



Financial Headwinds Haven't Blocked Investment In New Technologically Superior Steelmaking Capacity Additions As Required By Customers

Presentation to:



Paris, France

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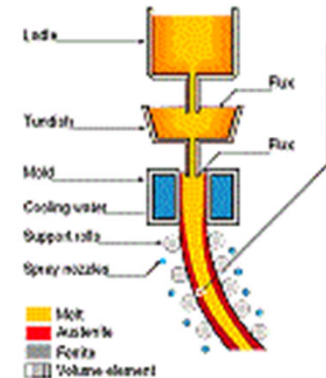
The Steel Industry Grows Young

- The steel industry has had “excess capacity” for the entirety of my career.
- And yet, capacity has increased 173% over the same time period.
- Clearly, all capacity is not created equal.
- I’ve spent many years of my professional life developing business plan documentation supporting capital investments in new steelmaking capacity.
- Improved technologies, upgraded product capabilities and infrastructure development are just some of the drivers.
- Projects get funded on their merits, or for the fulfillment of other objectives such as national identity, country or regional independence, or to take advantage of a local lower raw material cost.

The World Changes; The Only Way to "Win" Is To Anticipate and Adapt – Critical Resources of the Past Can Become Irrelevant to the Future

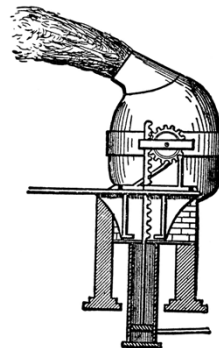


Ingot Casting

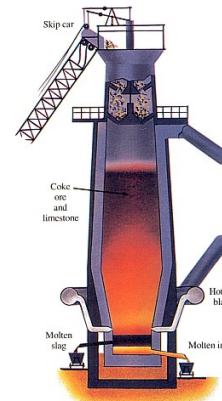


Continuous Casting

Micro-Mills
& Near Net
Shape
Casting

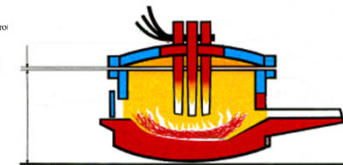


Bessemer Furnace



Blast Furnace
& EAF

Green
Steel



Global Economic Rebound Post Global Pandemic Disruption In 2020 "Reset" The Steel Industry's Relationship With The Financial Markets

- Much like the productivity gains from the Y2K challenges, the global steel industry came out of the pandemic with a new emphasis on reducing the risk of the global supply chain, exerting greater local control over crude steel production and lowering global carbon emissions.
- The "shortage" of steel during the global economic reboot drove prices and profits higher, improved balance sheets and primed the Wall Street financing sources (both equity and debt) to move forward projects previously considered "inconceivable".
- The gap between the "haves" and the "have nots" widened with respect to project financing.
- Financing methods include access to capital markets for both equity and debt instruments, trade banks in support of equipment sales, private investment and institutional funding.

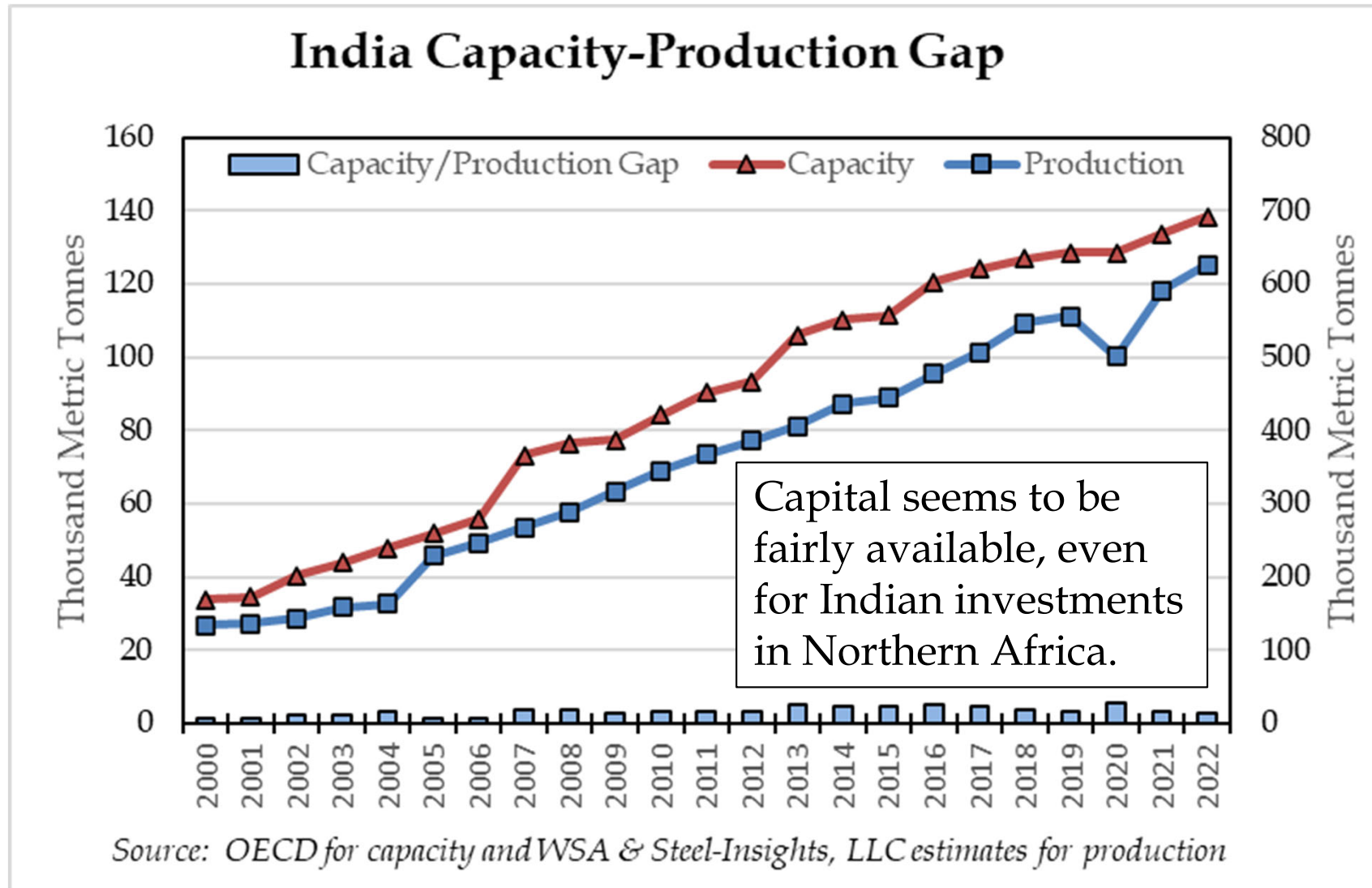
Capacity Additions From 2020 To 2022 By Country And Percent Of Total Capacity; Funding Options By Region

OECD Capacity Additions (Metric Tonnes)

