

SCRAP BASED STEELMAKING OPPORTUNITIES & CHALLENGES

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NUCOR'S UNLIKELY ORIGINS

- Nucor's origins began with **Ransom Olds** – inventor of the Oldsmobile and founder of REO Motor Company
- In 1940s and '50s, **Nuclear Corporation of America** grew into a conglomerate
- In 1962, **Ken Iverson**, a young engineer was hired to run Nuclear's newly acquired **Vulcraft** division, a steel joist fabricator in Florence, South Carolina. Iverson quickly moved up the company to become President in 1965
- To supply his growing joist business with rebar and merchant bar, Iverson decided expand the steelmaking portion of the business and introduced the **"mini-mill"** to the American steel industry
- Iverson believed recycling scrap metal in electric arc furnaces would give Nucor a significant cost advantage over traditional steel mills. He was right.



NUCOR'S UNLIKELY ORIGINS



"The single most important event in shaping the future of the company has been the construction of a highly automated steel mill at Darlington, South Carolina. This is no ordinary mill. It has been described as a forerunner of a new generation of minimills."

- Ken Iverson in 1972

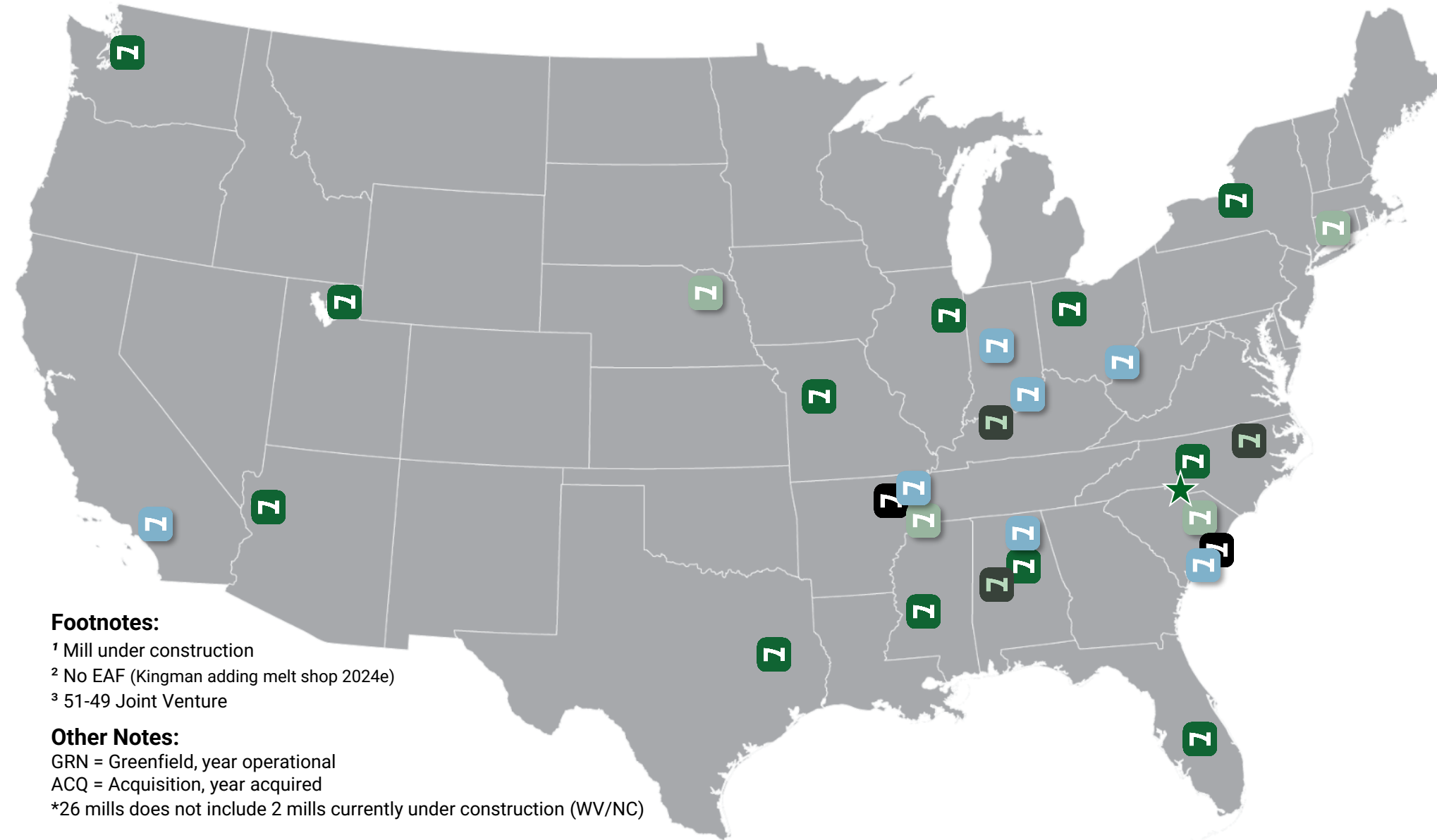
- **Nucor Steel South Carolina** was announced in July 1968; First steel was poured on June 26, 1969
- **Cost:** \$4.5M minimill built on a 111-acre site in Darlington, SC
- **Capacity:** 60,000 tons of steel rounds and angles annually
- **Automation:** Enabled 3 workers and a foreman to do what required 10-20 workers in a conventional rolling mill
- Iverson knew traditional steelmakers had top-heavy management structures and were reluctant to change
 - *"The big steel companies tend to resist new technologies as long as they can. They only accept a new technology when they need it to survive." The same is true today!*



