending by 2030.
	Macquarie	No financing for long-term investments in coking coal projects and thermal coal projects.
NL	ING	Exit from coal power projects by 2025.
FR	BNP Paribas	No financing for new thermal coal mining; complete exit from thermal coal lending by 2030 in Europe and OECD countries.

Difficulty in obtaining government approval

- Government rejects new/extension projects

Projects whose applications were rejected and the reasons in NSW

Year	Project Name	Reason for Rejection
2021	Dendrobium	Impact on water resources
2021	Hume	Impact on water resources and environment
2022	Glendell	Preservation of historical heritage
2022	Liddell	Preservation of historical heritage
2025	Mount Pleasant Expansion	Failure to consider Scope 3 emissions and broader climate impacts in environmental assessment

Challenges for the Coal Industry -Summary-

- Met coal is essential for the global steel industry
- Use of coal in blast furnaces will be continued even in 2050
- Increasing demand from India

Demand-side

- Continuous investment in infrastructure is required to maintain the supply stability
- Developing new/extension projects to keep stable supply

Supply-side

- Difficulty in funding
- Difficulty in obtaining government approval
- Changing government policies
- More severe weather, Labor shortage

Challenges for the Coal Industry

Decreasing Investment Attractiveness

✓ Unstable Supply

✓ Decline of coal industry

5.Towards a stable supply of Metallurgical Coal - Nippon Steel's Initiative

Stable Supply of Metallurgical Coal

Production and Supply chain

- Stable production at mine-site
- Supply-chain Stability
  - rail and port operation
- Resiliency for Severe Weather

Quality

- Consistency
- High-quality metallurgical coal

Cost

- Long Term Stability (Competitiveness)

Continuous investment is necessary
- Mining operation(green/brown field)
- Supply chain(maintenance/up grade)

Nippon Steel's Initiative for Stable Supply

Partnership with suppliers	Strengthening partnership with reliable suppliers; -long-term contract -source diversification
Investment	Investment on mines to secure high-quality met coal
Communication with government	Communicate with government officials and related organizations, as a buyer and as an investor

NSC Group Mine Investment Overview

Invested Mines

				Equity ratio	Major shareholder	Capacity (MT/Y)
Iron ore and pellet	Australia	**Robe River**	1977	14%	Rio Tinto 53%	70
	Brazil	**NIBRASCO**	1974	33%	VALE 51%	10
	Canada	**Kami**	**2024**	**30%**	**Champion Iron 51% Sojitz19%**	**9**
Coal	Australia	**Moranbah North**	1997	6%	Anglo American 88%	12
		Warkworth	1990	10%	Yancoal 85%	8
		Bulga	1993	13%	Glencore 88%	7
		Foxleigh	2010	10%	Middlemount South 70%	3
		Boggabri	2015	10%	Idemitsu Kosan 80%	7
		Coppabella and Moorvale	1998	2%	Peabody 73%	5
		Blackwater	**2025**	**20%**	**Whitehaven 70%, JFE10%**	**10**
	Canada	**Elk Valley Resources**	**2024**	**20%**	**Glencore 77%**	**27**
Others(Niobium)	Brazil	**CBMM**	2011	3%	Moreira Salles 70%	0.15

Iron Ore

Total procurement (FY2024) **Approx. 50Mt**

Self-sufficiency ratio
(Procurement ratio from invested mines)

Approx. **20%** (For BFs-use)