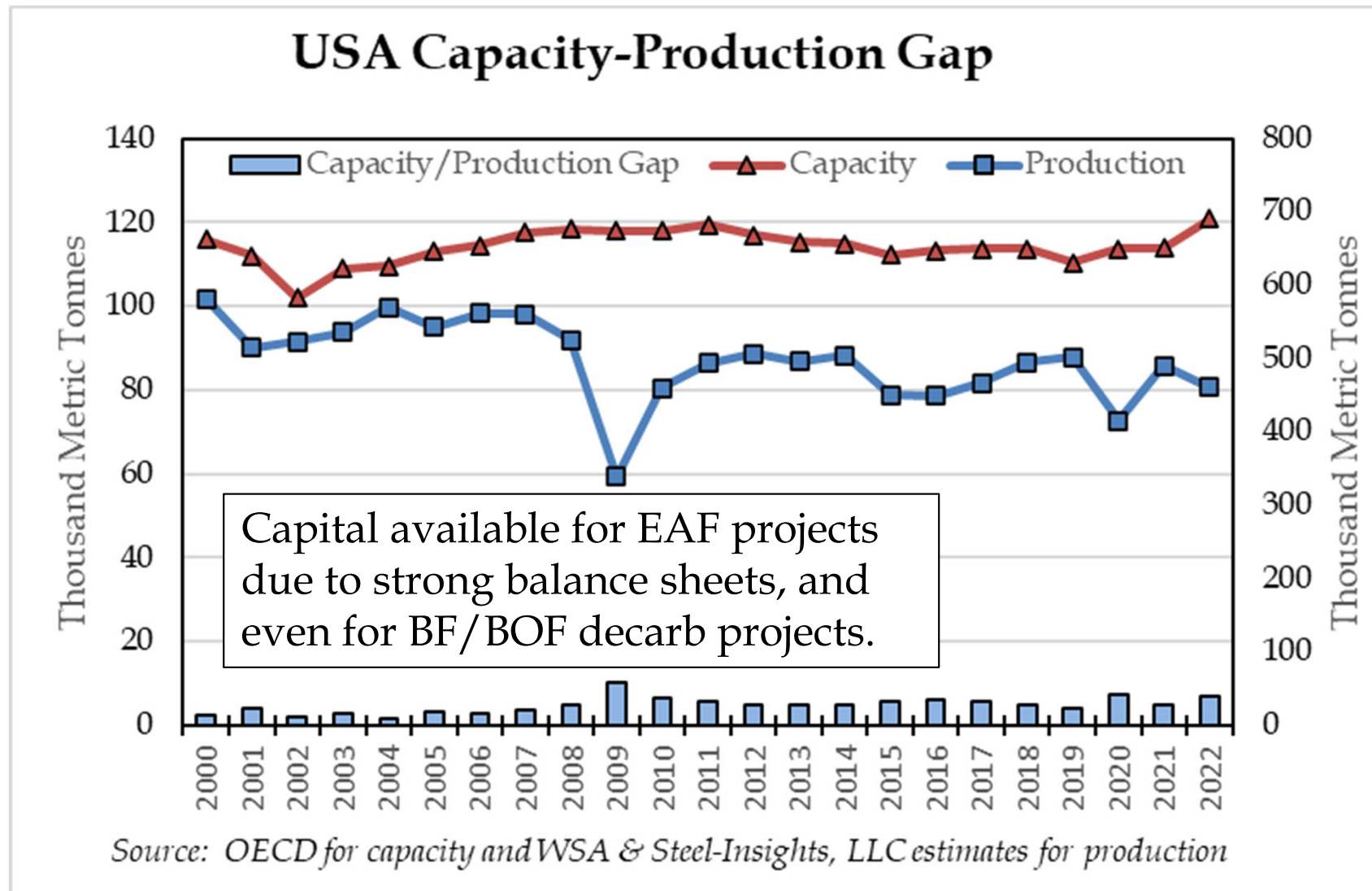
Country	2020-2022 Increase	2022 Capacity	% Of Total	Funding Options
Iran	12,550	62,835	20%	Institutional, Private Investment
India	9,697	138,416	7%	Trade Banks, Private Investment, Capital Markets
USA	7,271	120,895	6%	Trade Banks, Capital Markets, State Incentives
China	2,025	1,149,882	0.2%	Institutional
Indonesia	1,750	21,312	8%	Institutional
Morocco	1,600	4,440	36%	Capital Markets, Private Investment
Türkiye	1,430	57,234	2%	Institutional, Trade Banks, Retirement Funds
Iraq	1,360	4,277	32%	Institutional, Private Investment
Namibia	1,000	1,000	100%	Institutional, Trade Banks
Bangladesh	350	7,304	5%	Private Investment
Austria	205	8,705	2%	Capital Markets, Private Investment
Bolivia	200	200	100%	China Belt & Road
Canada	181	16,354	1%	Capital Markets, Trade Banks, Private Investment
Total	39,619	1,592,854	2%	

Source: OECD GFSEC

India Capacity Increasing At A 2.2% CAGR For The Past Half Decade; Past Decade Utilization Mid-80%; 91% In 2022 – 13 Thousand Tonne Gap In 2022



USA Capacity Increasing At A 1.5% CAGR For The Past Half Decade; Past Decade Utilization Mid-70%; EAF Mills Run Fuller Than Older Integrated Mills; 40 Thousand Tonne Gap In 2022



Recent USA Steel Industry Consolidation And Capital Investment; The USA Is A Net Importer Of Steel And Is Investing In Expected Future Growth – Over 23 Million Announced Tons