NUCOR®

SIX DECADES OF STEELMAKING GROWTH

26 MILLS* AND ~27 MMT PRODUCTION CAPACITY



Footnotes:

¹ Mill under construction

² No EAF (Kingman adding melt shop 2024e)

³ 51-49 Joint Venture

Other Notes:

GRN = Greenfield, year operational

ACQ = Acquisition, year acquired

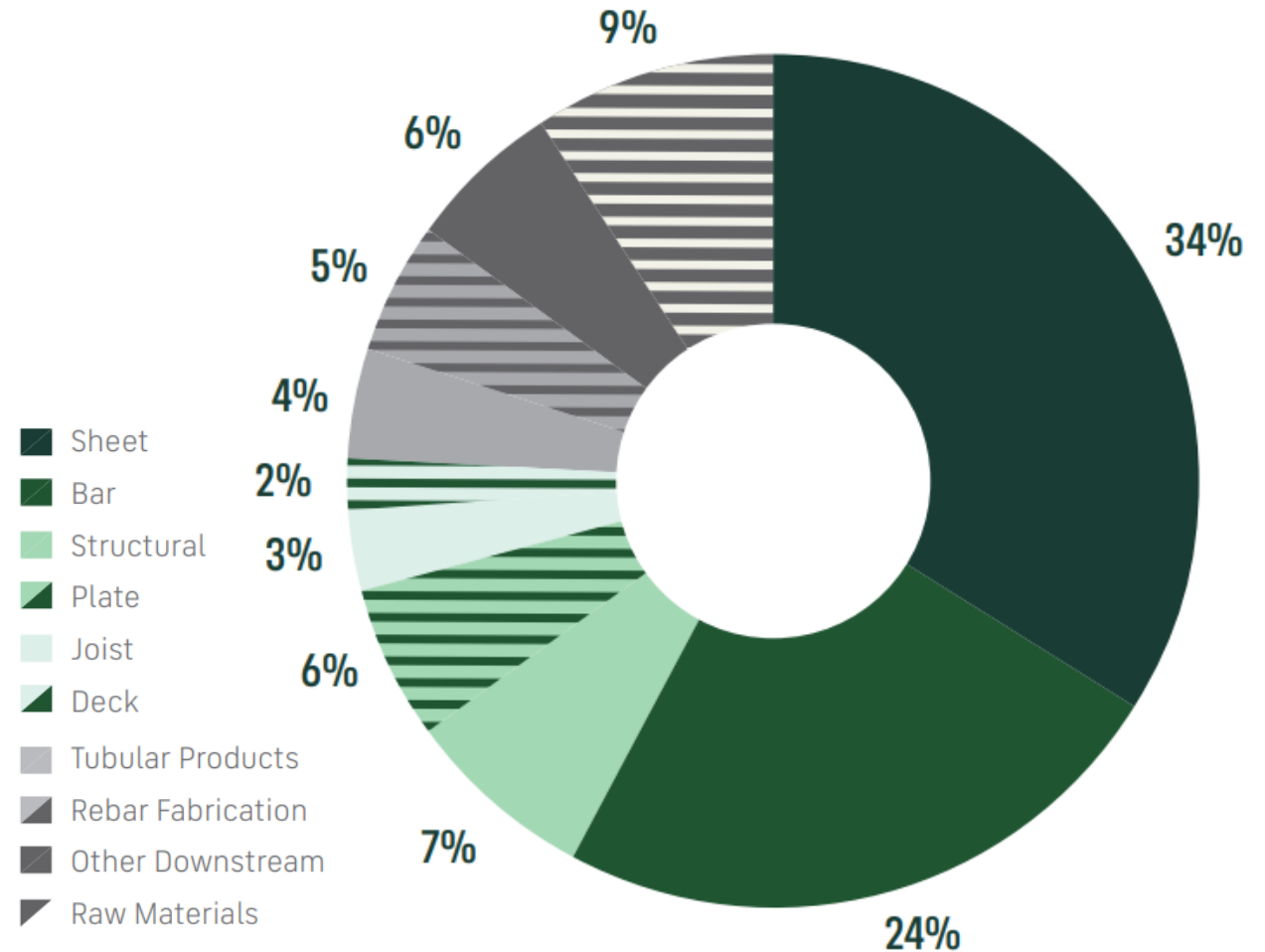
*26 mills does not include 2 mills currently under construction (WV/NC)

	Steel Mill	Type	Year
BAR	Auburn, NY	ACQ	2001
	Birmingham, AL	ACQ	2002
	Frostproof, FL	GRN	2020
	Jackson, MS	ACQ	2002
	Jewett, TX	GRN	1975
	Kankakee, IL	GRN	2002
	Kingman, AZ ²	ACQ	2003
	Lexington, NC¹	GRN	2025
	Marion, OH	ACQ	2005
	Plymouth, UT	GRN	1981
	Seattle, WA	ACQ	2002
	Sedalia, MO	GRN	2020
SBQ	Darlington, SC	GRN	1969
	Memphis, TN	ACQ	2002
	Norfolk, NE	GRN	1973
	Wallingford, CT ²	ACQ	2006
PLATE	Brandenburg, KY	GRN	2023
	Herford County, NC	GRN	2000
	Tuscaloosa, AL	ACQ	2004
SHEET	Crawfordsville, IN	GRN	1989
	Hickman, AR	GRN	1992
	Berkeley County, SC	GRN	1996
	Trinity, AL (Decatur)	ACQ	2002
	Ghent, KY (Gallatin)	ACQ	2014
	Fontana, CA ^{2 3}	ACQ	2022
BEAM	Mason County, WV¹	GRN	2025
	Nucor-Yamato Steel, Blytheville, AR ³	GRN	1988
	Berkeley County, SC	GRN	1996