Aim to raise self-sufficiency ratio of raw materials

Coal

Total procurement (FY2024) **Approx. 26Mt**

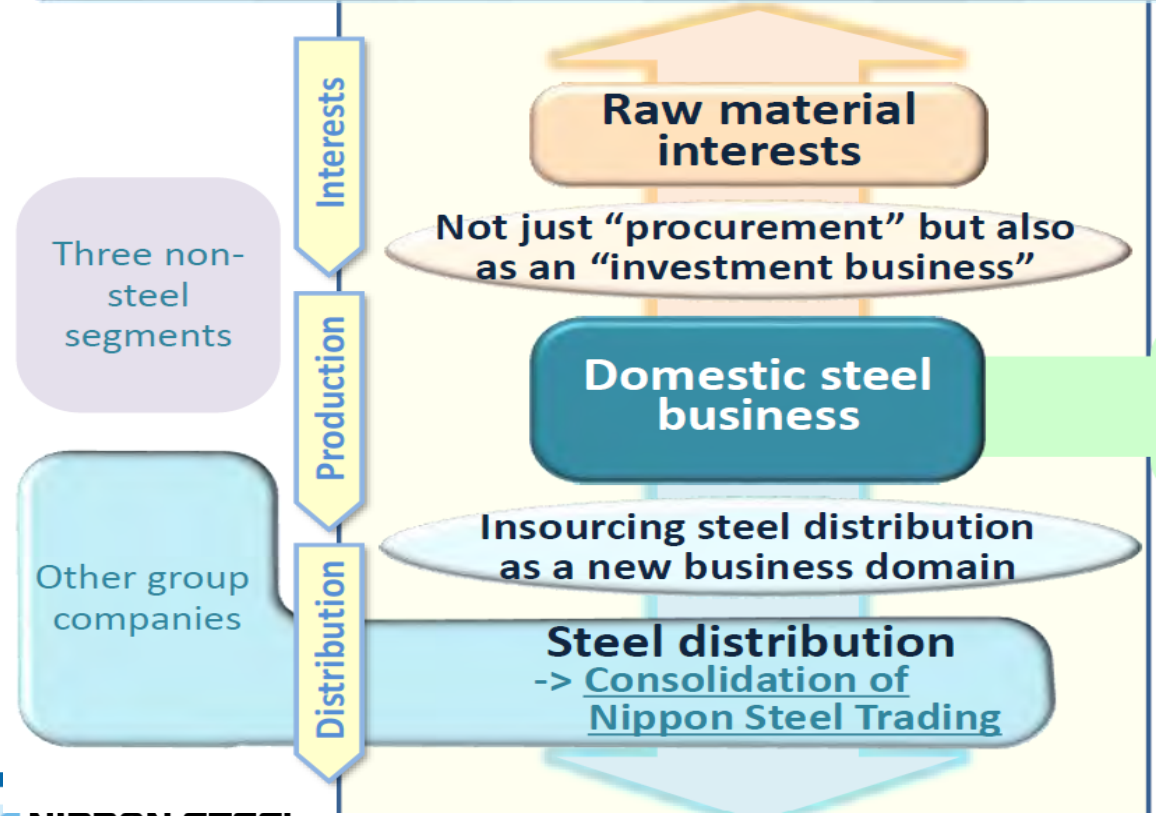
Self-sufficiency ratio
(Procurement ratio from invested mines)

2023 Approx. 20%
Jan. 2024 After inv. In EVR JV Approx. 30%
After inv. in Blackwater JV Approx. 35%

Ratio of coal procured from mines in which NSC an investor to increase in long term (shift to carbon neutral process /decrease total amount of coal in use)

Acquisition of interest in Coal Mines

Evolution to a more vertically-integrated and new business structure by integrating procurement, production and distribution



To secure a stable supply of high-quality and best-priced raw materials, to hedge fluctuations in the market price of raw materials

Overseas steel business

To meet growing local demand in emerging countries and regions

To enhance the ability to conduct integrated operations regarding steel transactions, and further strengthen competitiveness throughout the supply chain

Acquisition of interest in Elk Valley Resources

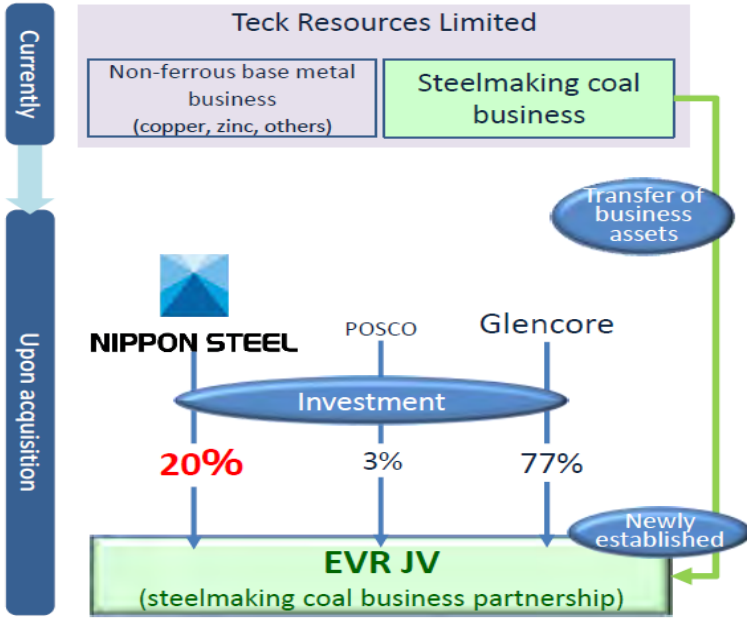
Nippon Steel to indirectly acquire a 20% interest in Elk Valley Resources (“EVR JV”) (the “Investment”), a newly-formed partnership sold by Teck, the second largest producer of high-quality steelmaking coal in the world

