2025 AIST LEADERSHIP CONFERENCE

Making Steel Great Again: U.S. Steel Production in the Trump Era

Ron Ashburn

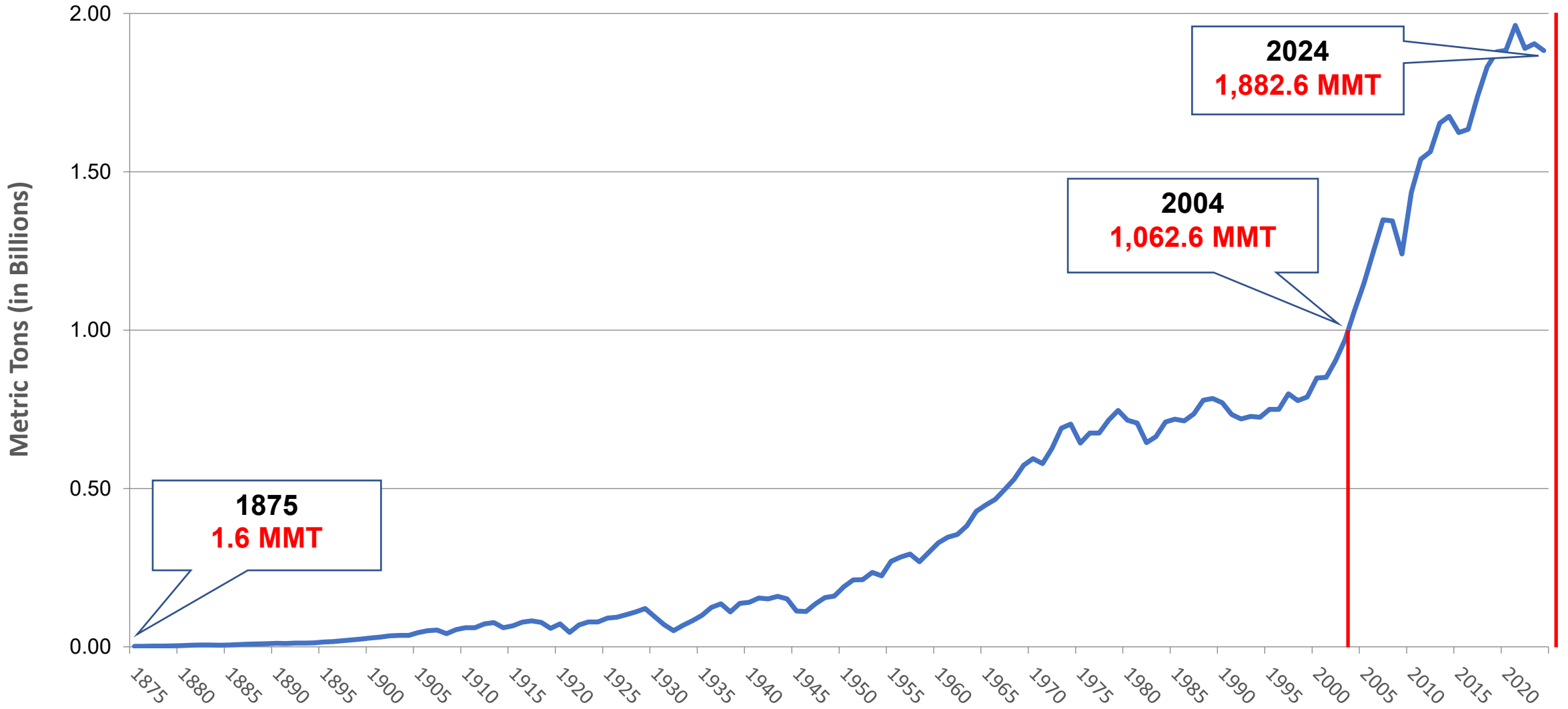
Executive Director, AIST

19 Nov 2025

Premier Sponsor TMEIC We drive industry

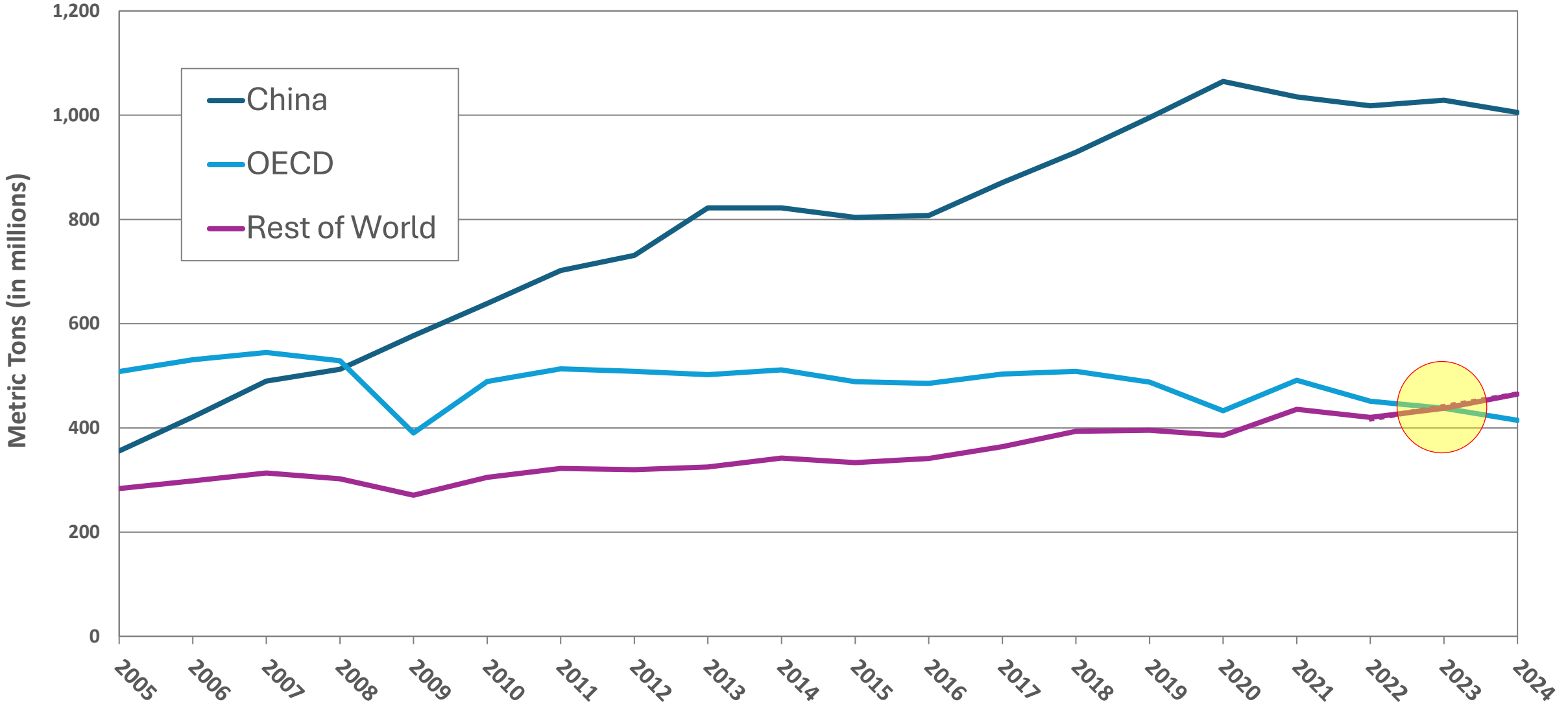
Event Sponsors BALTIMORE AIRCOIL COMPANY · Berry METAL CO · SUPERBOOTH

Global Steel Production: 1875 - 2024



Source: World Steel Association

Global Steel Production

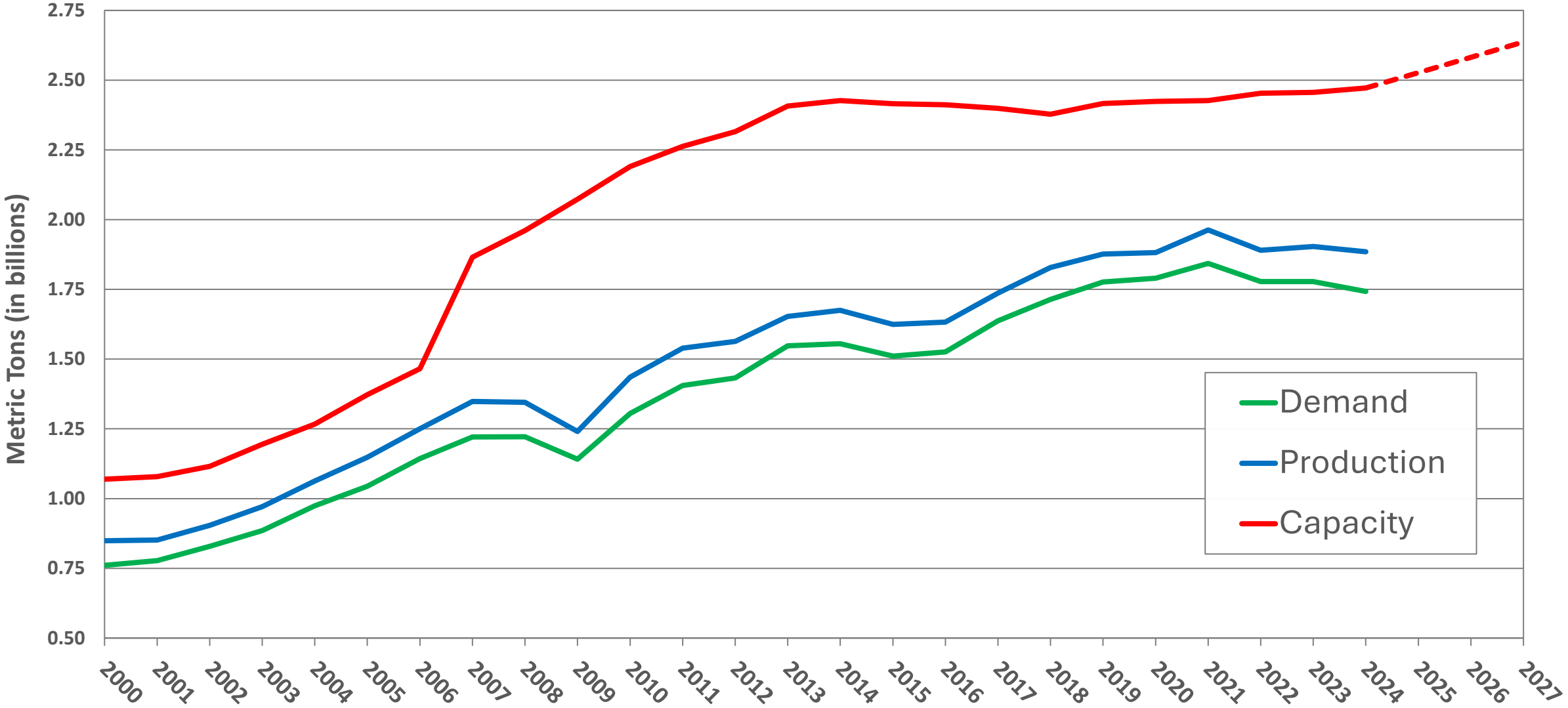


Source: World Steel Association

Global Steel Production: 2024

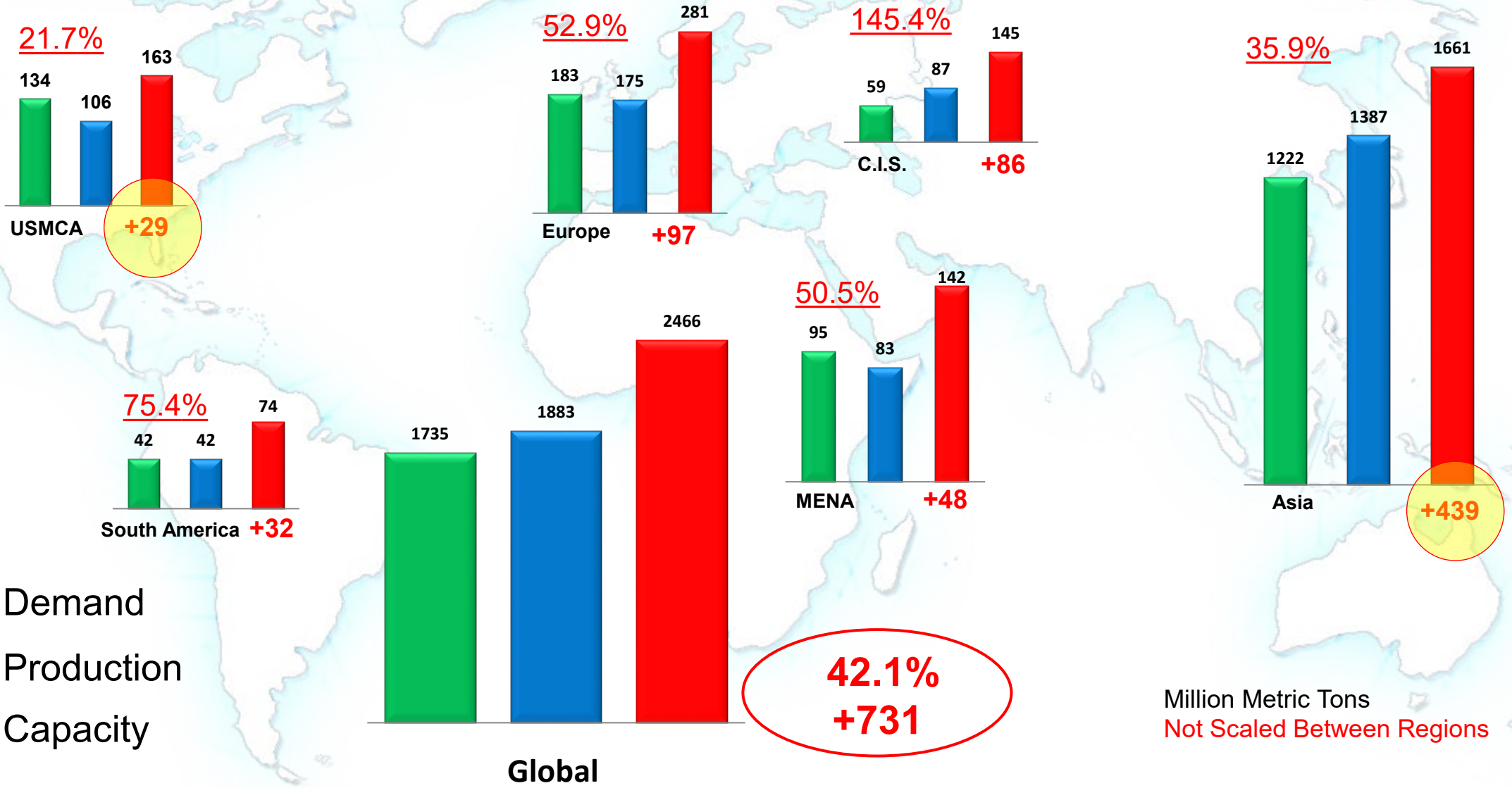
Sources: World Steel Association, Visual Capitalist