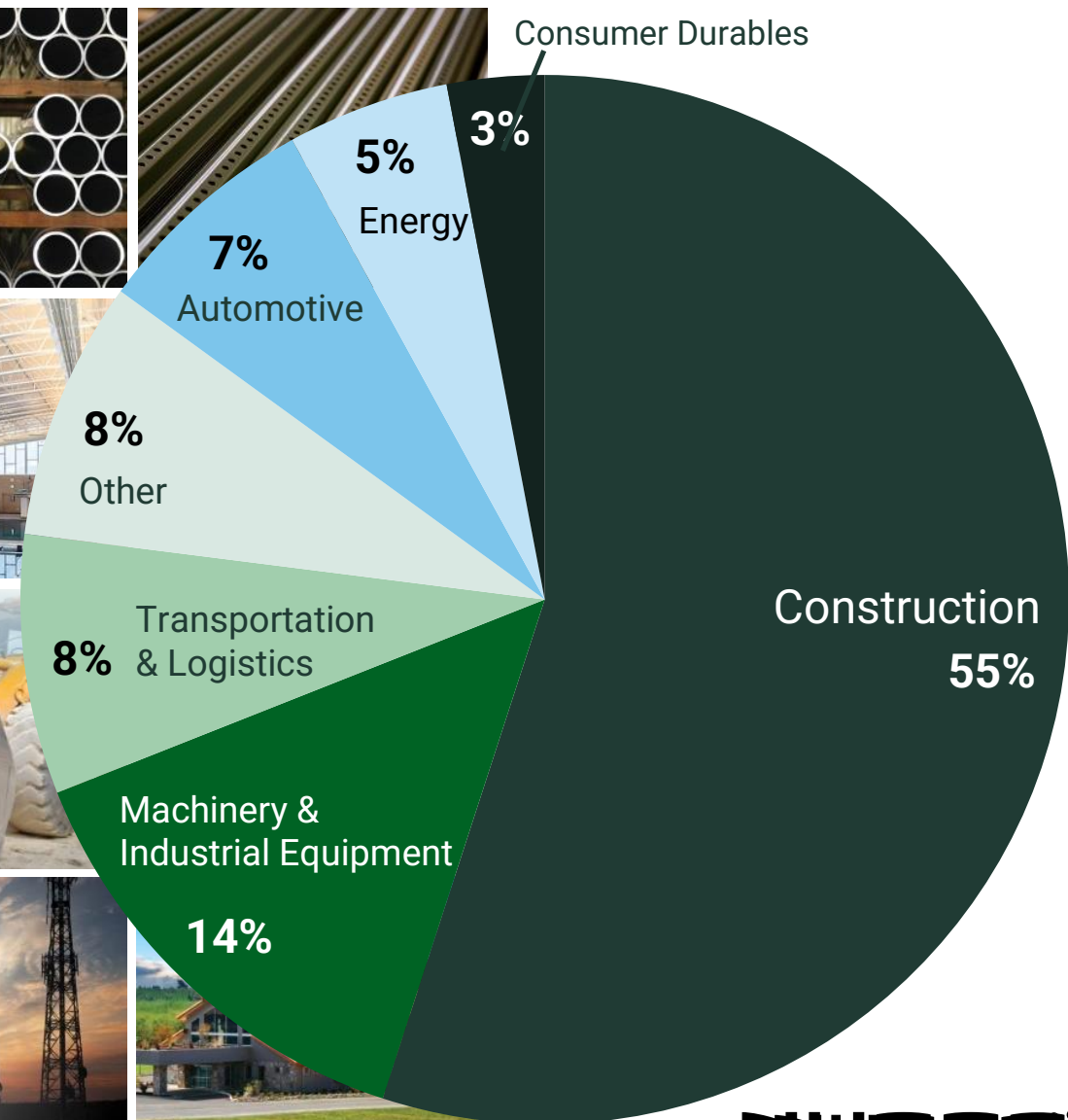
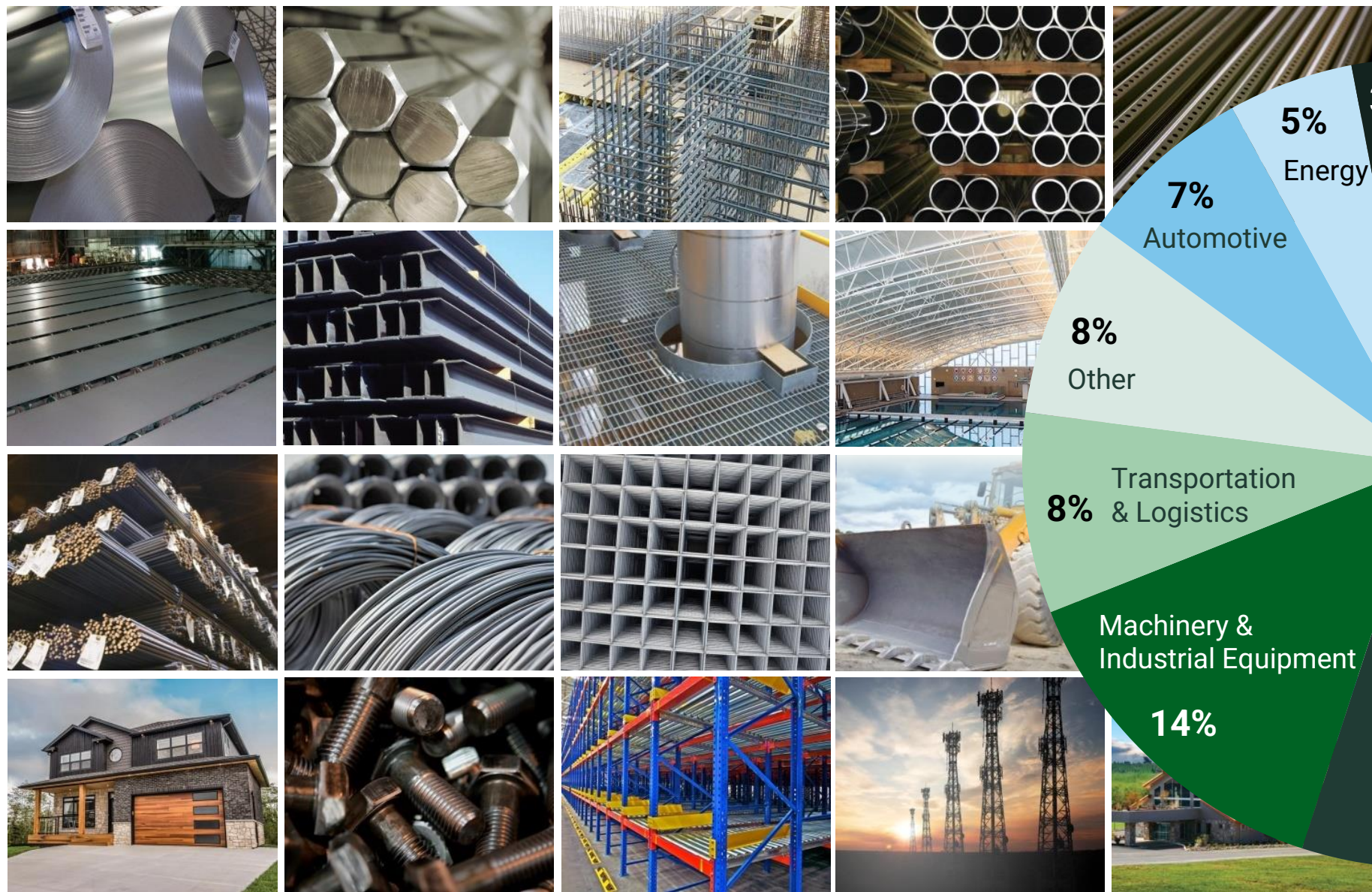
NUCOR TODAY – NORTH AMERICA’S MOST DIVERSIFIED STEEL PRODUCER & INDUSTRIAL MANUFACTURER