Acquisition Value	**1.34bn.USD (approx. 200bn.JPY)** (Nippon Steel’s existing interest in Elkview (2.5%) will be exchanged as part of the Investment)
Timing for Transaction	**Estimated in 4Q FY2023** Plan to incorporate EVR JV profits into Nippon Steel’s consolidated business profit on the basis of its equity interest from Q1 FY2024

Nippon Steel will be entitled to:

- Participate in decision making process of the steelmaking coal business
  (holding a right of veto over important decisions)
- Enter **into a long-term coal offtake rights agreement upon completion of the Investment, enabling long-term and stable hard coking coal procurement**

<Investment Structure(planned)>

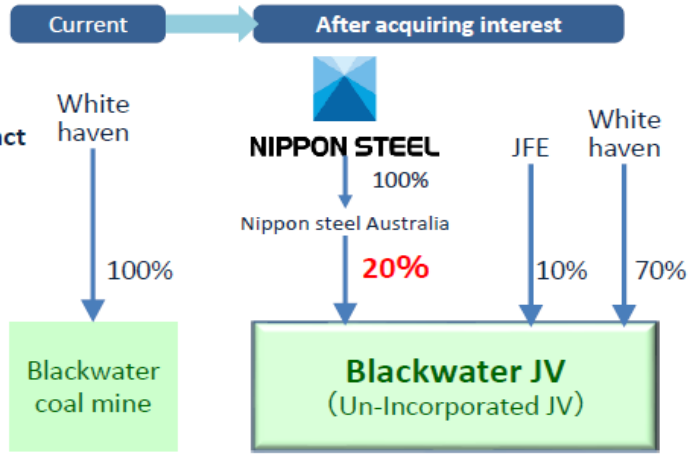


Acquisition of interest in Blackwater Coal Mine

◆ Ensure stable procurement of high-quality steelmaking coal
◆ Achieve high-quality coke production with cost reduction using Nippon Steel's advanced technologies

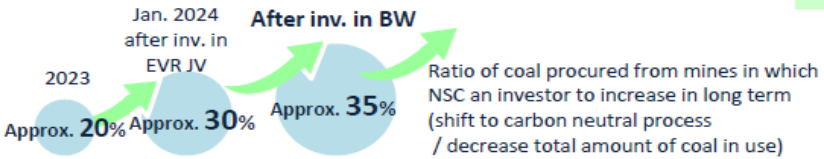
Acquisition value: 0.72bn.USD（approx. 108bn.JPY）
*FX rate assumption: 1USD=150JPY

Schedule:
- Aug.21st 2024 Signing of investment contract
- Closing and formation of JV after approval by the authorities



➢ Enter into a long-term coal offtake rights agreement with Whitehaven, enabling long-term and stable steelmaking coal procurement

Ratio of coking coal procured from invested mines



Ratio of coal procured from mines in which NSC an investor to increase in long term (shift to carbon neutral process / decrease total amount of coal in use)

Cf. Overview of Whitehaven Coal Ltd
- Company specializing in coal established in 1999
- Operates six mines in Australia, including BW

➢ Participate in decision making process of BWJV

Purposes of Investment in Blackwater JV -1

Securing a stable supply of high-quality steelmaking coal that is essential to Nippon's carbon neutral strategy

Improving the quality of coke input is important to achieve both CO_2 reduction and stable-and-efficient pig iron production in the blast furnace hydrogen reduction process

- Steelmaking coal produced from BW Coal Mine is suitable to produce high-quality coke that contributes to reducing CO_2 emissions and costs, **by maximizing the use of Nippon's coal pre-treating process**
- The BW coal mine has ample resources

Implementation of policies to raise coal royalty rates in Australia's states

Concerns that investment in coal assets will be shrunk in the future

Investment in Blackwater is important for Nippon to secure a long-term stable supply of steelmaking coal required for Nippon's technologically advanced coke production

5. Conclusion

Towards a stable supply of Metallurgical Coal

- Nippon Steel continues its efforts to achieve carbon neutrality target.
- Even in 2050, met coal will remain an essential material.

Stable supply of Metallurgical coal is essential for steel making

- ✓ Strengthening long-term partnership with reliable suppliers
- ✓ Strategic investments in mines or infrastructure for stable supply
- ✓ Keep active communication with government authorities for regulatory support

“Metallurgical Coal is essential for steel making“

Thank you!