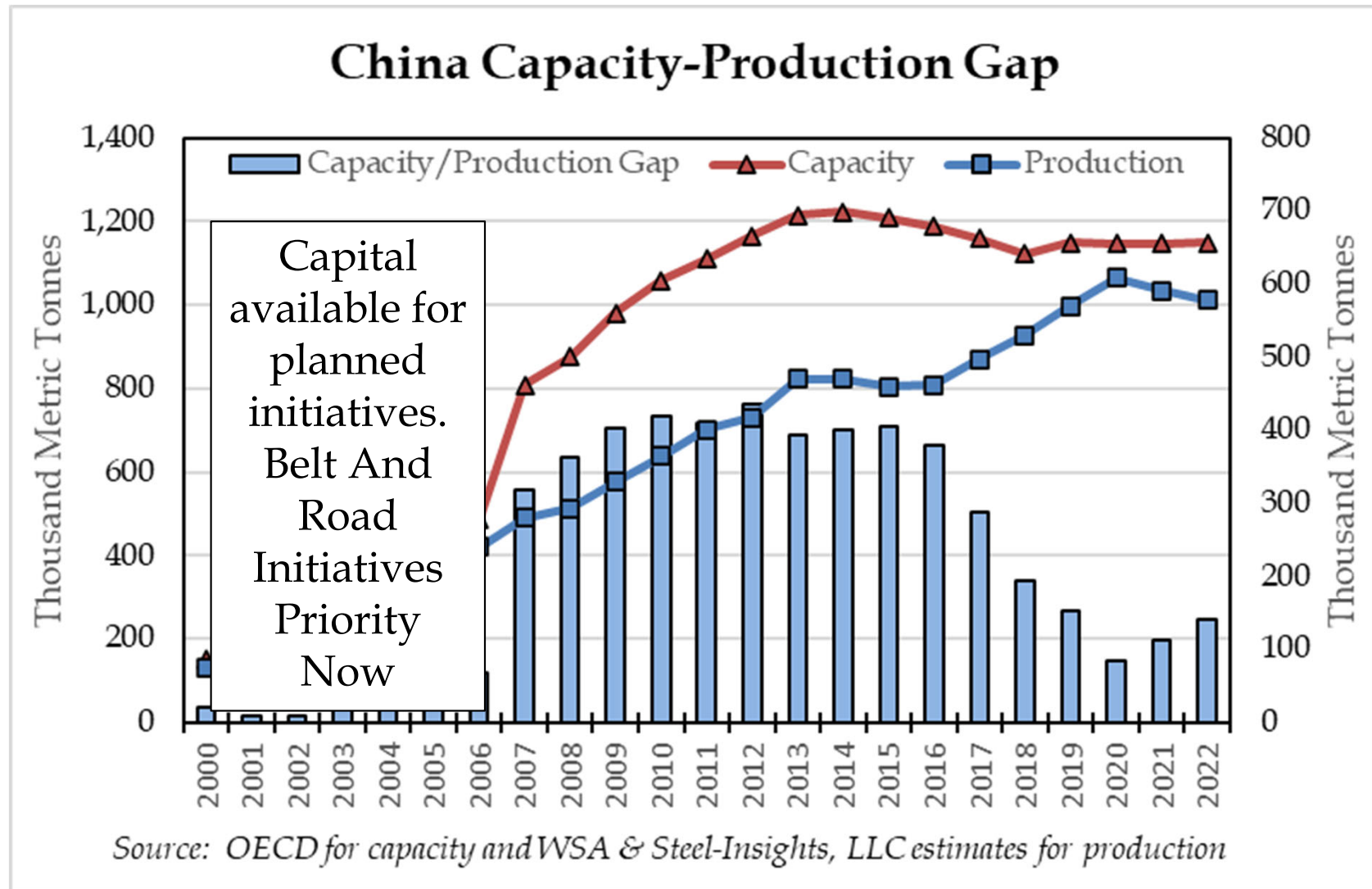
Industry Consolidation:

- Cleveland Cliffs: Mar 2020 \$3 billion purchase of AK Steel and Sep 2020 \$3.3 billion purchase of ArcelorMittal USA (North American plants).
- United States Steel: Jan 2021 \$1.9 billion purchase completion of the late John Correnti's/Dave Stickler's Big River Steel (funded by a German trade bank, state debt and pension investments).

Capital Investment In New Facilities:

- Nucor: \$240 million 380 thousand ton micro-rebar mill in Frostproof, FL started-up Dec 2020.
- Steel Dynamics: \$1.9 billion 3 million ton, 84" wide, 1" thick flat rolled mill in Sinton, TX including a 550K ton galv line and a 250K paint line, starting-up in 2021.
- Nucor: \$1.35 billion 1.2 million ton plate mill in Brandenburg, KY targeting production late 2022.
- Commercial Metals: \$300 million 500 thousand ton micro-bar mill in Mesa, AZ targeting production in 2023.
- United States Steel: \$3 billion sheet mini-mill announced Sep 2021 targeting production in 2024. Potential sites include its existing EAF properties in AL and AR but the site committee is also considering greenfield options. – This is probably tabled with the recent hostile takeover threat.
- Nucor: \$3.1 billion 3 million ton sheet mini-mill announced Sep 2021 in Mason, WV targeting production in 2024.

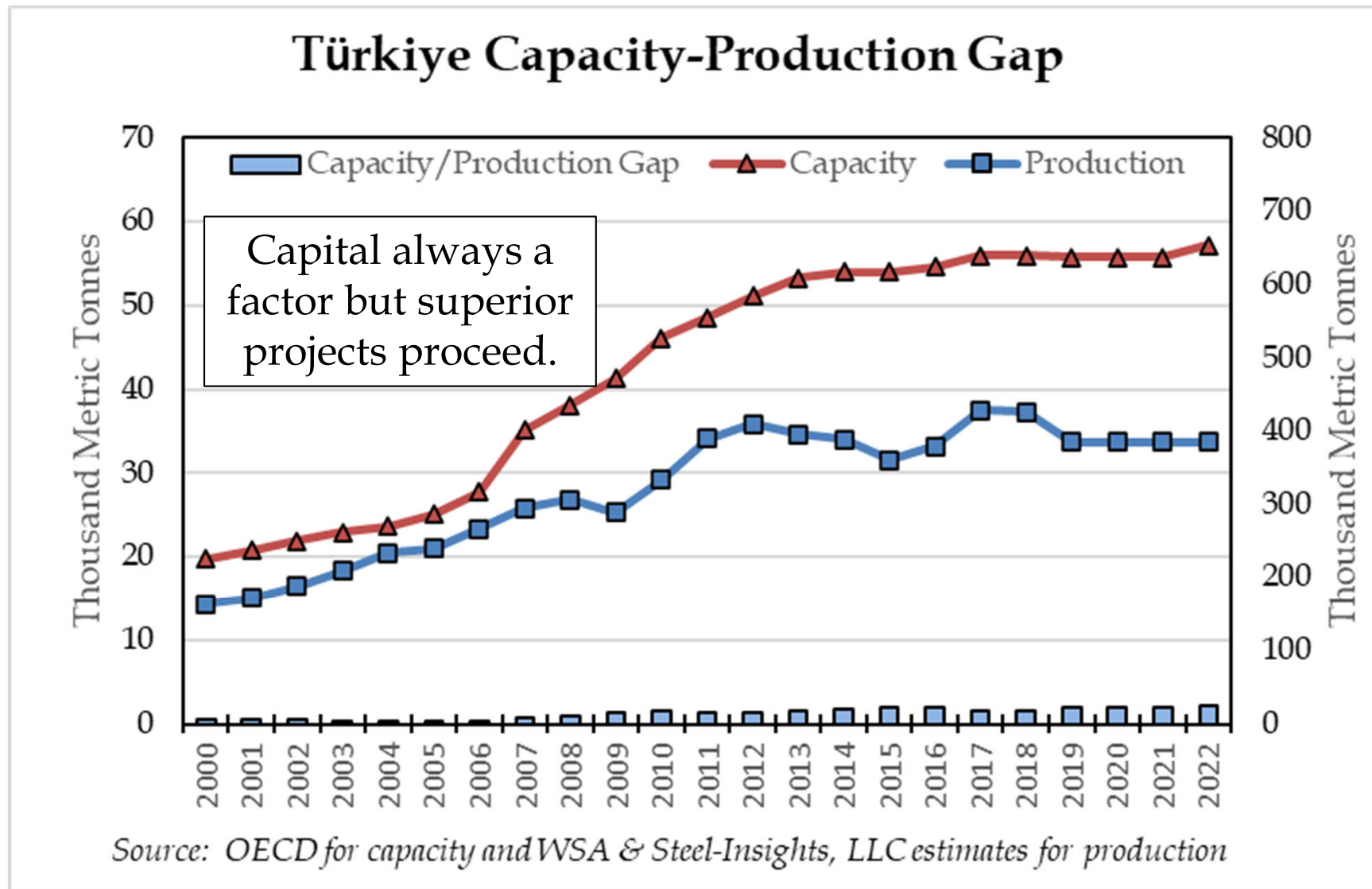
China Capacity Peaked In 2014, Down 74 Thousand Tonnes; 2022 Utilization Down To 88% From 93% In 2020 Due To Economic Challenges – 139 Thousand Tonne Gap In 2022