Product	Tons Sold to Outside Customers (2018-22)
Sheet Steel	44,863,000
Bar Steel	30,445,000
Structural/Beam Steel	9,863,000
Plate Steel	9,849,000
TOTAL STEEL	95,020,000
Joists	2,919,000
Deck	2,521,000
Cold Finished Steel	2,435,000
Rebar Fabrication	6,194,000
Piling	2,849,000
Tubular Products	5,118,000
Other Steel Products	2,412,000
TOTAL STEEL PRODUCTS	24,448,000
Raw Materials	14,253,000
TOTAL TONS (Last 5 Years)	133,721,000

DIVERSIFIED PRODUCT MIX
TOTAL TONS SOLD TO OUTSIDE CUSTOMERS IN 2022



NUCOR'S UNPARALLELED PRODUCT MIX . . .



... IS BUILDING OUR 21ST CENTURY ECONOMY



Building our Modern 21st Century Economy

Examples—

- Advanced Mfg./Chip Facilities (Intel Expansion, Arizona)
- Onshore/Offshore Wind Towers
- Military (USS Gerald Ford, Humvee)
- Construction (1WTC)
- Hospitals (Mayo Clinic West, Arizona)
- Stadiums (SoFi Stadium, California)
- Electric Vehicles
- Heavy Equipment
- Bridges (Tillman Bridge, UT/AZ)
- Public Works: Smithsonian National African American History Museum (DC)
- Airports (JFK Airport, NYC)

OUR SUCCESS



Nucor's success has been based on:

LOW CAPITAL COST

CULTURE

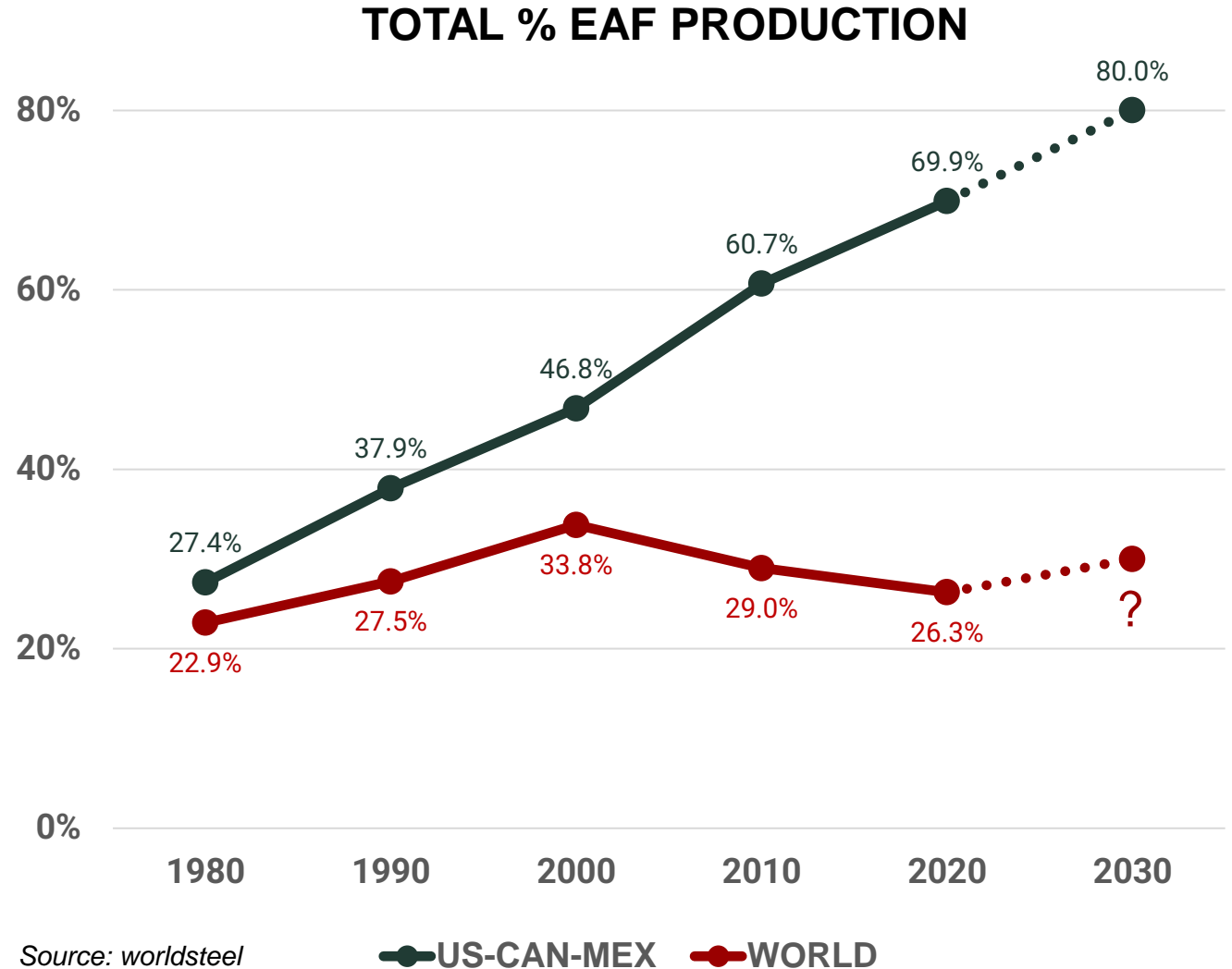
FLEXIBILITY

**HIGHLY VARIABLE
COST STRUCTURE**



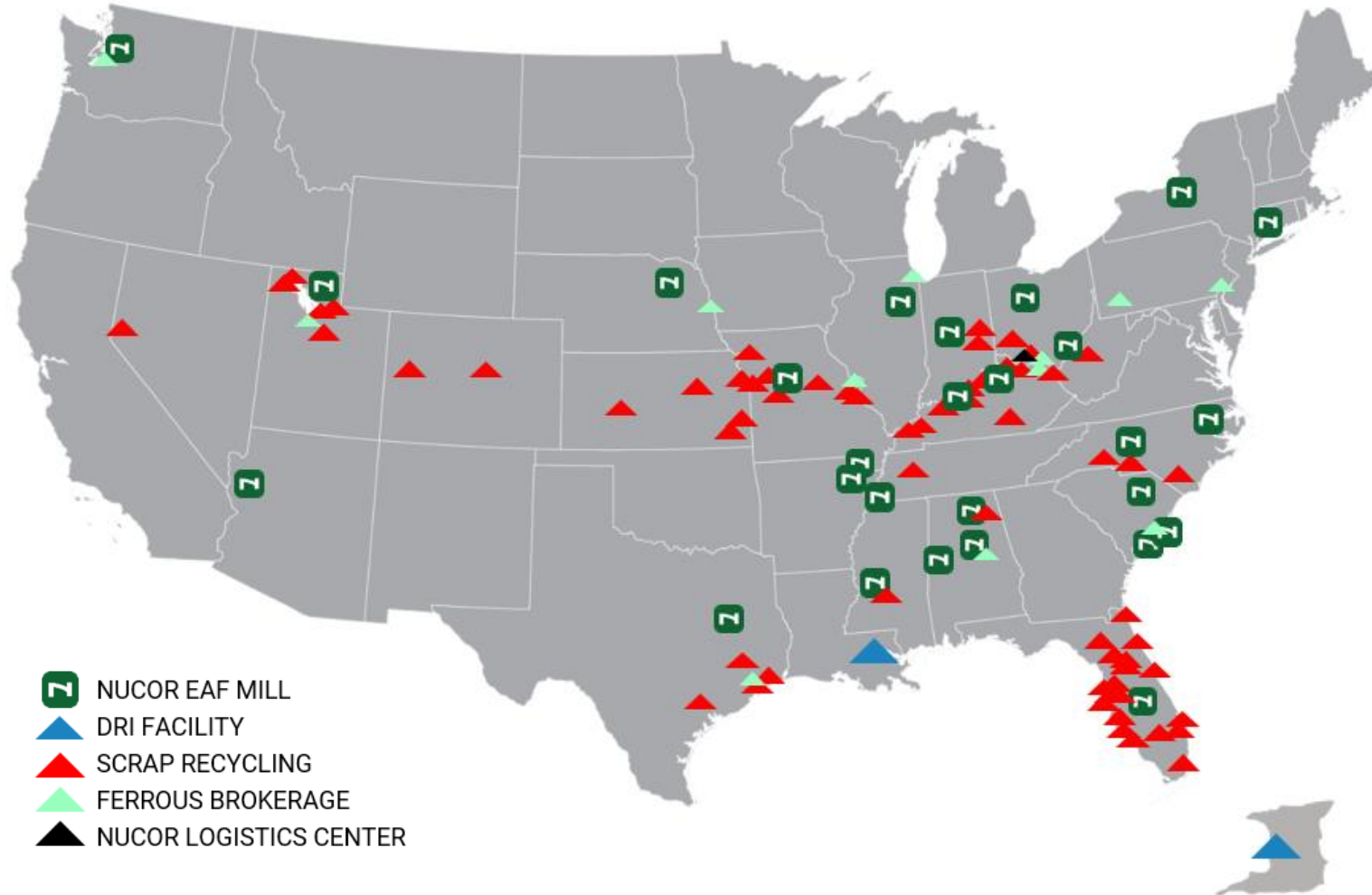
NORTH AMERICA WILL SOON REACH 80% EAF

- Nucor's success with EAF steelmaking resulted in competitors choosing to follow in our footsteps
- North American steel production is expected to reach 80% EAF by 2030
 - USMCA: 69.3% EAF in 2022
 - World: 28.2% EAF in 2022
- The transformation from blast furnaces to scrap-based EAF has resulted in both **opportunities** (*efficiency, flexibility, sustainability, profitability*) and **challenges** (*scrap quality, need of pure iron source for higher grades*)



NUCOR RAW MATERIALS – ASSET OVERVIEW

- Nucor is the largest recycler of any material in North America
- Nucor steel produced from nearly 80% recycled content, with some products containing close to 100% recycled content



SCRAP RECYCLING & FERROUS BROKERAGE

- 70 full-service scrap recycling facilities strategically located to offer regional advantages in sourcing a wide range of ferrous and nonferrous metals

DIRECT REDUCED IRON (DRI)

- 2 facilities producing up to 4Mtpa of high-quality DRI, a key raw material for Nucor's steelmaking operations

UNIVERSAL INDUSTRIAL GASES (UIG)

- 5 industrial gas plants currently in operation, with more in various stages of development

LOGISTICS TEAM

- 30 teammates with expertise in barge, rail and truck – all geared to deliver raw materials to Nucor mills in most efficient manner

TYPES OF RAW MATERIALS



OBSOLETE SCRAP

- Sourced from post consumer durable goods, demolition scrap
- Vast domestic supply constantly being replenished
- Wide availability, high non-ferrous content
- Sourced from third party suppliers and Nucor's 70 scrap yards, 16 shredders

15-16 million



PRIME SCRAP

- High purity scrap steel sourced through Nucor Industrial Recycling, third party suppliers and owned scrap yards
- Residual material from metal stamping, cutting, trimming, and other manufacturing processes

5 million



DRI DIRECT-REDUCED IRON

- A high-quality scrap substitute
- Own and operate DRI processing facilities in Louisiana and Trinidad, with a combined annual capacity of ~4 million tons
- Carbon Capture & Sequestration

3-4 million



PIG IRON

- Highest quality iron unit available
- Nucor use largely opportunistic and dependent on price vs. value in use
- Evaluating new methods of Pig Iron production to yield significantly lower GHG intensity