Global Steel



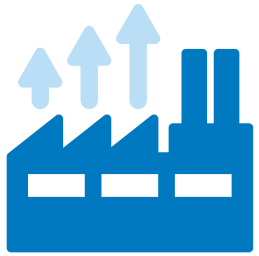
Source: OECD, World Steel Association

Global Steel: 2024

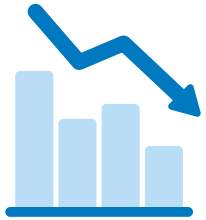


Sources: World Steel, OECD, AIST

Global Steel Challenges

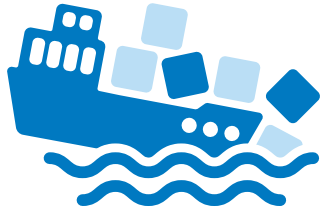


Excess Capacity



Sluggish Demand

Nonmarket Subsidies



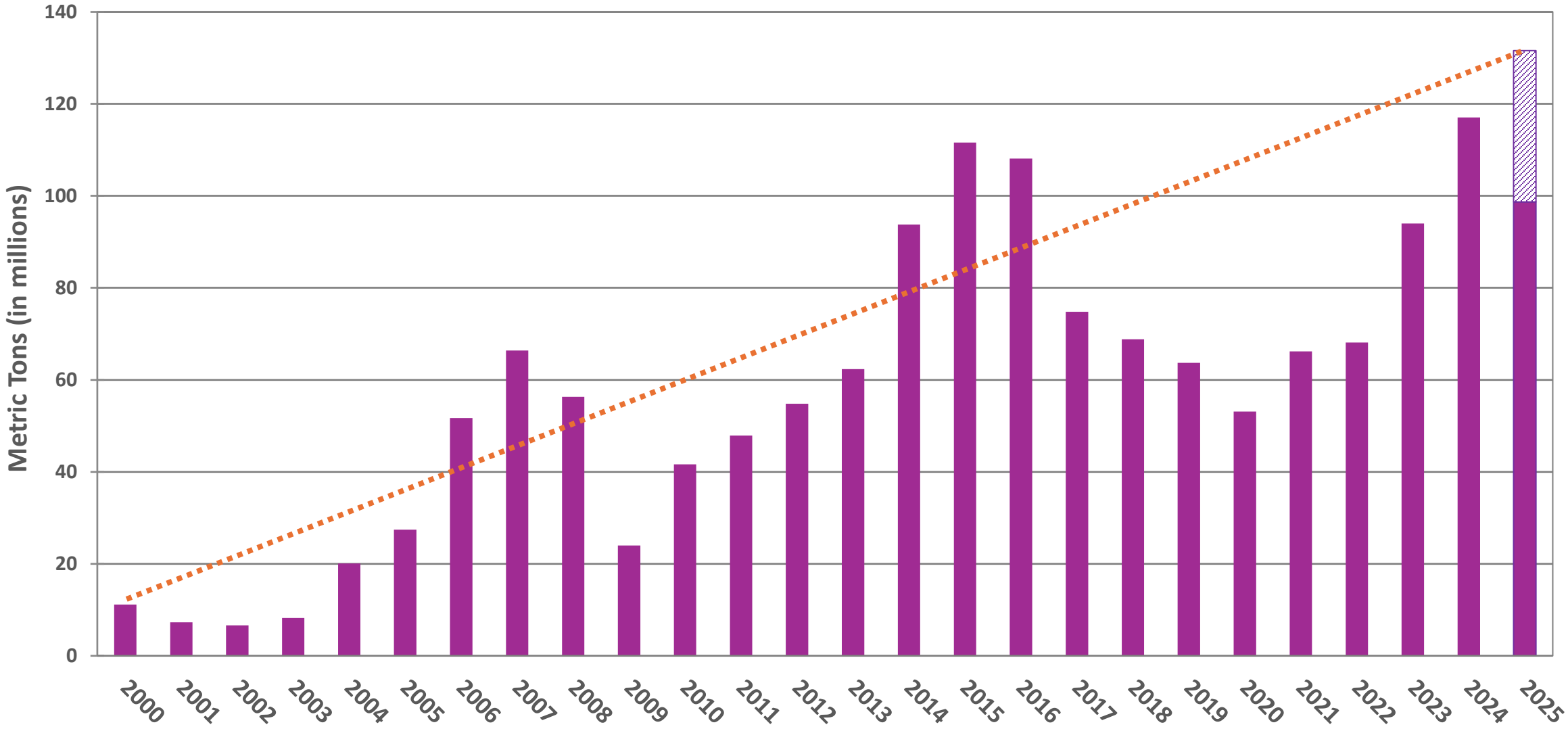
Export Dumping

Clean Energy Access

Policy Uncertainty

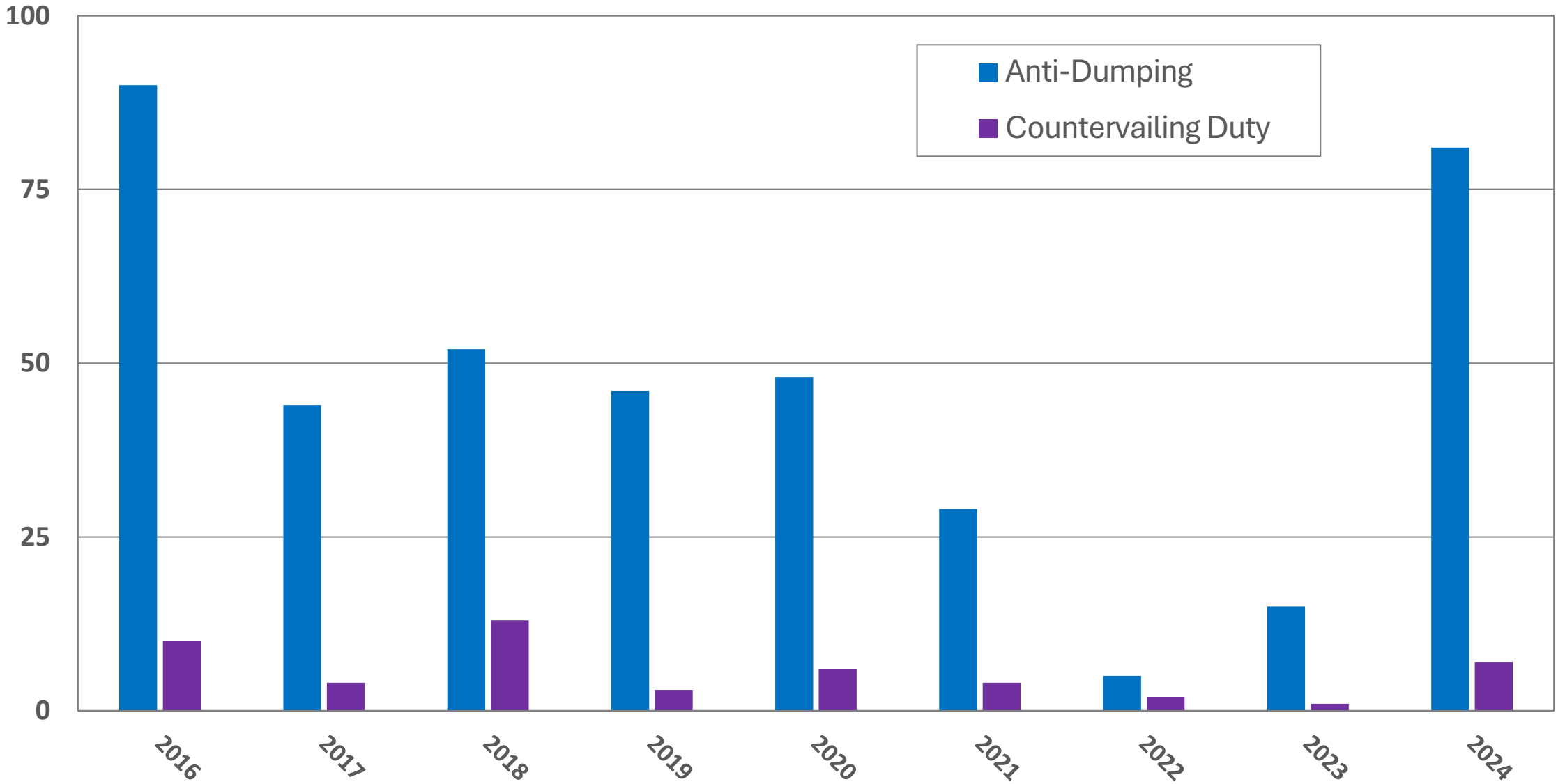
Skilled Trade Shortages

Steel Exports: China



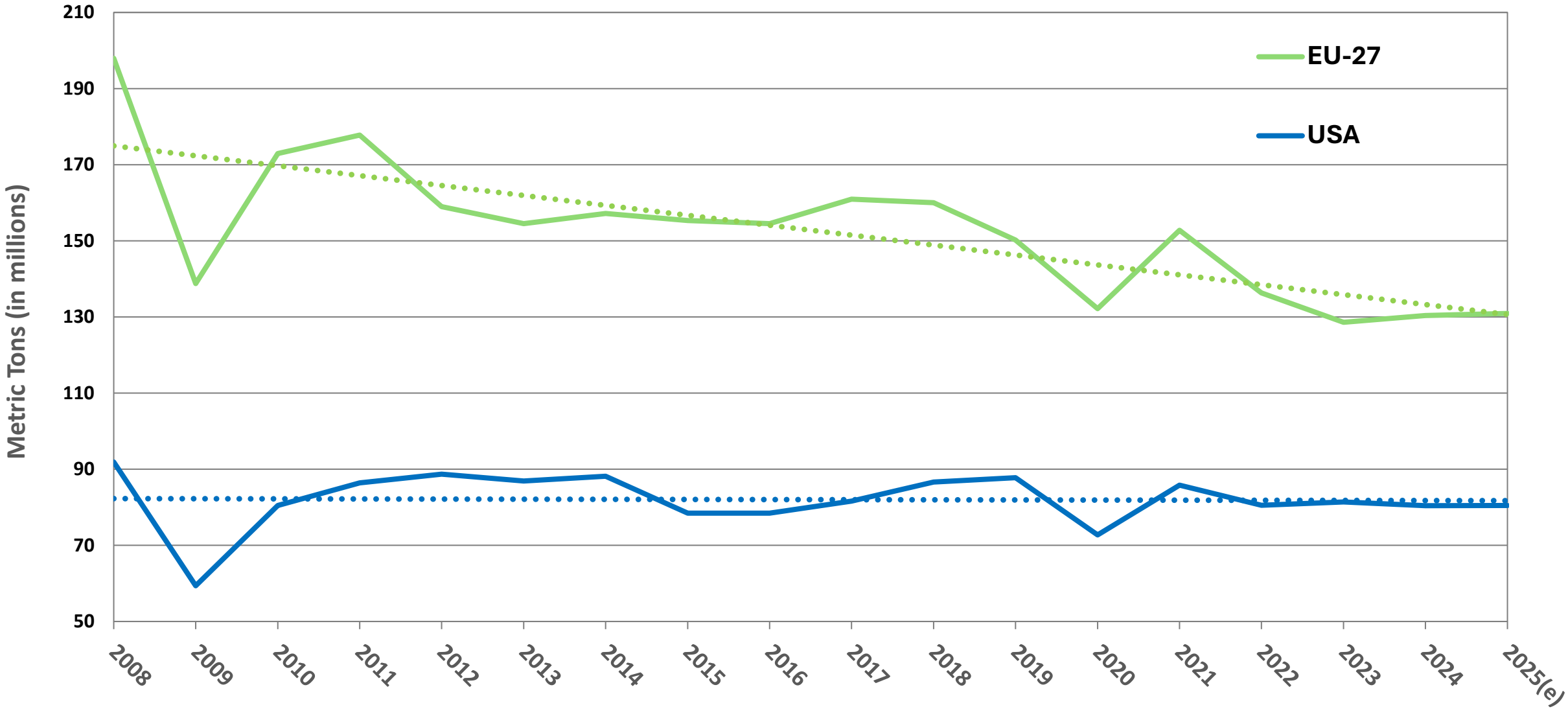
Source: World Steel Association

Steel Trade Investigations



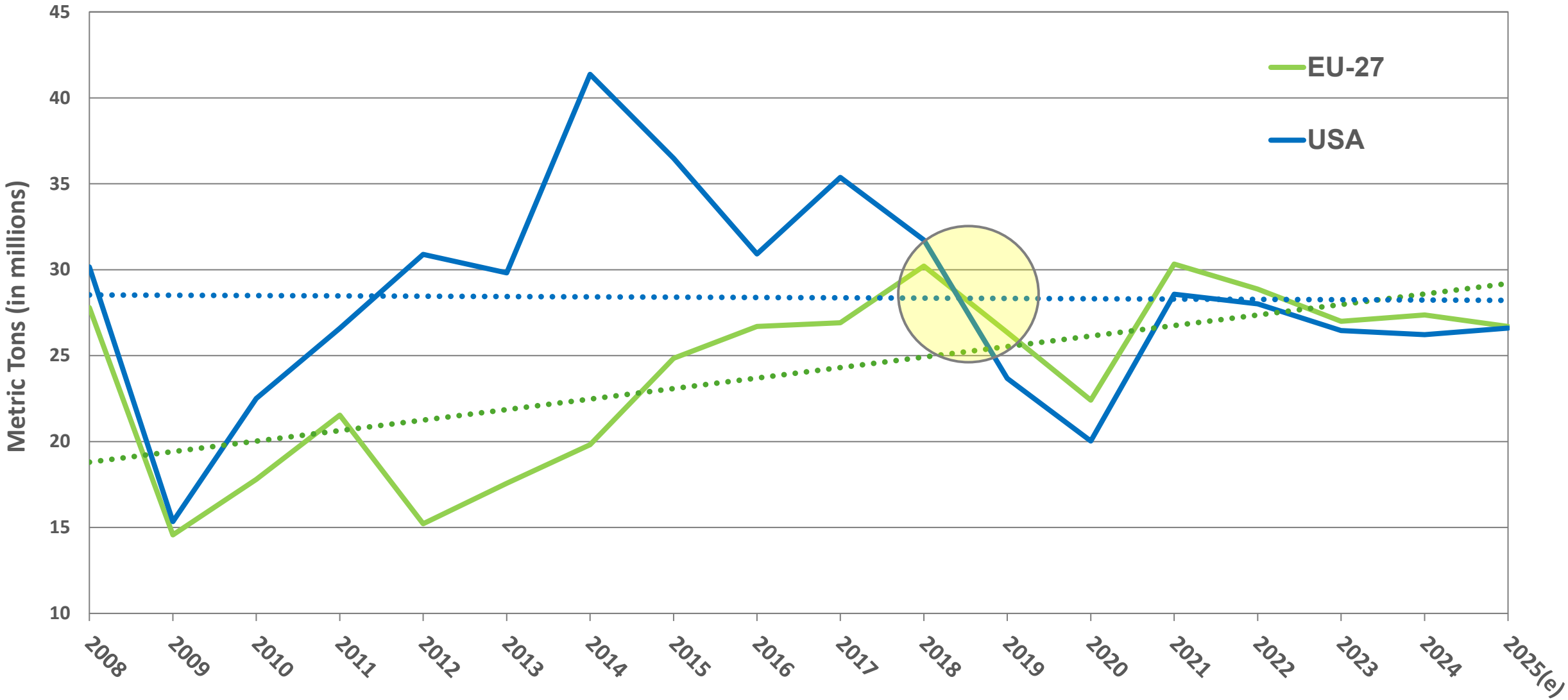
Source: OECD Steel Outlook, May 2025

Steel Production: EU vs US



Source: World Steel Association

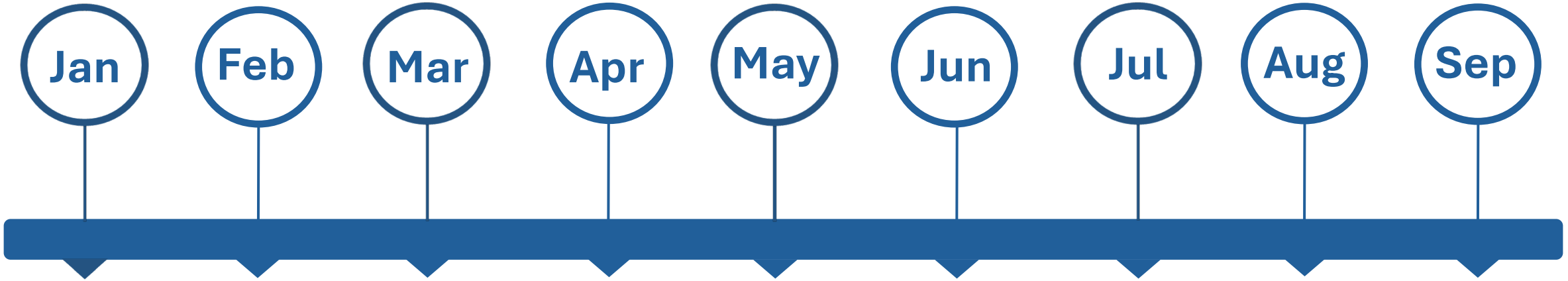
Steel Imports: EU vs US



Source: World Steel Association, U.S. Census

Pittsburgh: 30 May 2025

Section 232 Steel Tariffs in 2025