China Summary

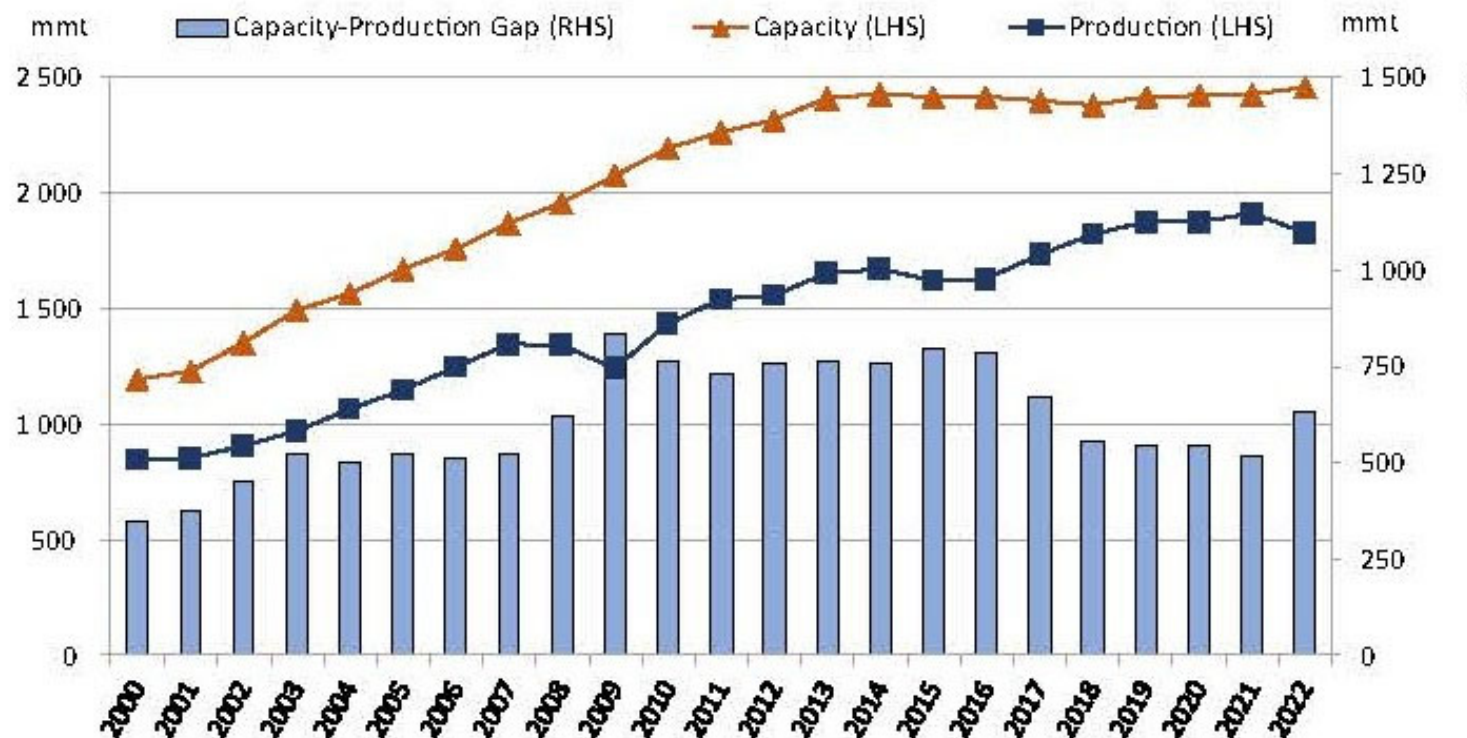
- Production peaked in 2020 at 1.65 million tonnes according to WSA reports.
- Capacity reported by the OECD has remained flat to down over the past decade at 1.2 million tonnes.
- Capacity/Production gap was an estimated 139 thousand tonnes in 2022.
- China is a “Command Economy” meaning sometimes it’s Capitalist and sometimes it’s not.
- It’s a price “spoiler” in the global marketplace.
- Investment capital always seems to be available for government approved projects.
- Focus seems to have shifted to developing infrastructure in Northern Africa and other ASEAN markets presumably as part of its Belt And Road Initiative.

Türkiye Capacity Increasing At An 0.5% CAGR For The Past Half Decade; Past Decade Utilization Mid-60% – Global Swing Capacity – Exporting Country; 63 Thousand Tonne Gap In 2022



The OECD Continues To Report Global Overcapacity Of About 622 Million Metric Tonnes As Of The End Of 2022

OECD Capacity Production Gap



Note: Capacity data reflect information up to December 2022
Source: OECD for capacity and worldsteel for production.