2-2.5 million



HBI HOT-BRIQUETTED IRON

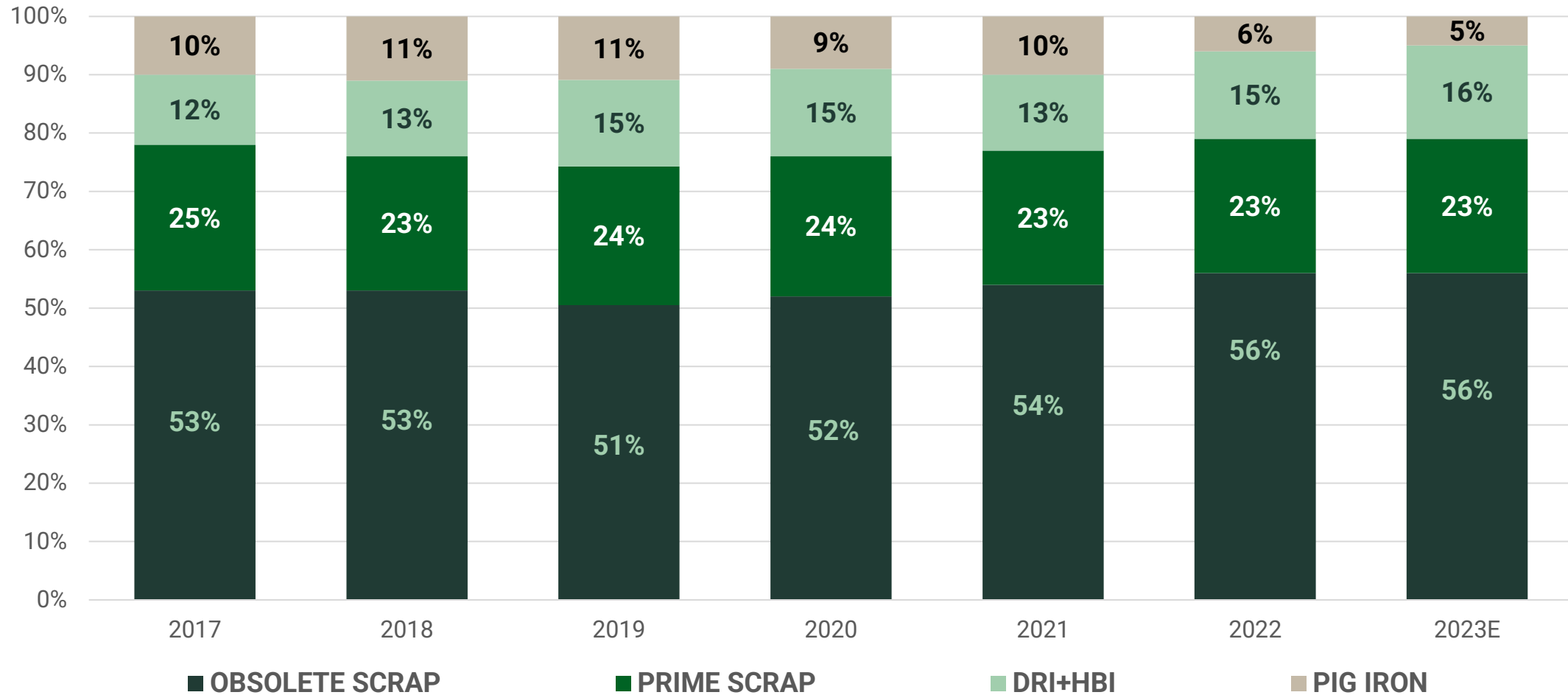
- Similar to DRI, but relatively lower value in use for Nucor
- New HBI facilities both domestically and abroad may provide more HBI to the market in the future

100-200k

Nucor Melt Shops
25-30 Mtpy consumed

FLEXIBLE RAW MATERIALS MIX

Nearly 80% of Nucor's Raw Material Mix Comprised of Recycled Content



NUCOR'S RAW MATERIALS STRATEGY

Nucor leverages its market intelligence and flexible supply chain to provide lower-cost, more sustainable inputs that create a competitive advantage



Market Intelligence

- Largest scrap broker in the United States, with extensive international trade networks
- Advantaged access to market intelligence and high-quality metalics around the globe
- Nationwide network allows us to pivot sourcing strategies and quickly respond to competitive dynamics
- Logistics team expertise in barge, rail and truck: Efficiently delivers scrap to mills and outbound finished product to our customers



Flexible EAF

- Flexible supply chain, and ownership of scrap processing & DRI assets, allows Nucor to minimize cost of raw material inputs, while meeting customer requirements
- EAF flexibility in melt mix allows Raw Materials and Steelmaking groups to optimize costs
- DRI operations provide significant flexibility in supplying sheet mills



Lower-Cost Inputs

- Advanced, web-based transportation network includes 80,000 + real-time freight rates for rail, trucks, barge
- One of the largest independent railcar fleets in North America and growing ownership of freight logical ferrous scrap assets
- Raw material market supply forecasting to optimize costs and availability



Sustainable Inputs

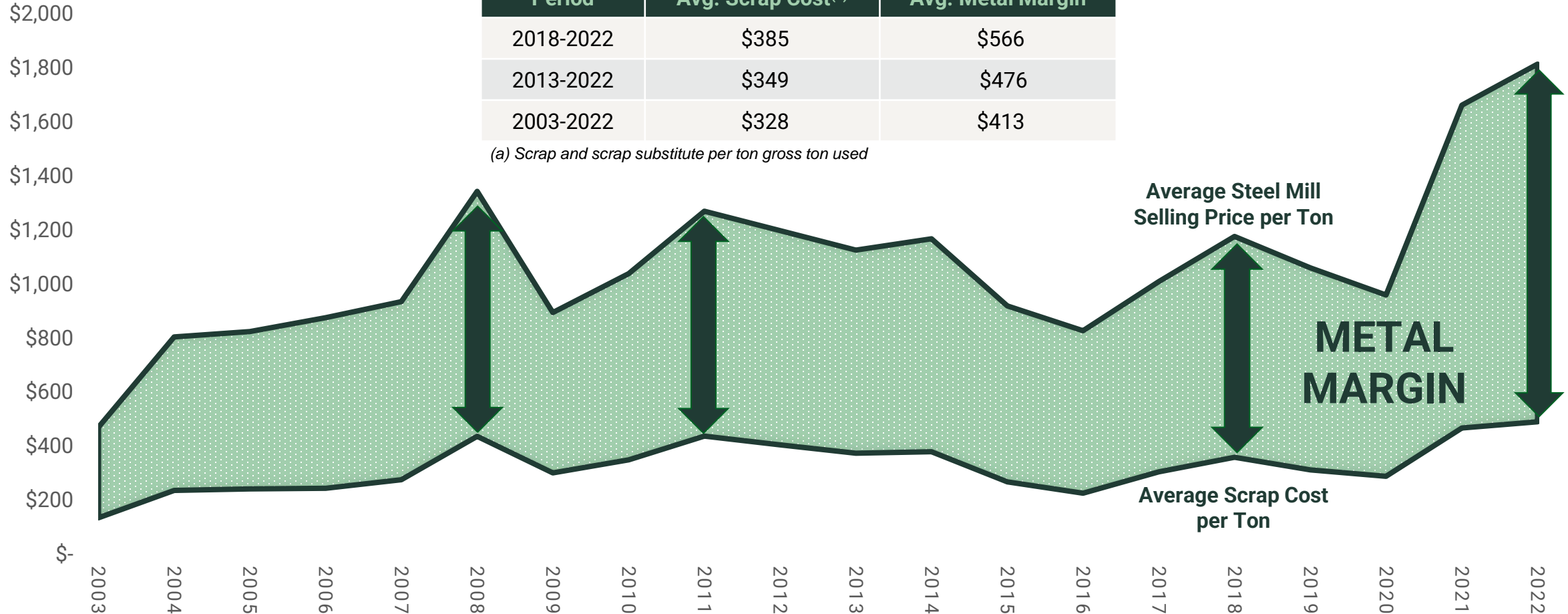
- Cutting edge sustainability and technology from internal development and market intelligence
- Nucor steel products made from nearly 80% recycled content
- Carbon Capture & Storage at Louisiana DRI facility will net DRI with 80% less GHG emissions than traditional blast furnace iron production
- Investigating emerging technologies to keep Nucor on the leading-edge of sustainable steelmaking