Jan — Donald Trump takes oath of office

Feb — Trump announces **steel tariff** will go to **25%** for **all countries**

Mar — **All previous exclusions,** alternative deals with nearly dozen countries, including EU, **end**

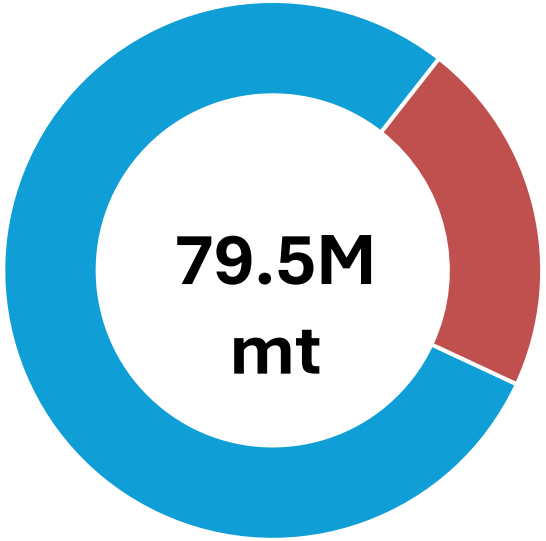
Jun — Trump raises **steel tariff** to **50%**; U.K. remains at 25%

Aug — Steel tariff applied to 407 derivative products; **US-EU reach framework agreement** on trade deal

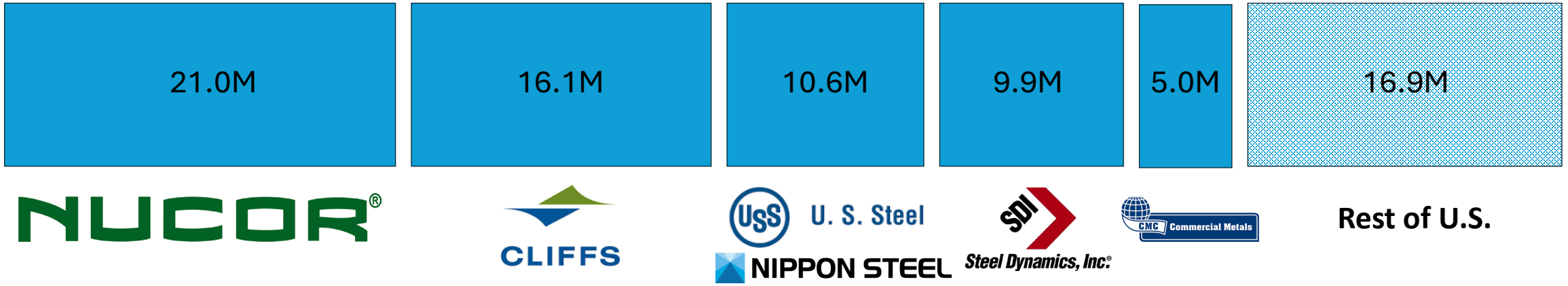
Sep — Deal to reduce U.K.'s tariffs to 0% **shelved**


STOP
PAY STEEL TARIFF
"MAN OF STEEL? ...No EXCEPTIONS."

U.S. Domestic Steel Production: 2024

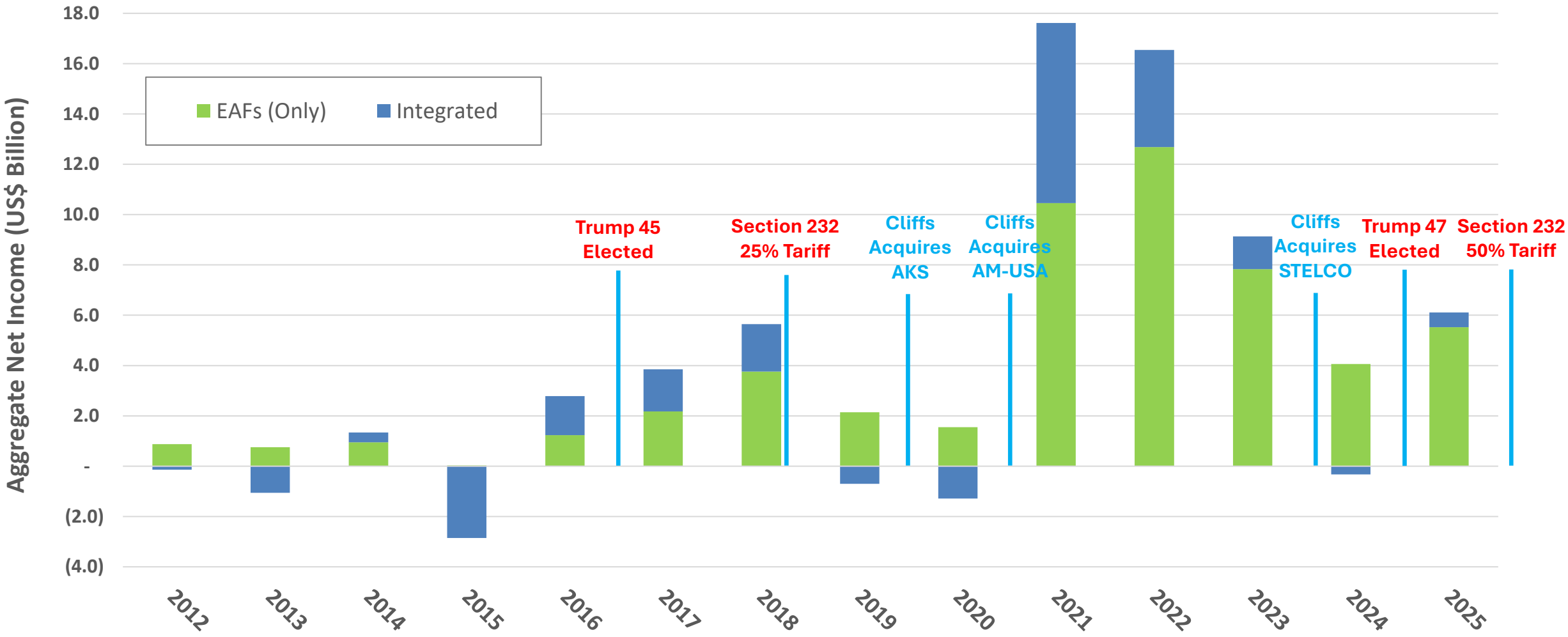


The top 5 produced **78.7%** of U.S. domestically made steel in 2024



Source: World Steel Association, company disclosures

Major U.S. Steel Producers, Net Income

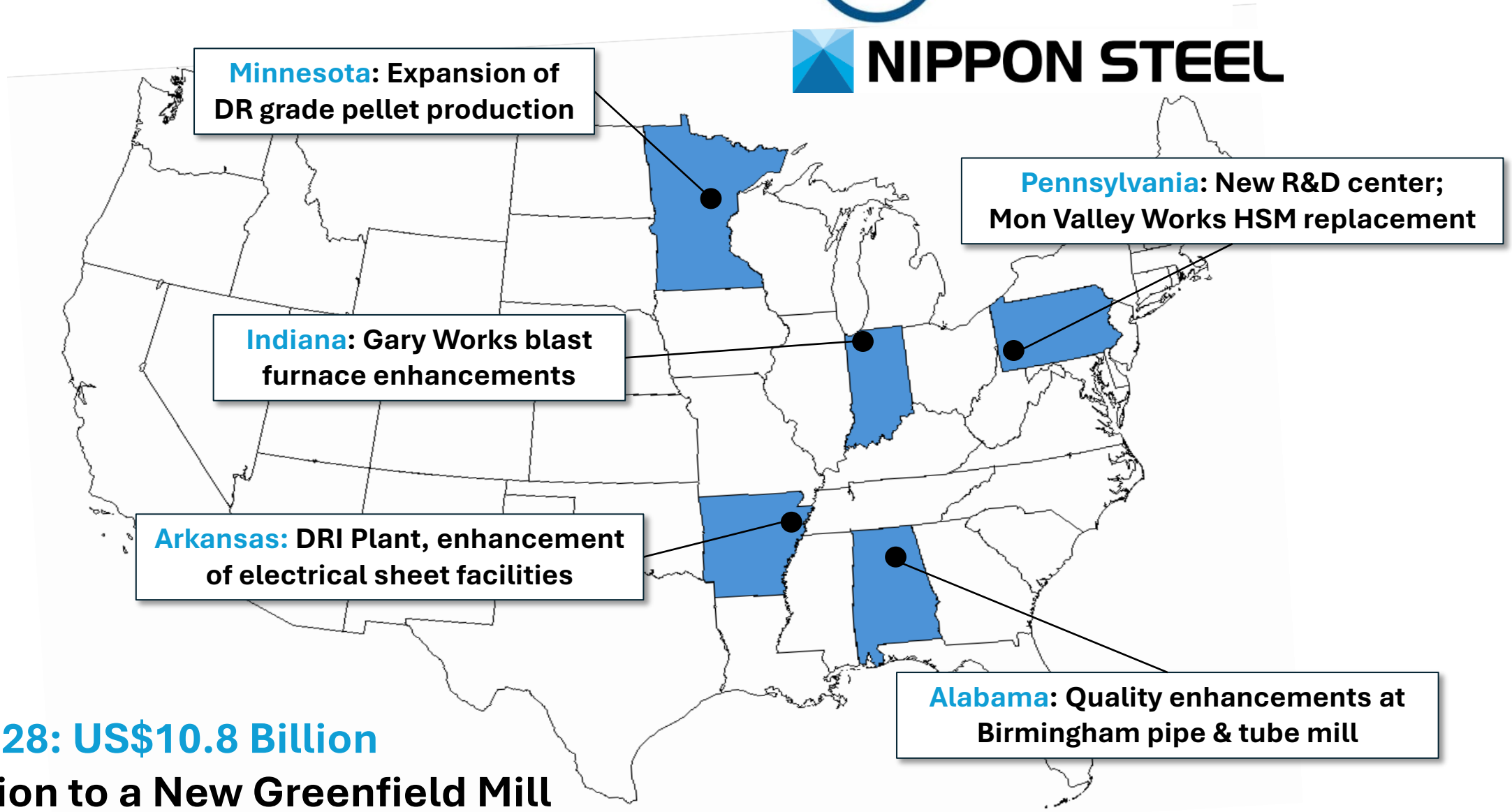


Source: Top 6/5 Producers Aggregated, Company Earnings Reports, 2025 is Q1&Q2 only