Source: OECD Steel Market Developments Q2 2023

OECD Summary

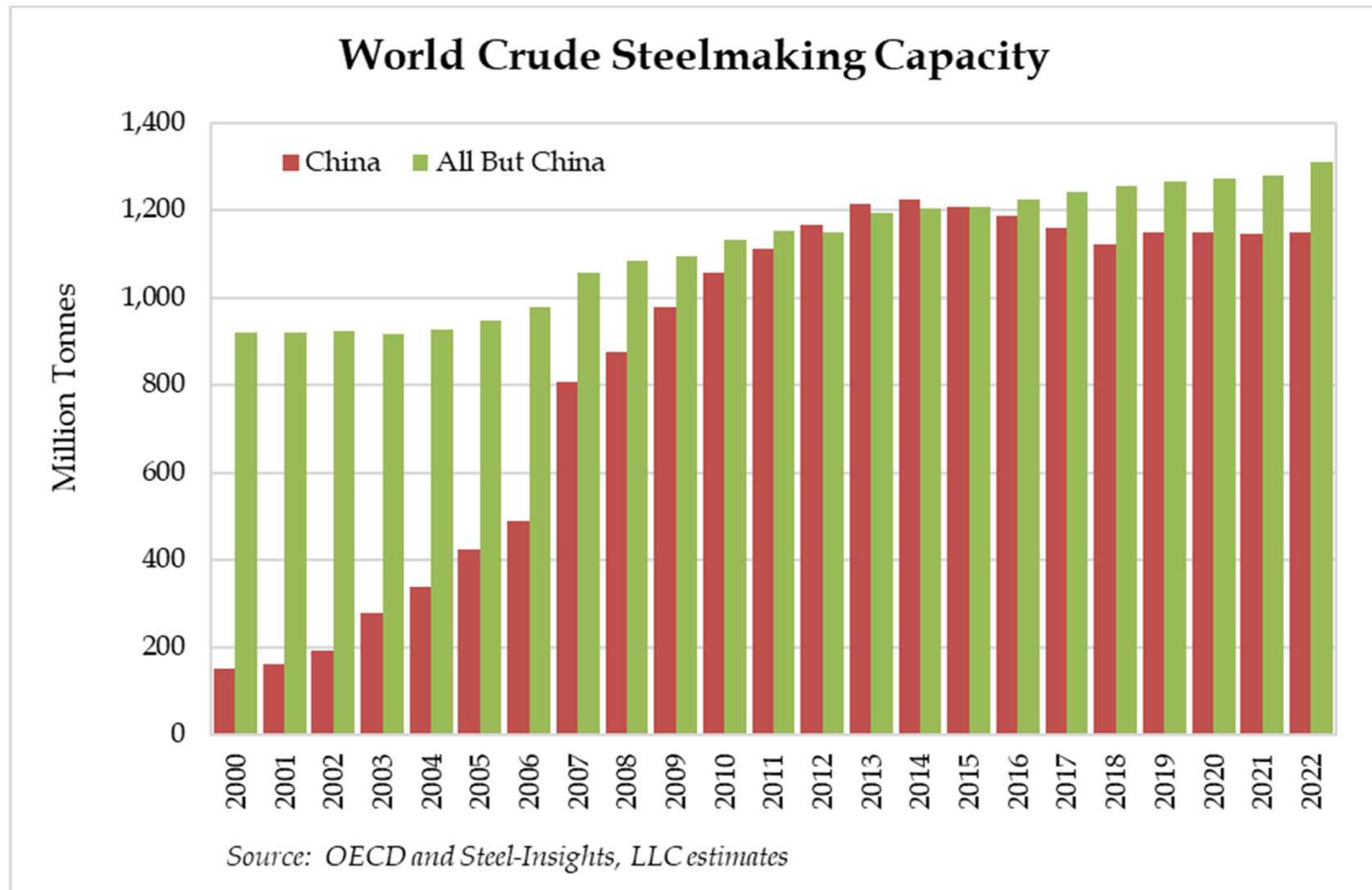
- Production peaked in 2007 at 545 thousand million tonnes according to WSA reports & Steel-Insights estimates.
- Capacity reported by the OECD peaked at 674 thousand metric tonnes in 2011 and had declined 16 thousand tonnes by 2022.
- Capacity/Production gap was an estimated 201 thousand tonnes in 2022.
- OECD member companies are predominantly developed world and some developing world European. No South American or developing world Asian participation.

Investment capital must be obtained on the validity of the individual project, often required by evolving large customer demands or technology advancements, justified despite the expected risks through a strong business plan and track record of success. Focused has shifted to “green” investments in the past few years. Carbon taxes being used to protect non-profit oriented investments.