Planned Investments

U. S. Steel

NIPPON STEEL

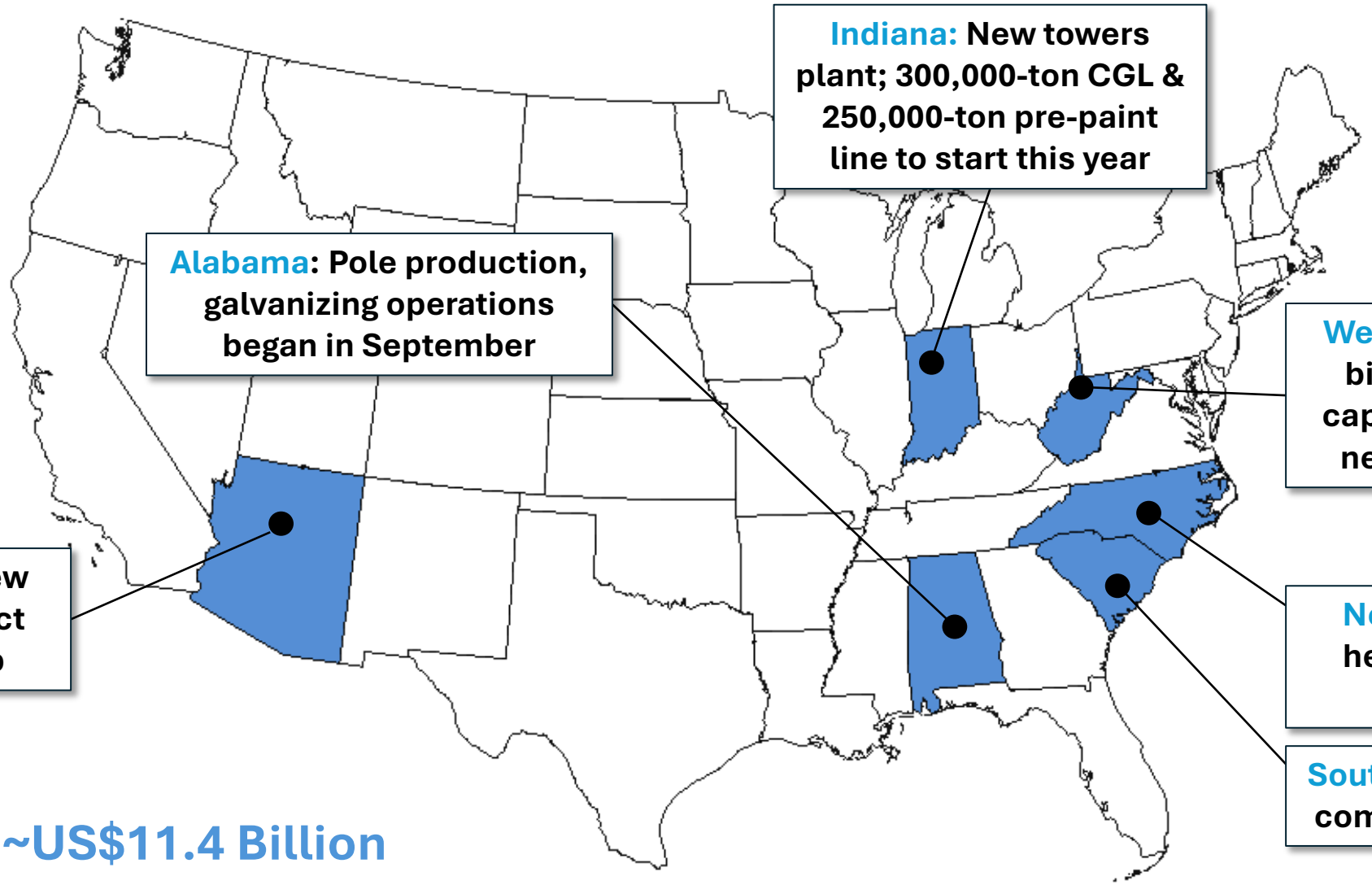


2025-2028: US$10.8 Billion

In addition to a New Greenfield Mill

Source: Nippon Steel

Planned Investments



Indiana: New towers plant; 300,000-ton CGL & 250,000-ton pre-paint line to start this year

Alabama: Pole production, galvanizing operations began in September

West Virginia: US$4 billion sheet mill capable of 3 million net tons annually

Arizona: New long product melt shop

North Carolina: First heats at 430,000-ton rebar micro-mill

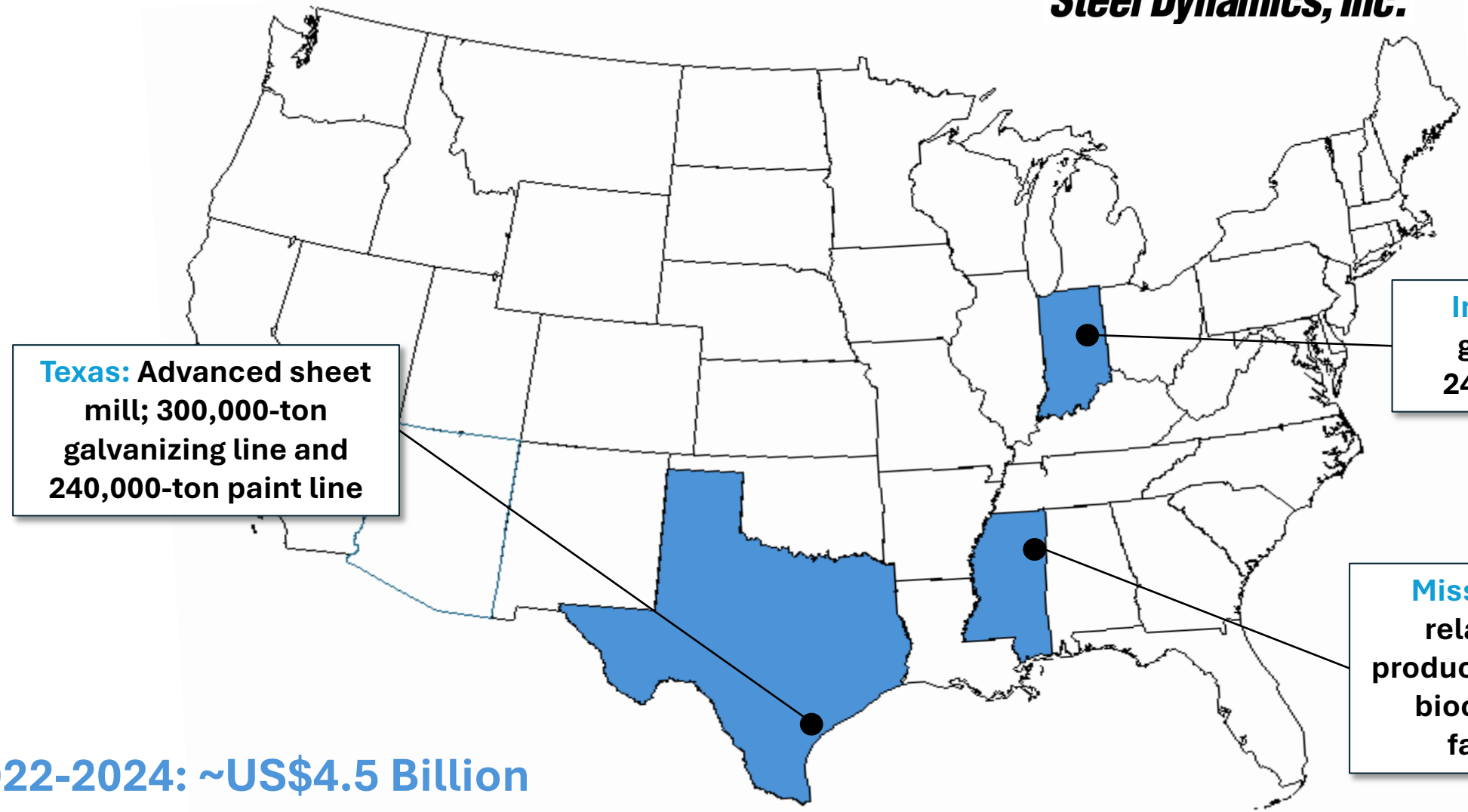
South Carolina: Galv line commissioning in 2H'26

2022-2024: ~US$11.4 Billion

Source: Nucor Corp.

Planned Investments

Steel Dynamics, Inc.®



Texas: Advanced sheet mill; 300,000-ton galvanizing line and 240,000-ton paint line

Indiana: 300,000-ton galvanizing line and 240,000-ton paint line

Mississippi: First coils related to aluminum production shipped in June; biocarbon production facility underway

2022-2024: ~US$4.5 Billion

Source: Steel Dynamics Inc.

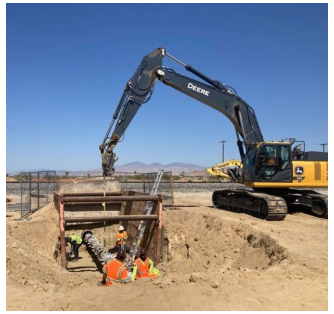
U.S. Steel Mill Developments: 2025 Highlights

Carpenter Technology Corp.
US$400 million investment to expand its high-purity melt capacity. Plans include new vacuum induction melt furnace and new installation of new finishing equipment.

Cleveland Cliffs
US$150 million, vertical bright anneal line for stainless steel; replacement of two gas-fired slab reheat furnaces with induction units.

Metallus
US$100 million upgrade underway. Automatic grinding line commissioned in Q2; bloom reheat furnace to open by year's end. Roller furnace to be commissioned in first half of 2026.

JSW Steel USA
US$110 million plate mill modernization at Baytown, Texas, facility. Project will enable production of plate suitable for monopiles.



Pacific Steel Group
Ground broken on rebar micro-mill in March 2025. Mill will produce 450,000 tons annually. First steel mill built in California in 50 years.

ArcelorMittal Calvert
Meltshop installation complete, ramp-up ongoing. US$1.2 billion NOES mill greenlighted.

Recent Investments: 2021- 2025

North American Steel Producers

DRI

~7.4 million tons

Melt Process

100% EAF

Flat Products

~29.0 million tons

Long Products

~4.5 million tons

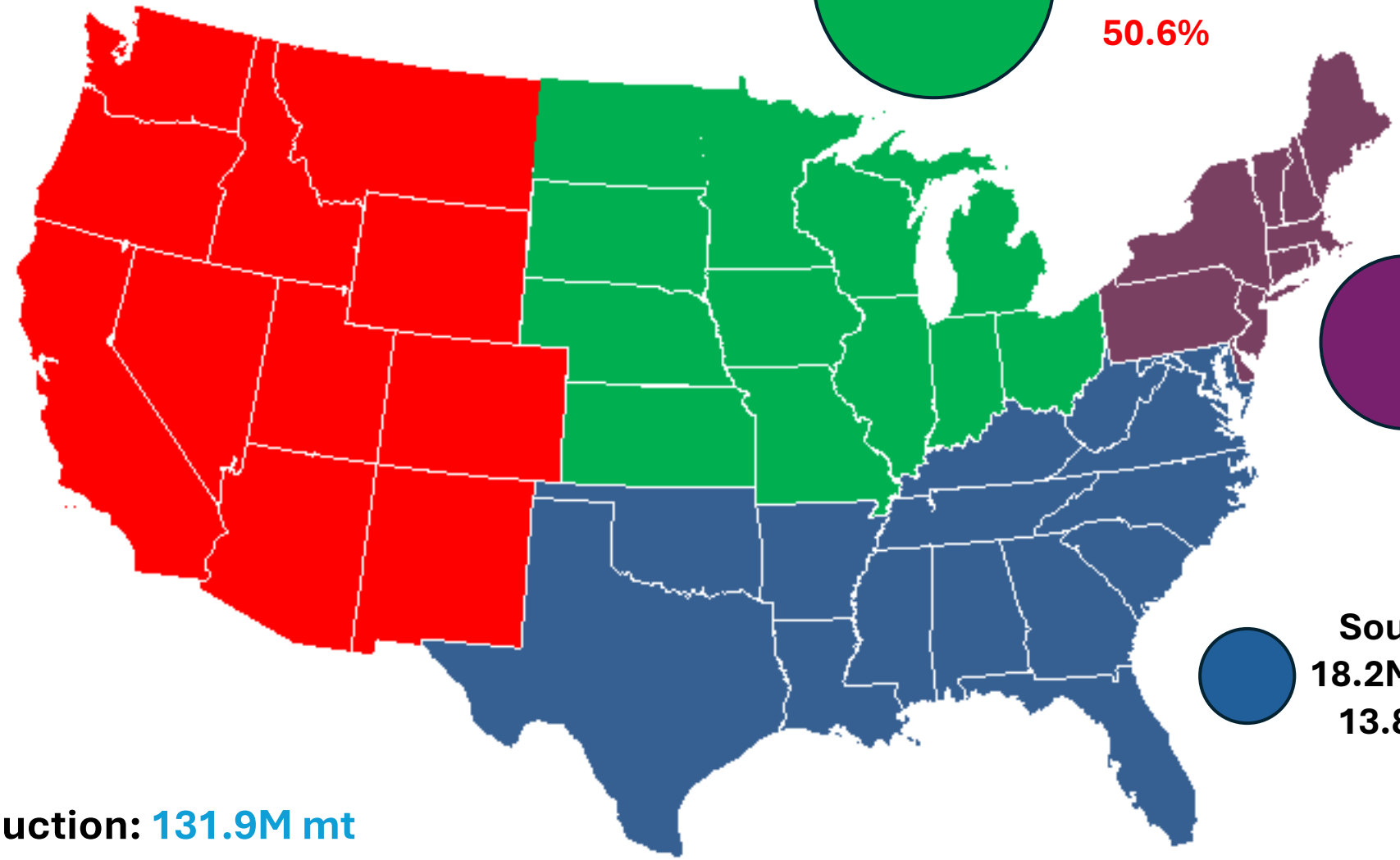
$33.2 Billion

\+ $10.8 Billion: U.S. Steel Corp. = **$ 44.0 Billion**

Source: Company announcements, data excludes U.S. Steel investments

Shifting Geography: 1974

Crude Steel Production



Midwest
66.8M mt
50.6%

Northeast
39.1M mt
29.6%

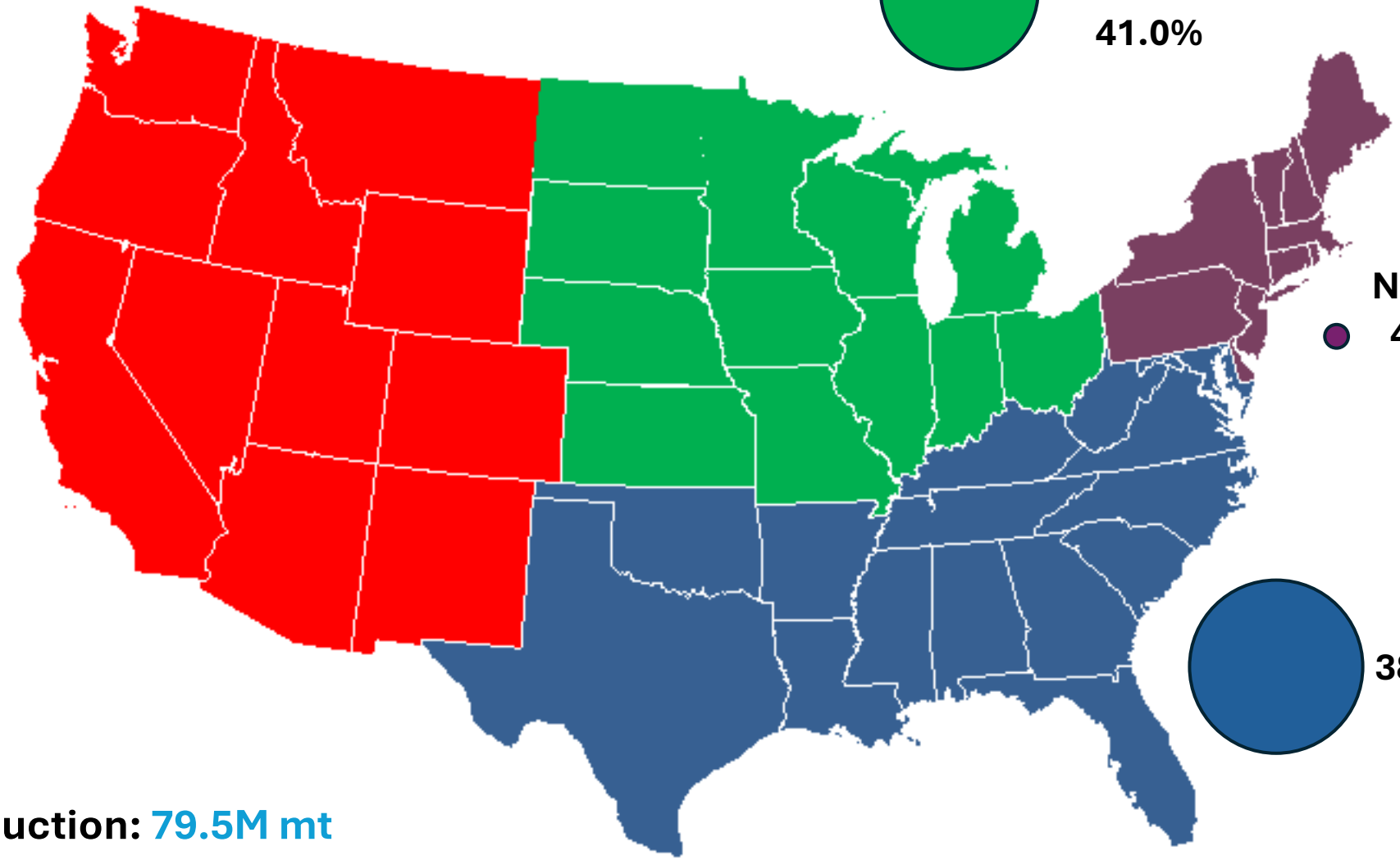
South
18.2M mt
13.8%

West
7.8M mt
5.9%

Total U.S. Production: 131.9M mt

Source: U.S. EIA State Profile

Shifting Geography: 2024
Crude Steel Production



Midwest
32.6M mt
41.0%

West
3.6M mt
4.5%

Northeast
4.5M mt
5.7%

South
38.8M mt
48.8%

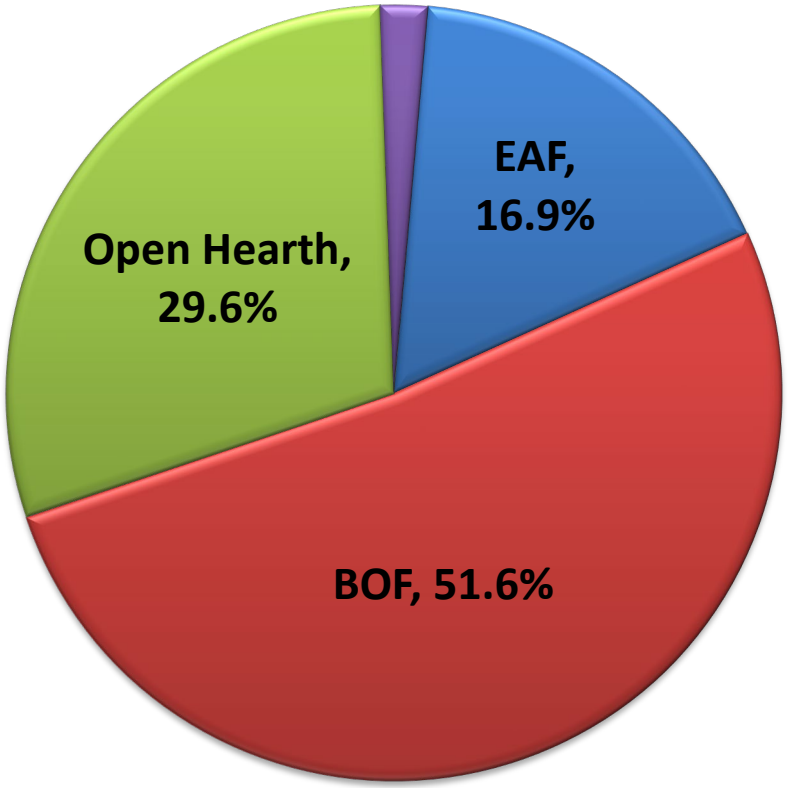
Total U.S. Production: 79.5M mt

Source: U.S. EIA State Profile

Diverging Process Adoption: 1974

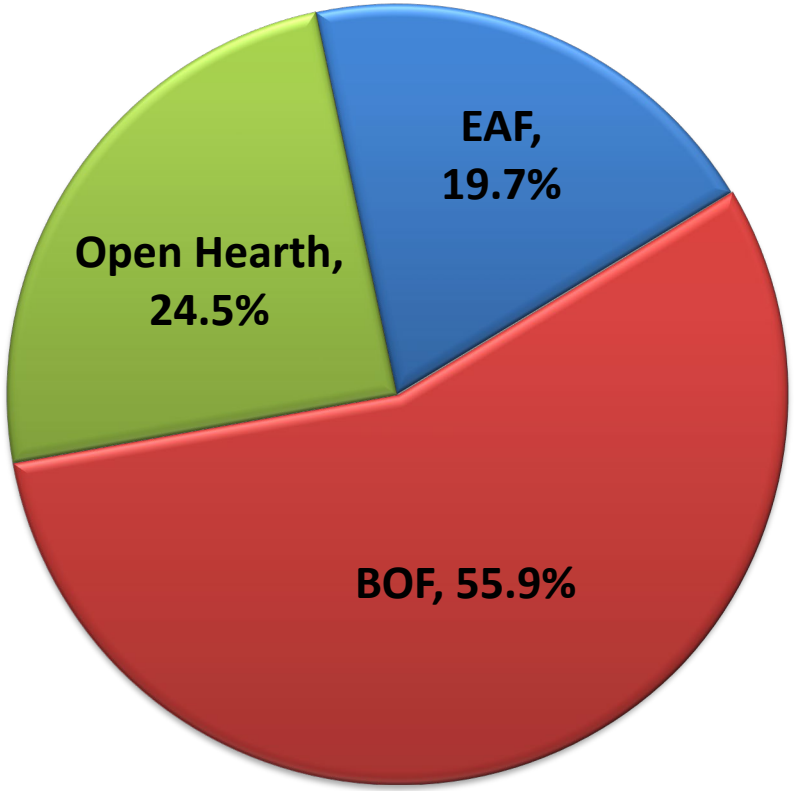
Crude Steel Production

World



659.0 MMT

North America (Can / US)