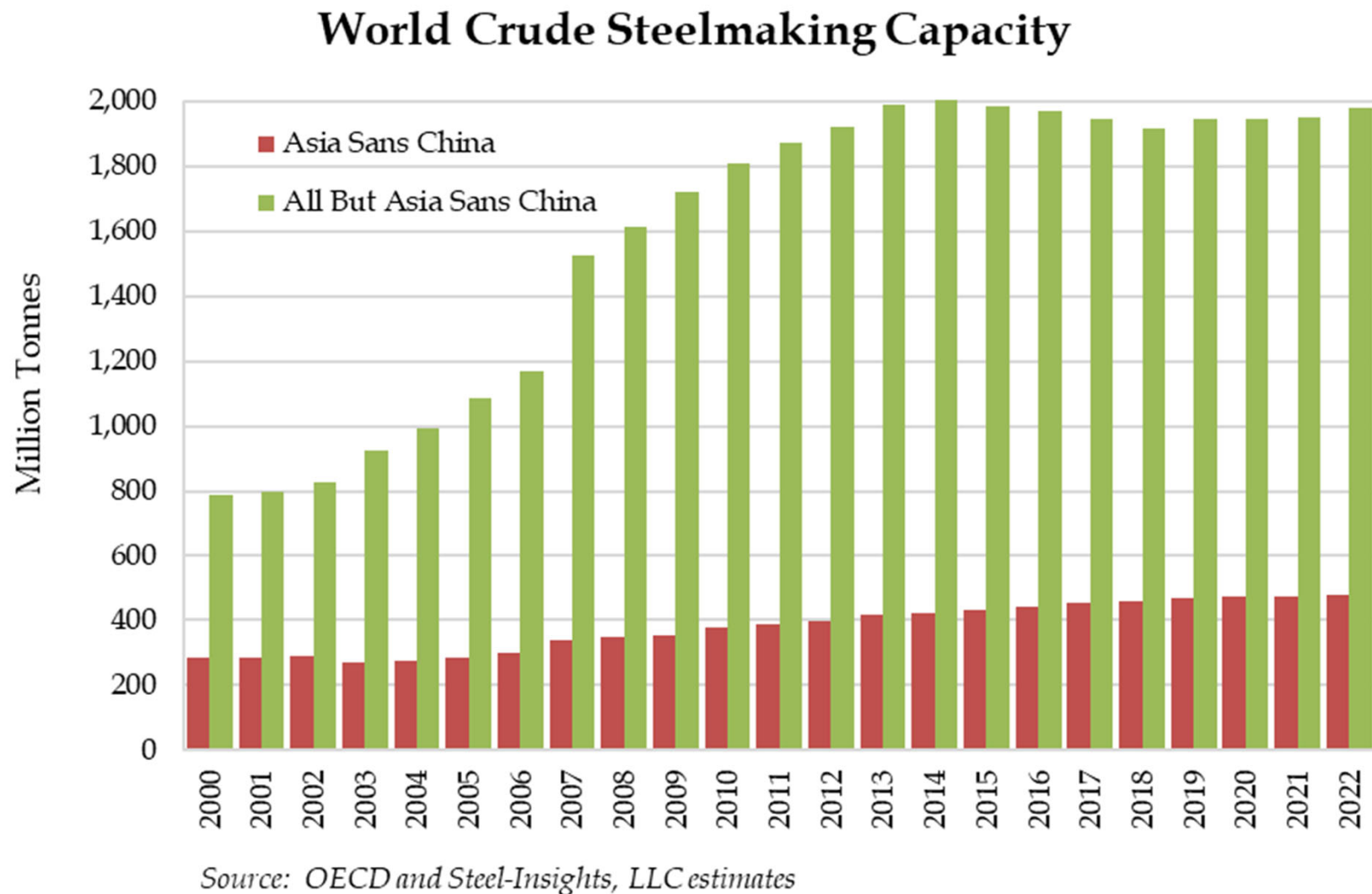
APPENDIX I

CRUDE STEEL REGIONAL PRODUCTION CHARTS

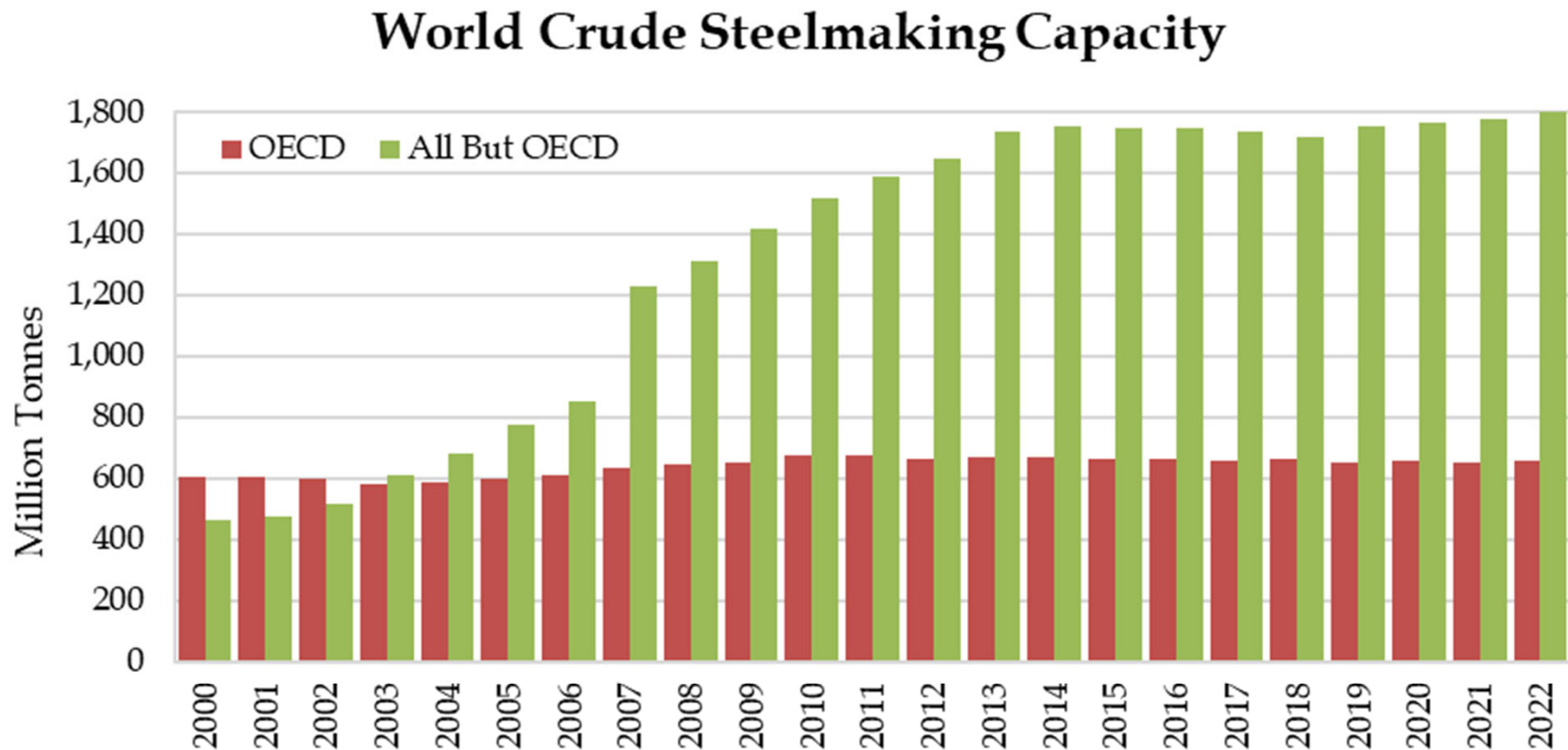
China No Longer Growing Local Capacity Despite Having No ROI Requirement – Command Economy



Asia Sans China Steelmaking Stable For The Past Five Years At 24% Of Global Capacity



OECD Countries Steelmaking Stable For The Past Four Years At 37% Of Global Capacity

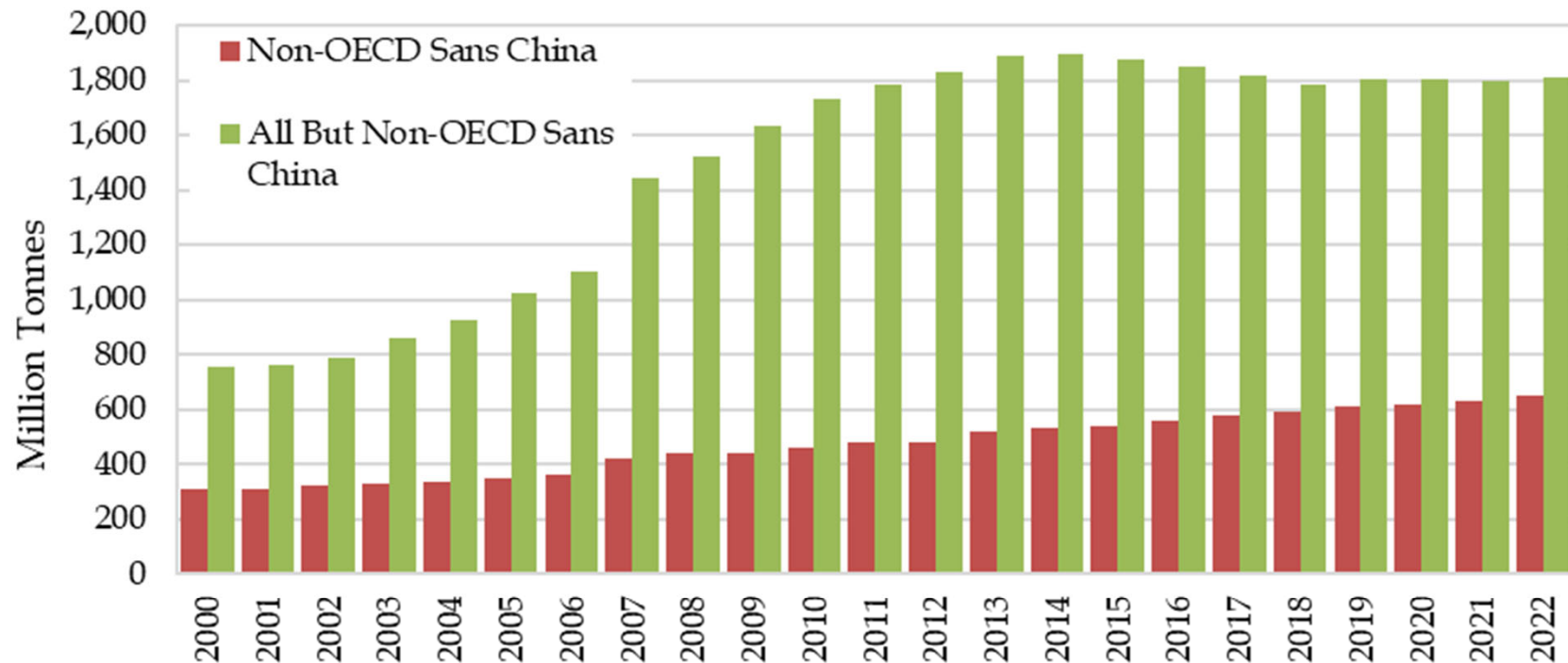


OECD Countries: Australia, Austria, Belgium, Canada, Chile, Columbia, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkiye, United Kingdom, United States