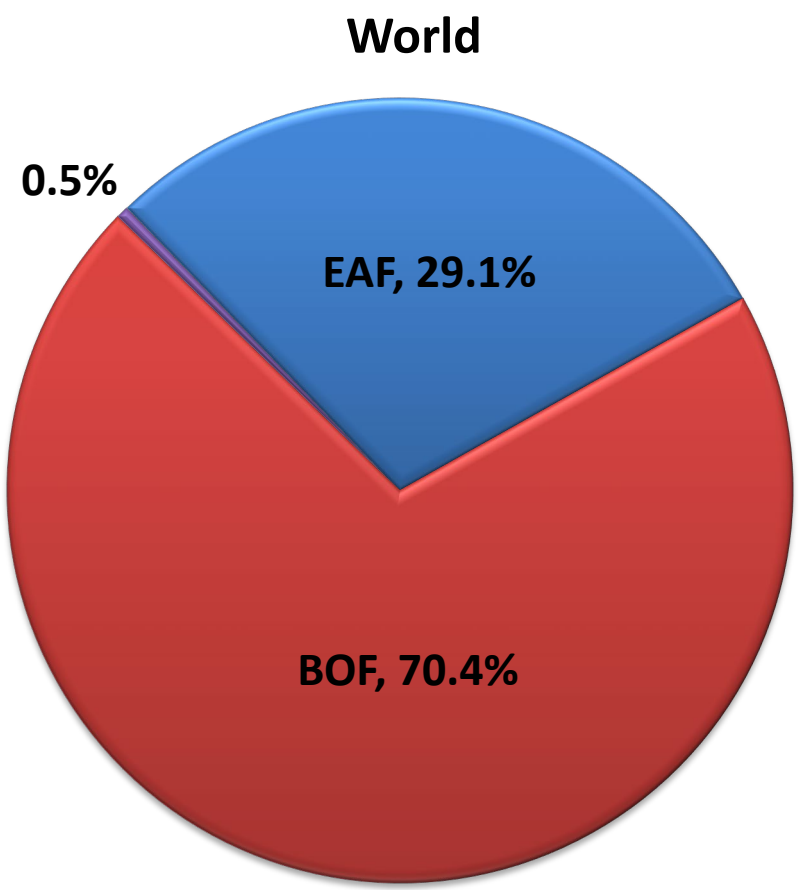


145.8 MMT; 22.1% of Global Production

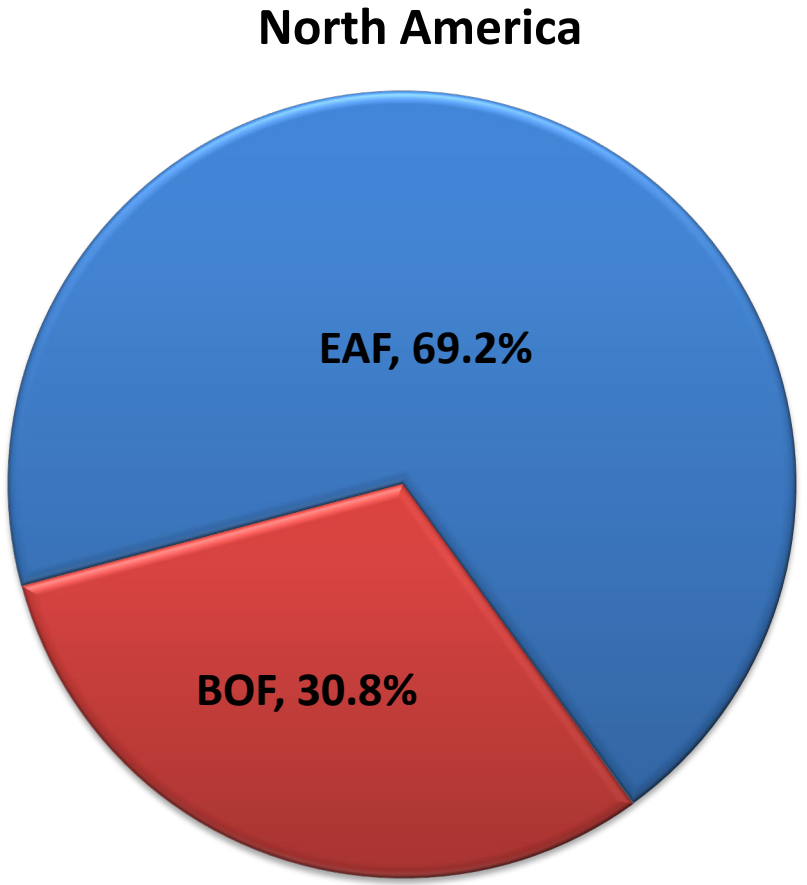
Source: World Steel Association, AIST

Diverging Process Adoption: 2024

Crude Steel Production



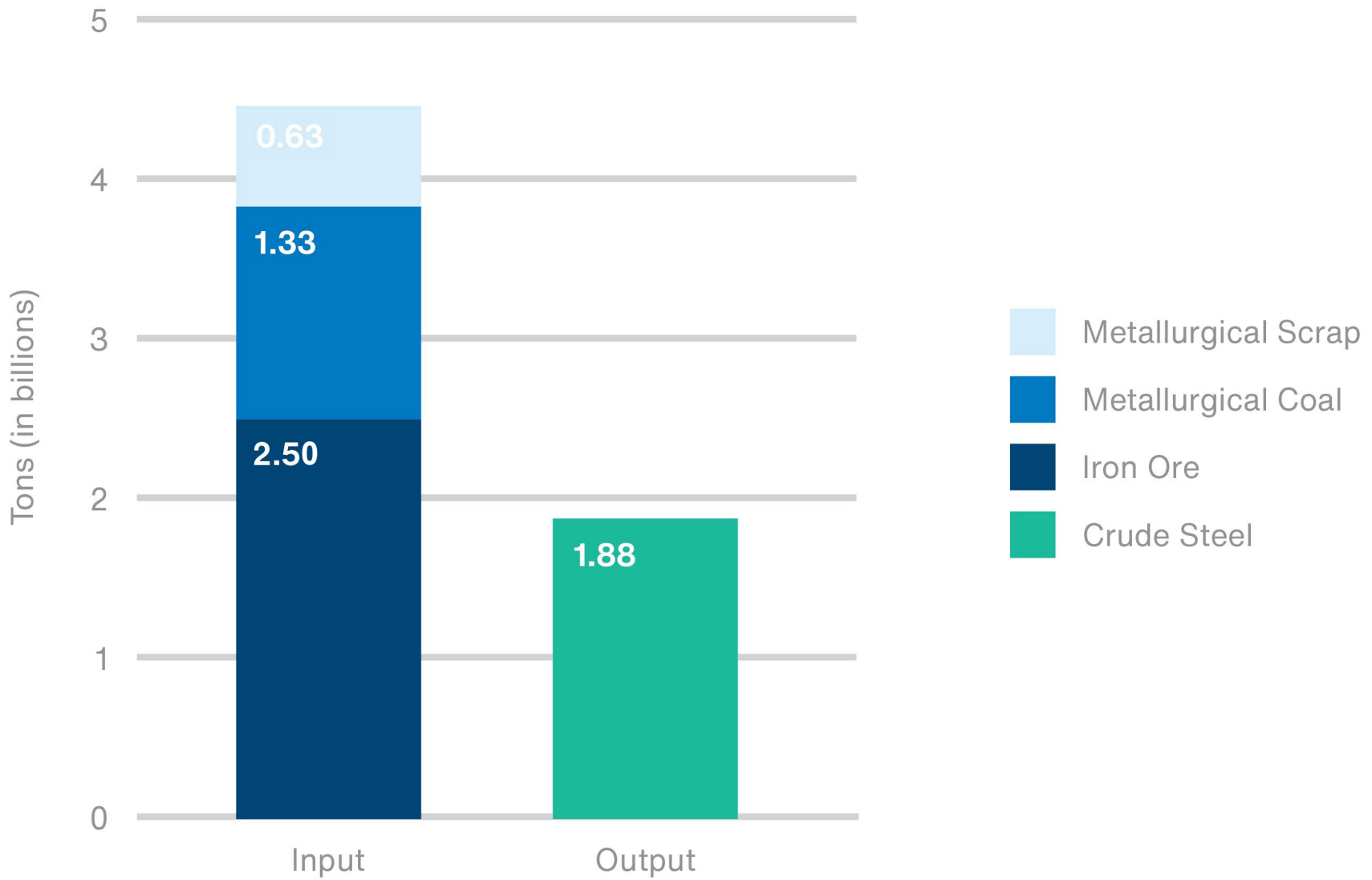
1,882.6 MMT



110.5 MMT; 5.9% of Global Production

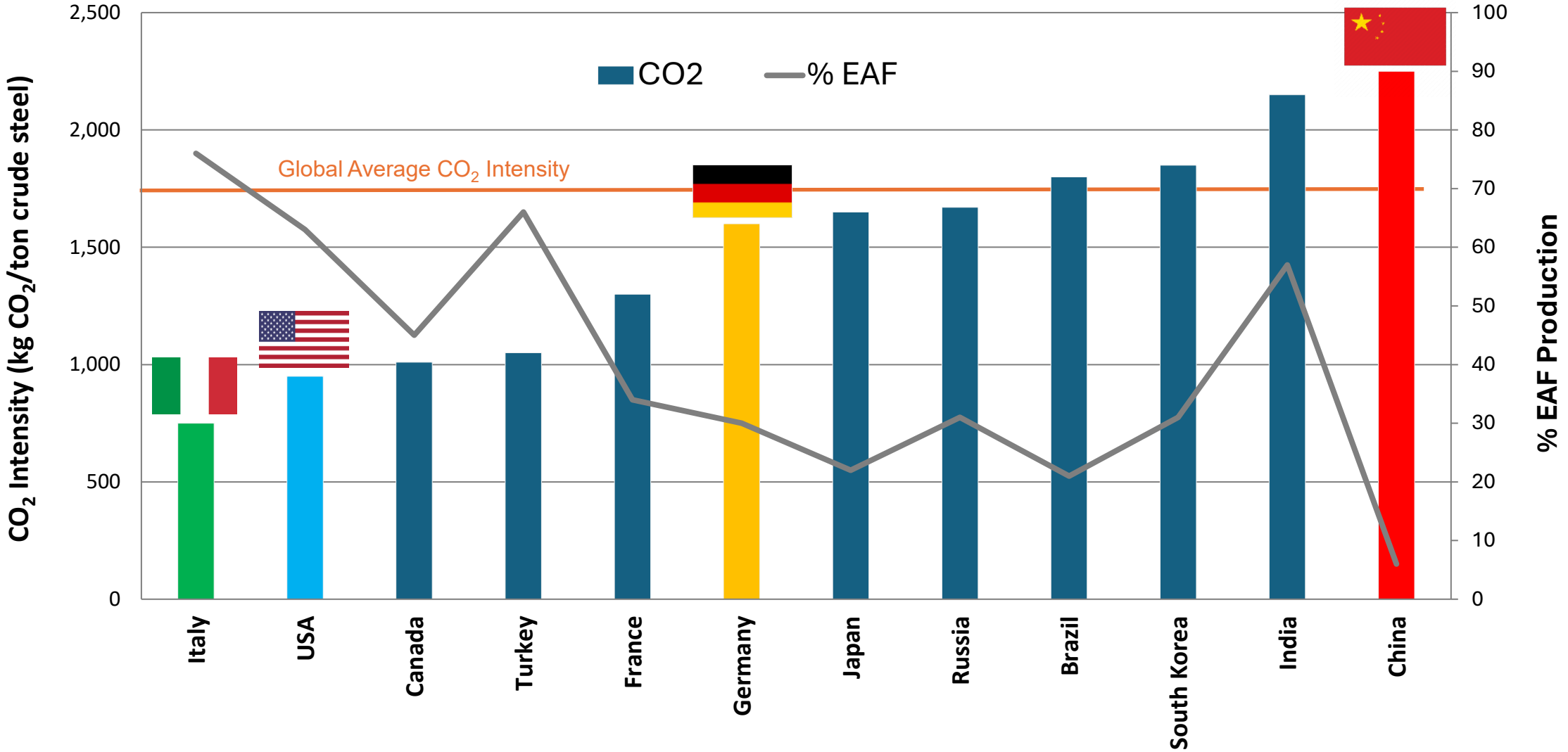
Source: World Steel Association, AIST

Global Steel Mass Balance: 2024



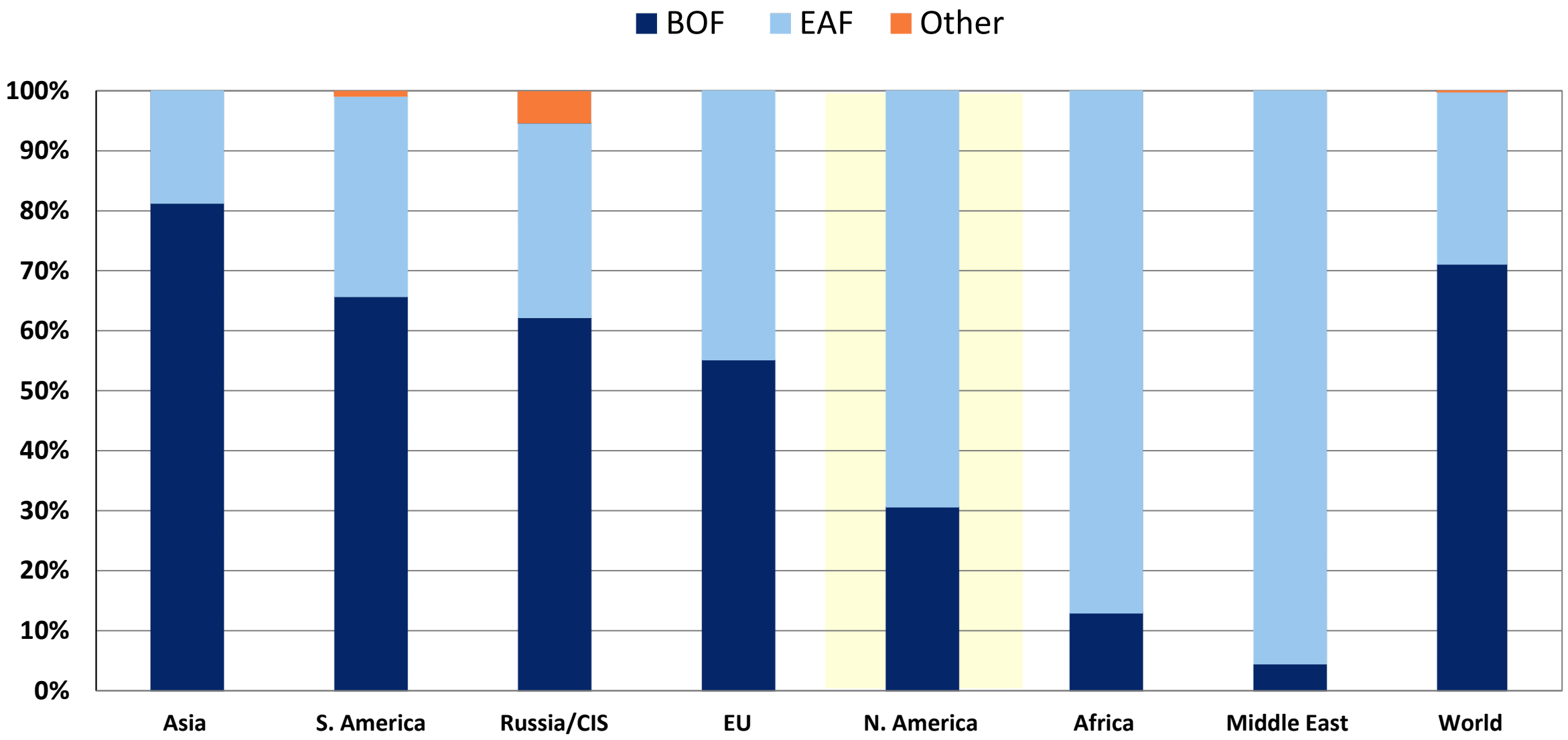
Source: World Steel Association, BIR

CO_2 Emissions Intensity



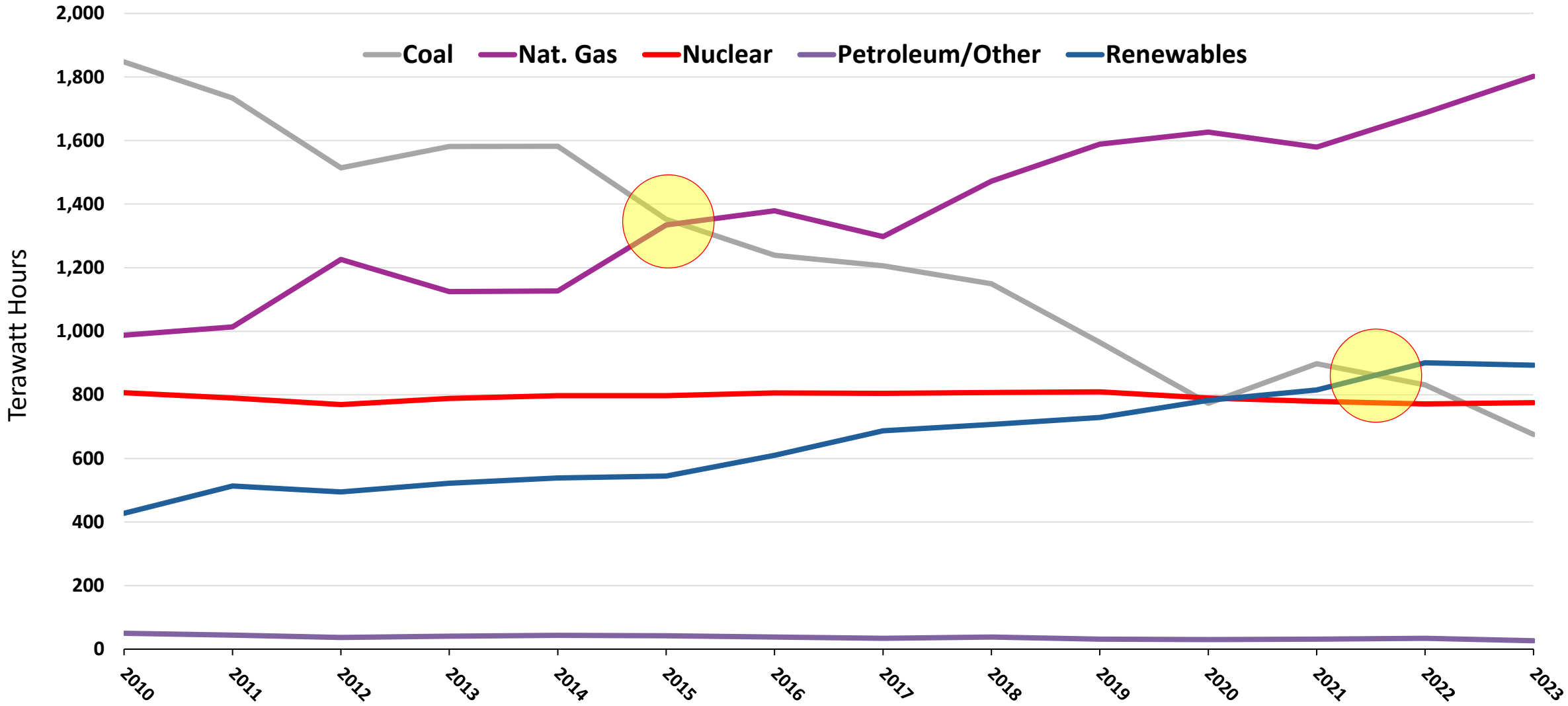
Scope I & II Emissions; Adapted from "How Clean is the Steel Industry," by Hasanbeigi & Springer – Global Efficiency Intelligence, 2024

Global Steel Process Routes: 2024



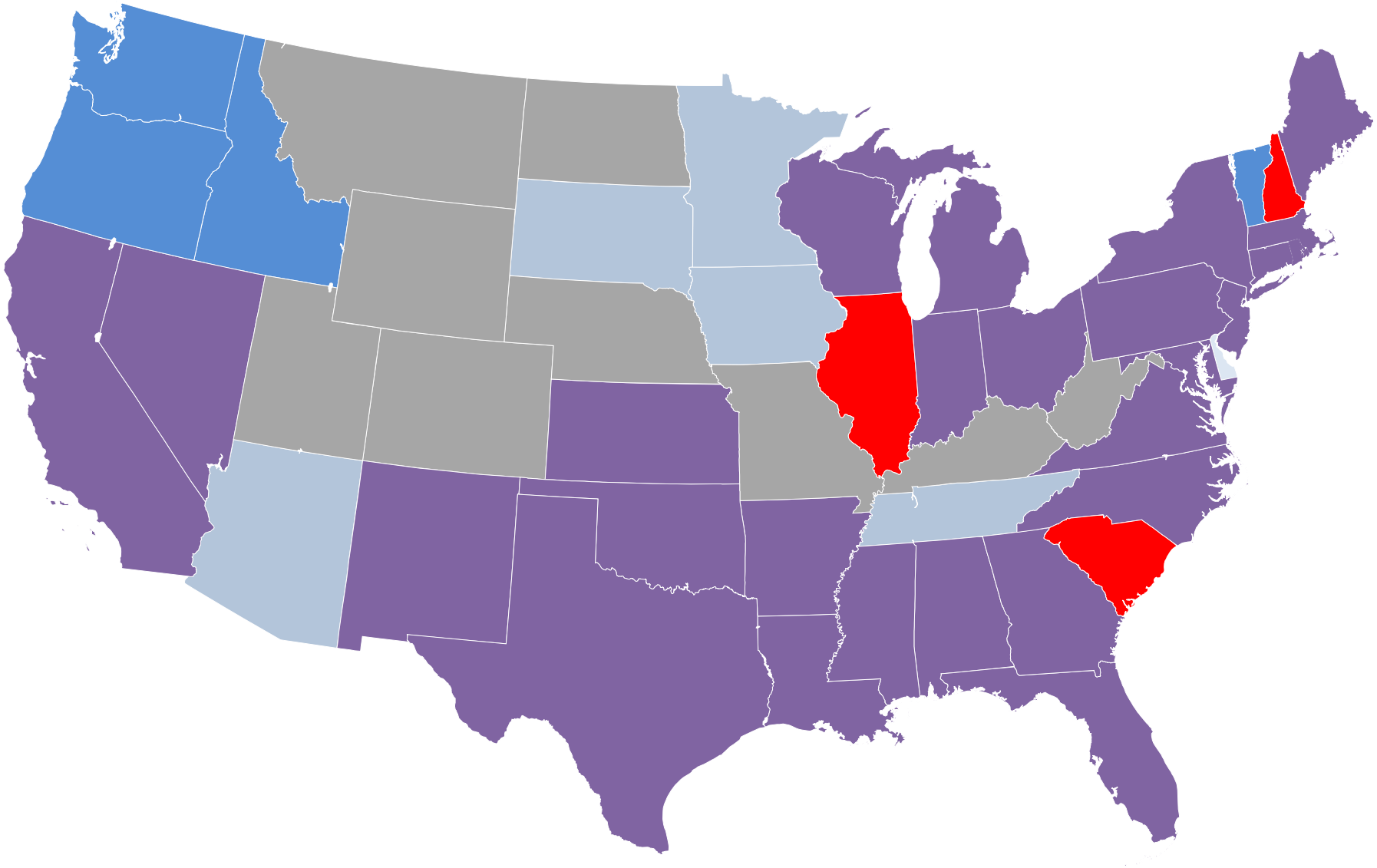
Source: 2024 World Steel In Figures

U.S. Electricity Generation



Source: U.S. EIA

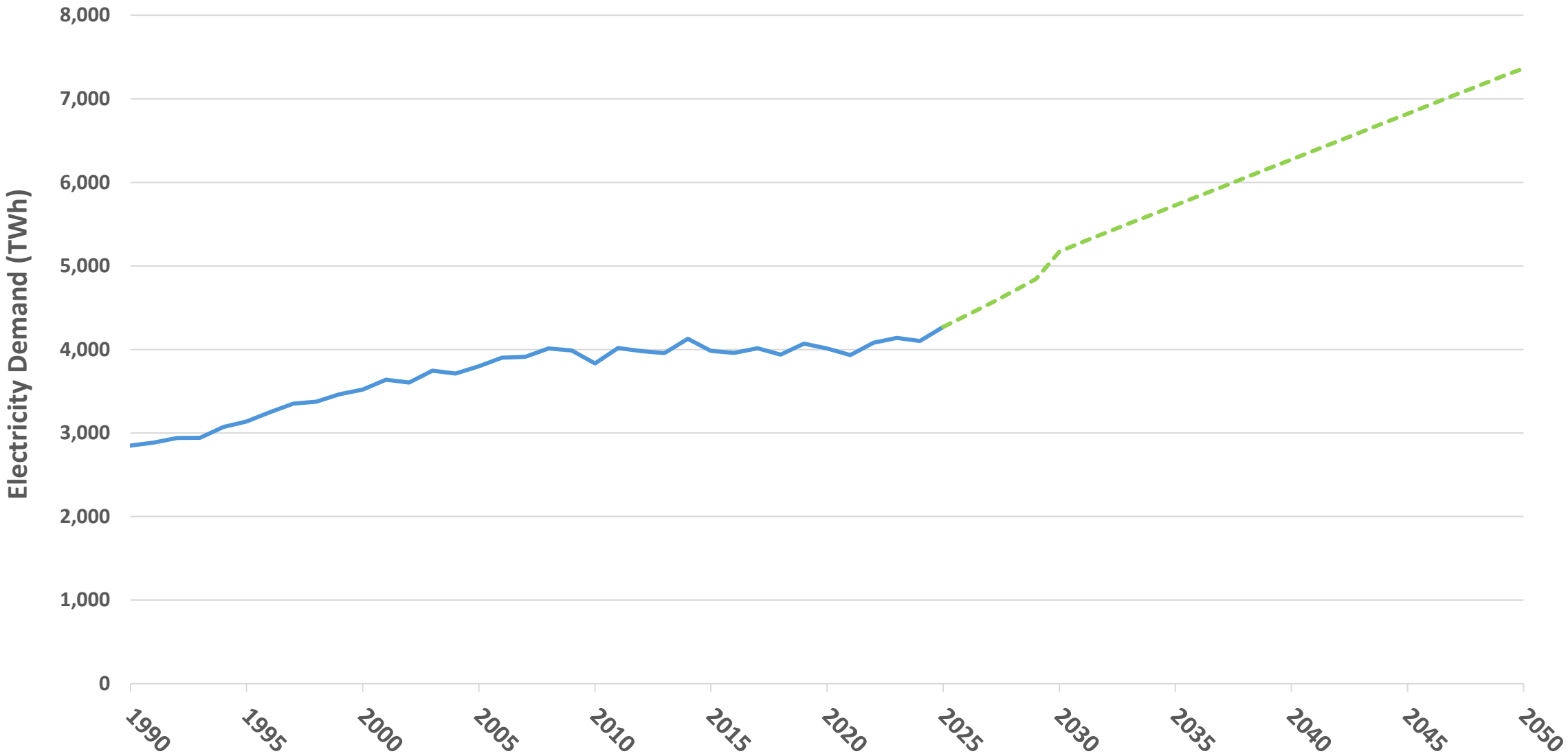
Top Electricity Generation Sources



- Natural Gas
- Coal
- Nuclear
- Hydroelectric
- Wind

Source: 2024 U.S. EIA State Profile

U.S. Electricity Demand



*Source: ICF, "*Rising Current: America's Growing Electricity Demand," 2025

U.S. Electrical Energy Competition by 2050

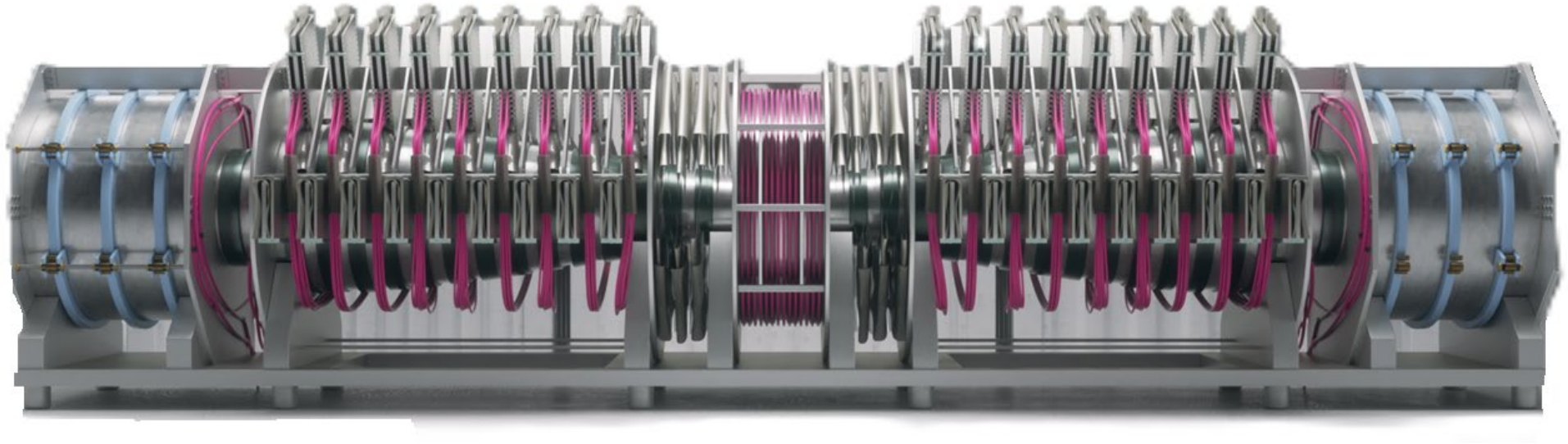
Source: National Electrical Manufacturers Assn., Clean Energy Buyers Association

Nucor's Nuclear Future

2022: US$15M investment in Small Modular Reactor developer ***NuScale***

2023: US$35M investment in fusion power developer ***Helion***

2025: Partners with ***The Nuclear Company*** for steel applications



Nucor and Helion aim to bring a 500 MW fusion plant online withing the next decade.

Source: Nucor

Steel is Essential to Clean Energy

TONS OF STEEL USED PER MW OF NEW GENERATING CAPACITY

~15 tons

Natural Gas

40-70 tons

Solar Array

~100 tons

Onshore Wind

~250 tons

Offshore Wind

TONS OF STEEL USED PER MILE

~65 tons

Energy Transmission

Source: Nucor

Steel Needs Clean Energy

and Clean Energy NEEDS Steel!