Source: OECD and Steel-Insights, LLC estimates

Non-OECD Countries Sans China Steelmaking Gaining Market Share, Now 36% Of Global Capacity

World Crude Steelmaking Capacity



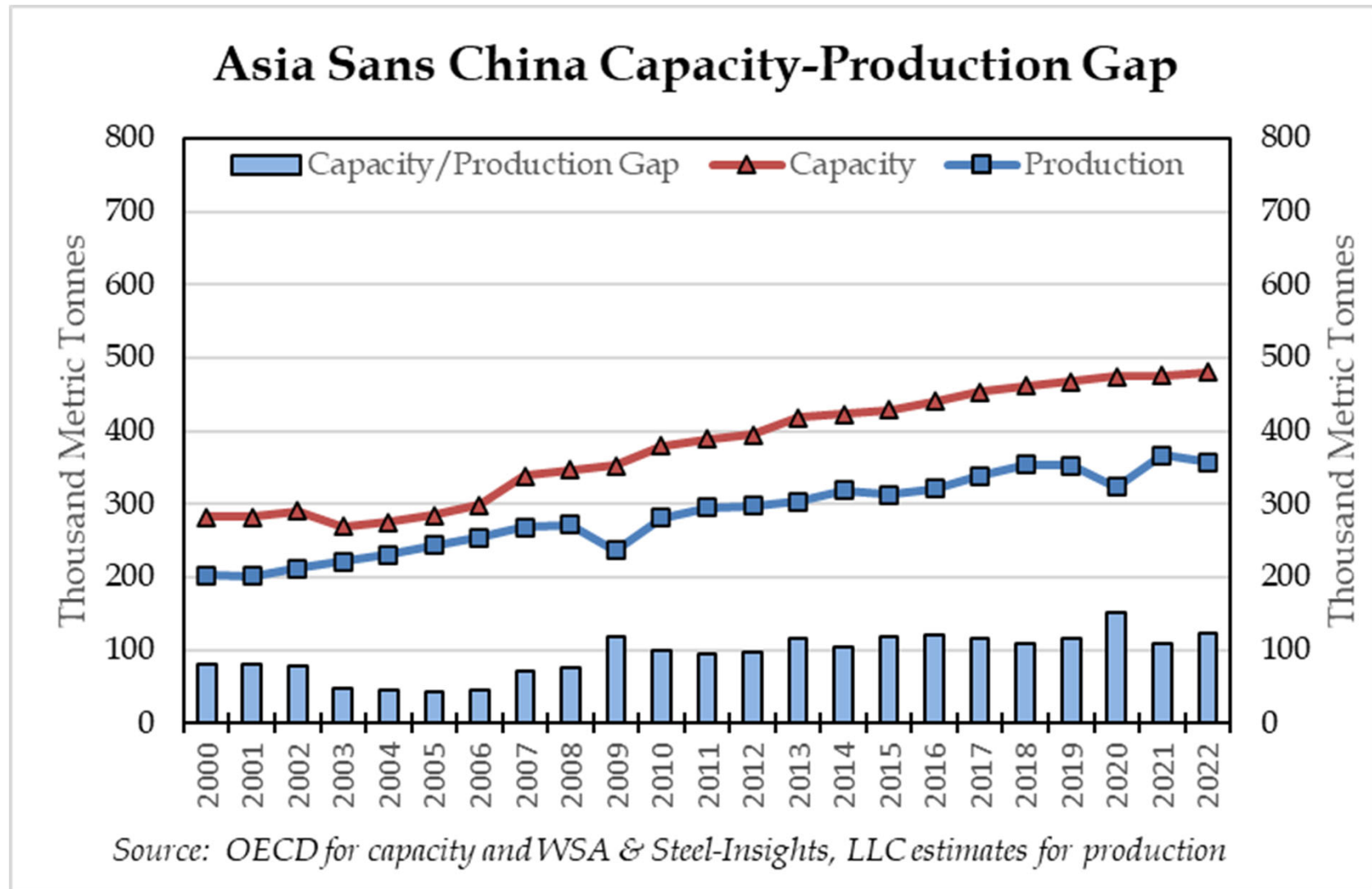
OECD Countries: Australia, Austria, Belgium, Canada, Chile, Columbia, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkiye, United Kingdom, United States