Hampered Hydrogen

Company	Project	Location	Status
Cleveland-Cliffs	Middletown H2-fueled DRI plant	Ohio	Canceled
Nel Hydrogen	Greenfield PEM electrolyzer manufacturing plant	Michigan	Postponed
Fortescue	Greenfield 80 MW electrolysis/liquification facility	Arizona	Canceled
Hy Stor Energy	Greenfield >1 GW alkaline electrolysis plant	Mississippi	Canceled
Air Products	Greenfield 35 MT/day electrolysis plant	New York	Canceled

Sources: Company announcements

U.S. Metallic Scrap: 2024

The U.S. steel industry is **highly scrap dependent**

63.0 M mt **consumed**

14.9 M mt **exported**

4.7 M mt **imported**

Approximately 25% of all metallic scrap comes from automobiles

Source: U.S. Geological Survey

CO2 Emissions Reduction Targets

Scope I, II and III

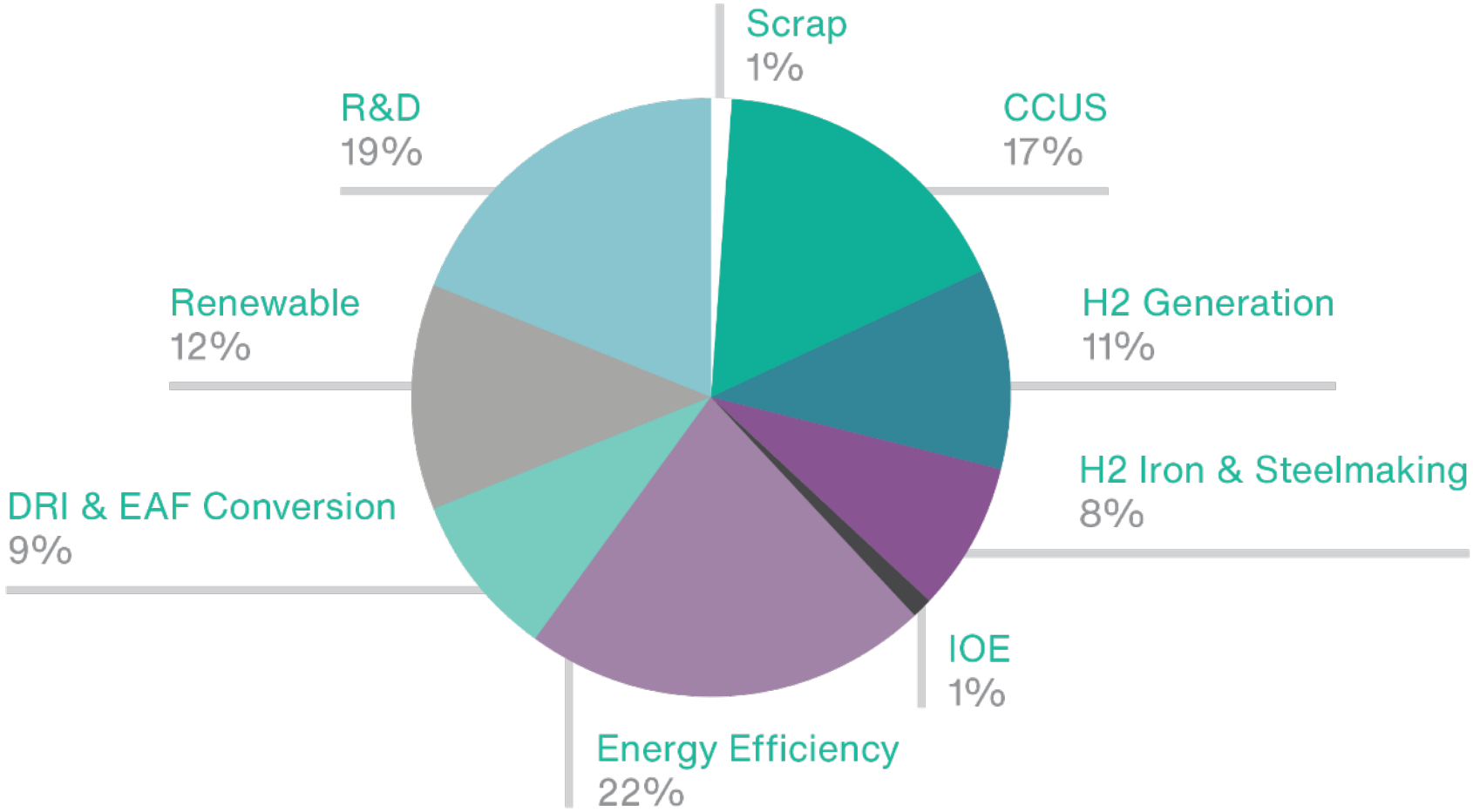
Company	Announced	Goal	Baseline Year
Cleveland-Cliffs	Jan 2021 May 2024 (Revised)	30% reduction in combined Scope I & II by 2035 20% reduction in upstream Scope III by 2035 Near net-zero Scope I, II & III by **2050**	2023
Commercial Metals	June 2021	20% reduction in Scope I & II by 2030	2019
Nucor	July 2021 Nov 2023 (Revised)	35% reduction in Scope I & II by 2030 9.2% reduction in Scope I, II, III by 2030 Net-zero in Scope I, II, III by **2050**	2015
Steel Dynamics	July 2021	20% reduction in Scope I & II by 2025, 50% by 2030 Carbon neutral mills by **2050**	2018
U. S. Steel	April 2021	20% reduction in Scope I & II by 2030 Net-zero by **2050**	2018

Source: Company announcements

Process Adaptation

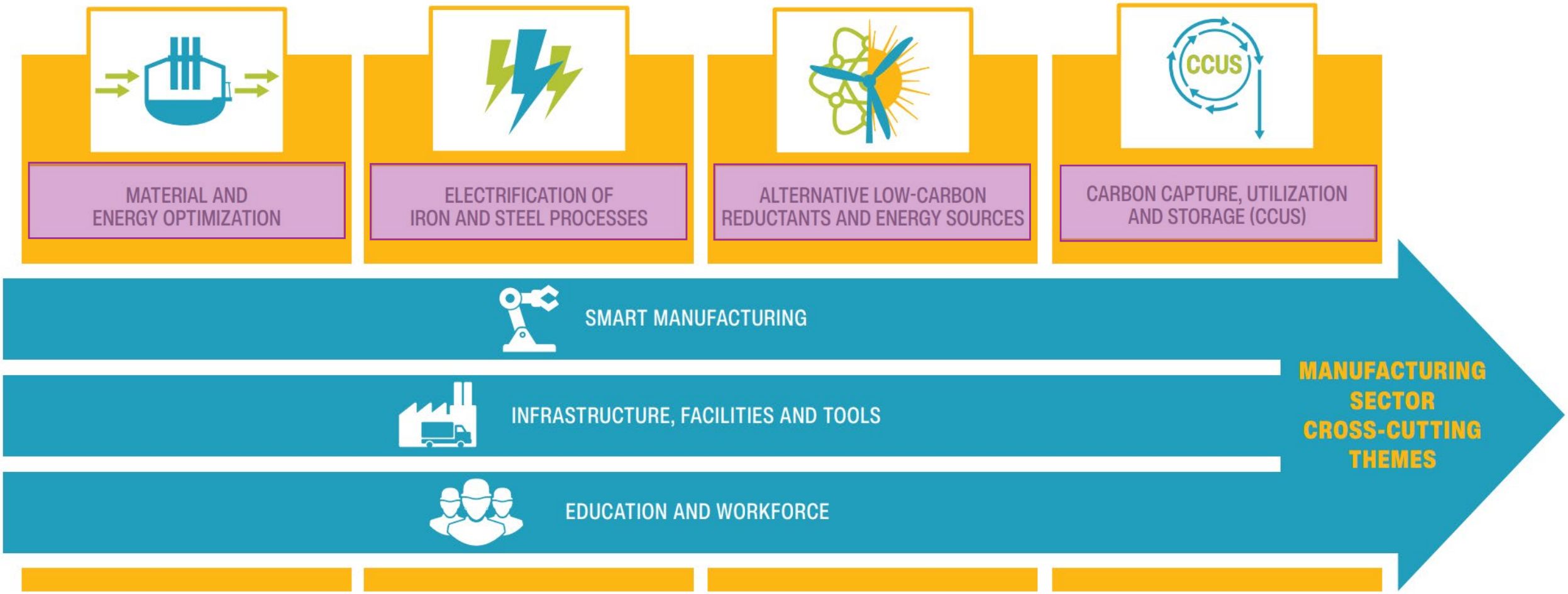
Multiple Pathways to Decarbonize Steel

Technology Profiles
Recent Iron & Steel
Decarbonization Projects (240)

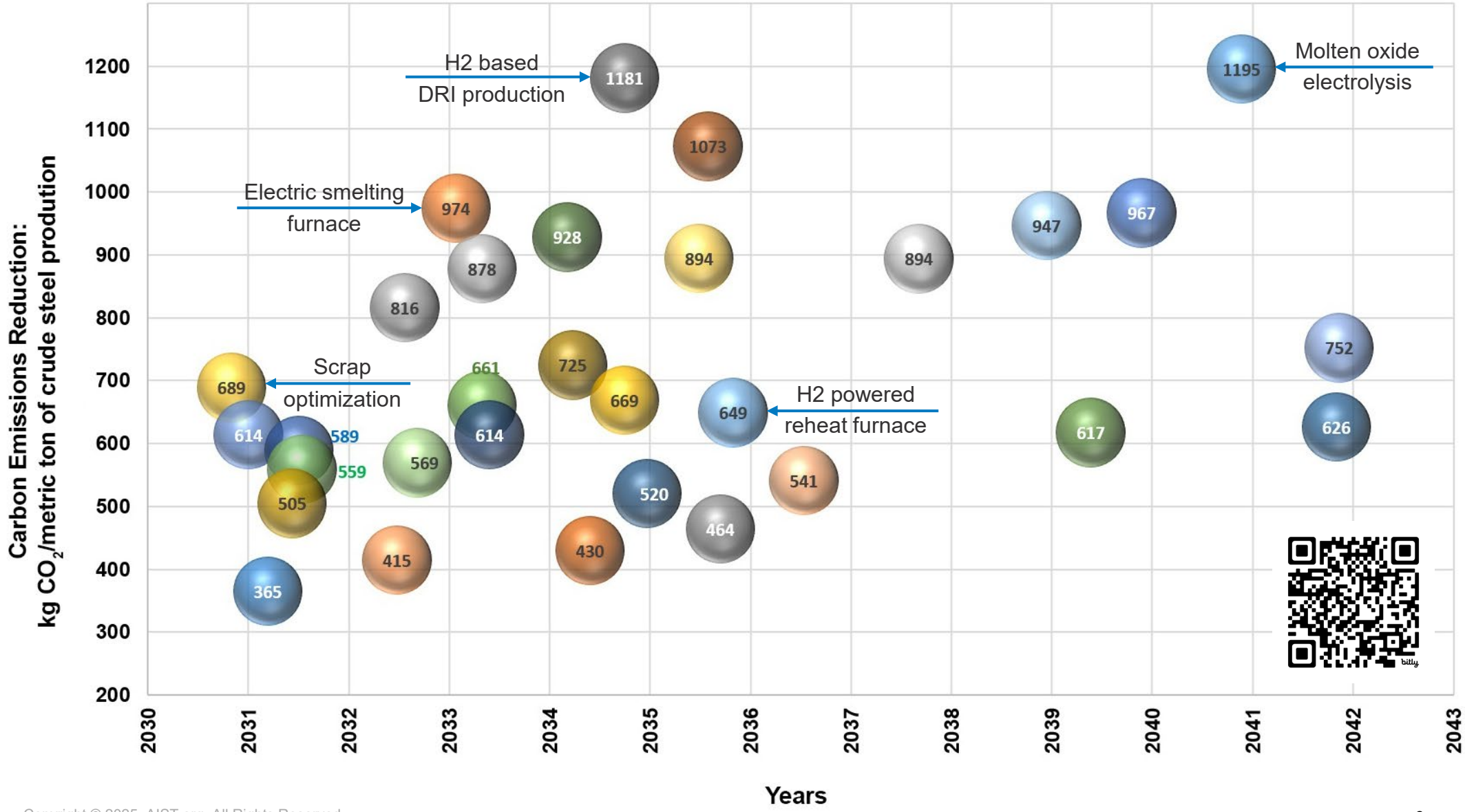


Source: OECD Steel Committee Presentation, 2024

Multiple Pathways to Decarbonize Steel



AIST Roadmap: U.S. Perspective

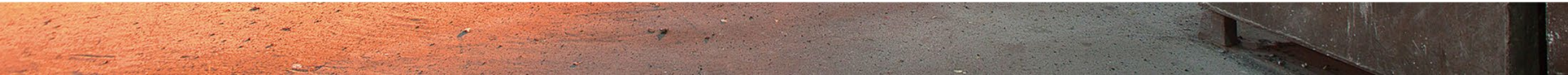


Source: AIST Roadmap, May 2025

AIST
ASSOCIATION FOR IRON & STEEL TECHNOLOGY

Safe

Everyone Goes Home



AIST
ASSOCIATION FOR IRON & STEEL TECHNOLOGY

Green

Making Steel More Sustainable with Clean Energy

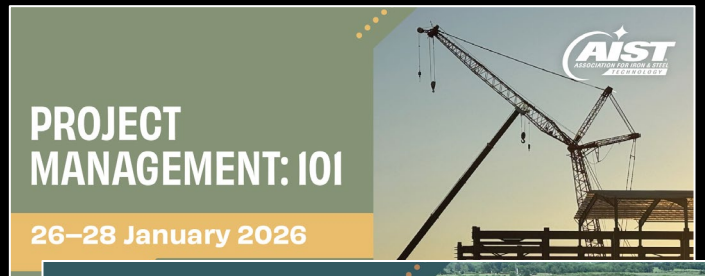
AIST
ASSOCIATION FOR IRON & STEEL TECHNOLOGY

Smart

Leveraging Digitalization, Robotics and AI

Did You Ever Ask AI to Show You a Steel Mill?

Source: Microsoft Designer, 2025


PROJECT MANAGEMENT: 101
26–28 January 2026


SCRAP SUPPLEMENTS & ALTERNATIVE IRONMAKING 10
9–11 March 2026


SAVE THE DATE
AISTech2026


PROJECT MANAGEMENT: 201


COLD ROLLING FUNDAMENTALS
A Practical Training Seminar
9–12 March 2026

32ND AIST CRANE SYMPOSIUM


MODERN ELECTRIC FURNACE STEELMAKING
A Practical Training Seminar
2–6 February 2026


INDUSTRIAL AUTOMATION & CONTROL SYSTEM FUNDAMENTALS
10–12 March 2026


GLOBAL STEEL DYNAMICS FORUM
Organized by
16-17 JUNE 2026
NEW YORK MARRIOTT MARQUIS, NEW YORK, N.Y., USA


LONG PRODUCTS ROLLING
A Practical Training Seminar
23–26 February 2026


ADVANCED COLD ROLLING TRAINING: 201
12–13 March 2026


AIST Women in Steel Conference
21-23 SEPTEMBER 2026


THE MAKING, SHAPING AND TREATING OF STEEL: 101
3–4 March 2026
Hilton Fort Worth
Fort Worth, Texas, USA
Tour: Gerdau Long Steel North America Midlothian Mill


Steel Industry Congress and Exhibition
ExpoAcero
AIST MÉXICO
The largest technical event in the steel industry in Latin America
REGISTRATION IS OPEN!
WTC VERACRUZ
23-25 MARCH
2026
aistmexico.org


GALVATECH 2026
14TH INTERNATIONAL CONFERENCE ON ZINC & ZINC ALLOY COATED STEEL SHEET
11-15 OCTOBER 2026
AIRÓ EVENTS CENTER
MONTERREY, MEXICO
PLANT TOUR / TERNIUM MEXICO
ABSTRACT SUBMISSIONS OPEN / 1 MAY 2025

Thank You!

AIST.org