Source: OECD and Steel-Insights, LLC estimates

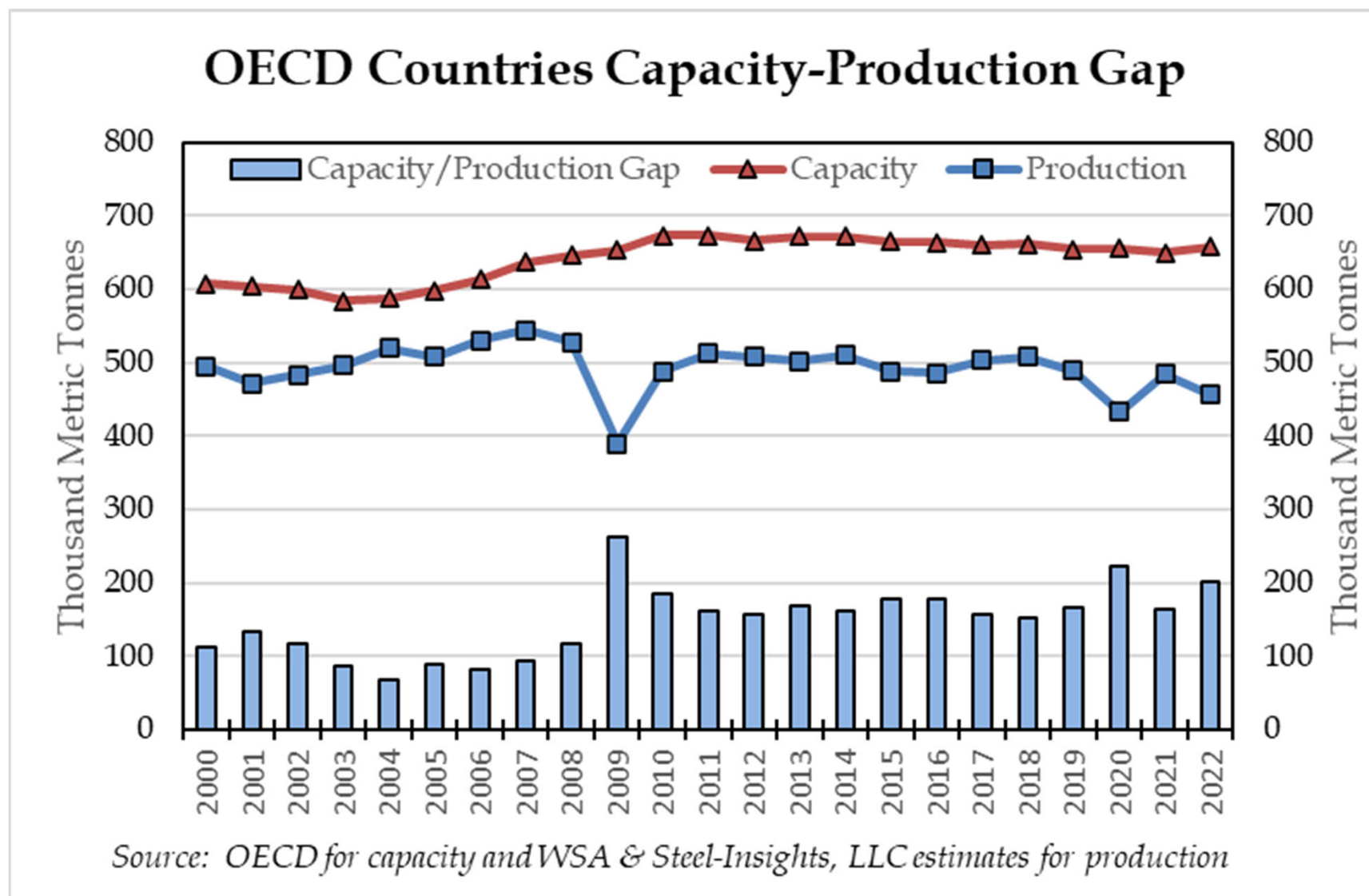
APPENDIX II

CRUDE STEEL REGIONAL CAPACITY PRODUCTION GAP CHARTS

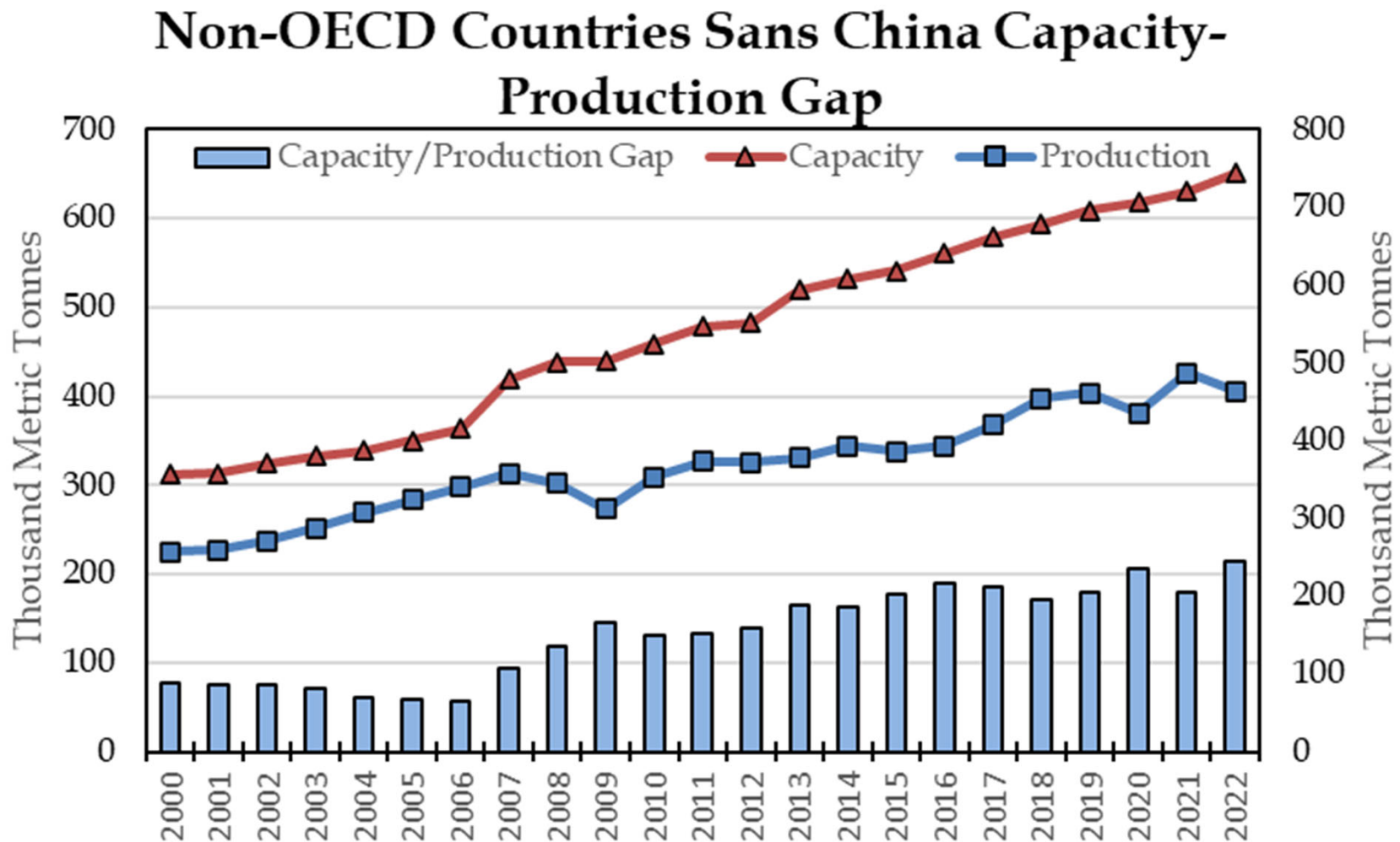
Asia Sans China Capacity Increasing At A 1.2% CAGR For The Past Half Decade; Past Decade Utilization Mid-70%; Production Mostly Keeping Pace With Increasing Capacity – 123 Thousand Tonne Gap In 2022



OECD Countries Capacity Peaked In 2011, Down 16 Thousand Tonnes; 2022 Utilization Down To 69% From 77% In 2021 Due To Economic Challenges – 201 Thousand Tonne Gap In 2022



Non-OECD Countries Sans China Capacity Increasing At A 2.4% CAGR For The Past Half Decade; Past Decade Utilization Mid-60%; Production Not Keeping Pace With Increasing Capacity – 245 Thousand Tonne Gap In 2022



Source: OECD for capacity and WSA & Steel-Insights, LLC estimates for production

Steel-Insights, LLC – “Seeing” What Others Don’t

Managing Effectively Through Tumultuous Times

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- Capital Investment Support
- Market Intelligence Gathering
- End Market Profiling
- Production Analysis
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- Cost & Profitability Analysis
- Macro & Micro Economic Work
- Negotiation Support
- Capital Market Advisory
- Global Networks Of Contacts

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