METAL MARGINS HAVE HISTORICALLY TRENDED HIGHER IN RISING SCRAP PRICE ENVIRONMENTS

Nucor metal margins are highly correlated (~80%) with scrap & substitute costs

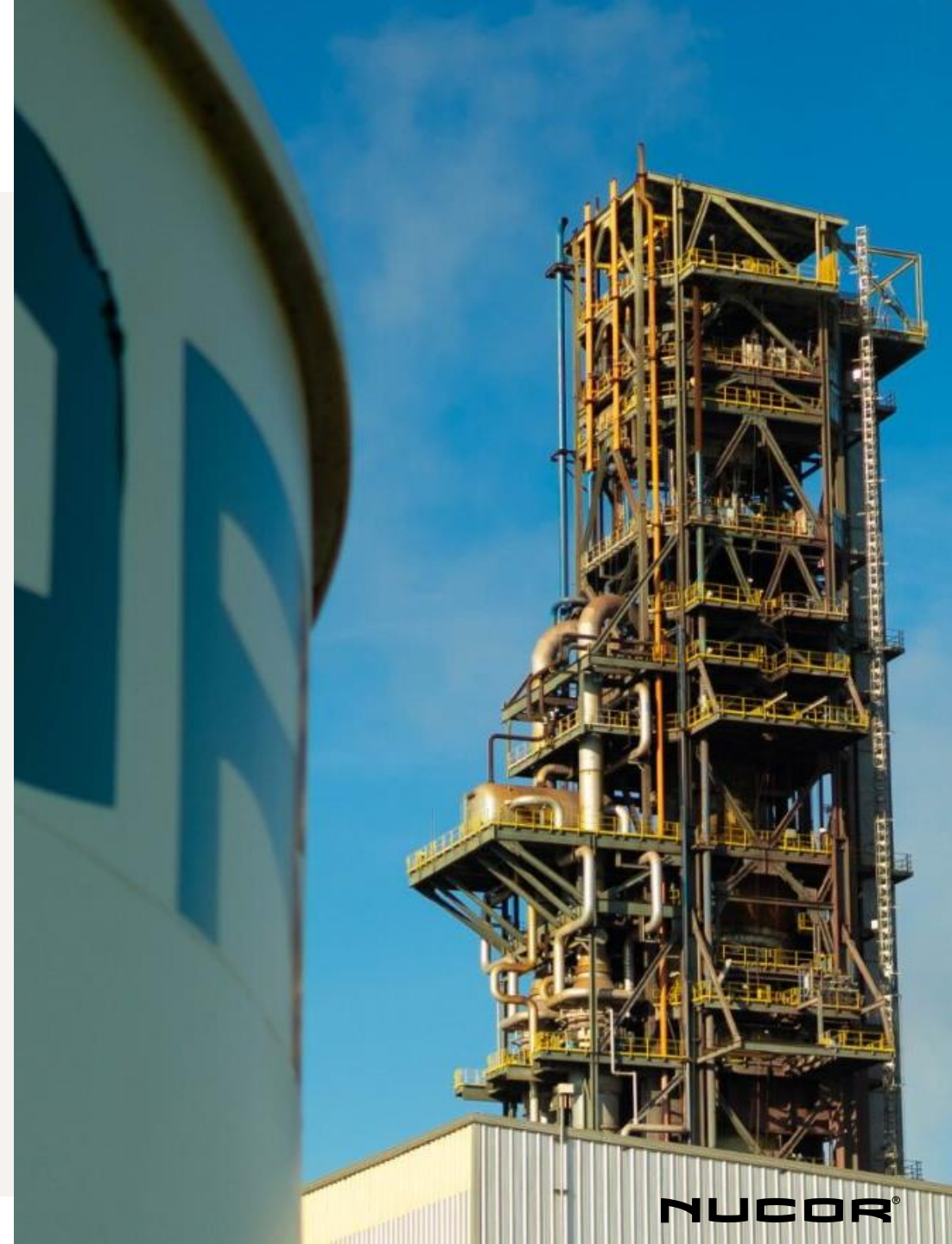
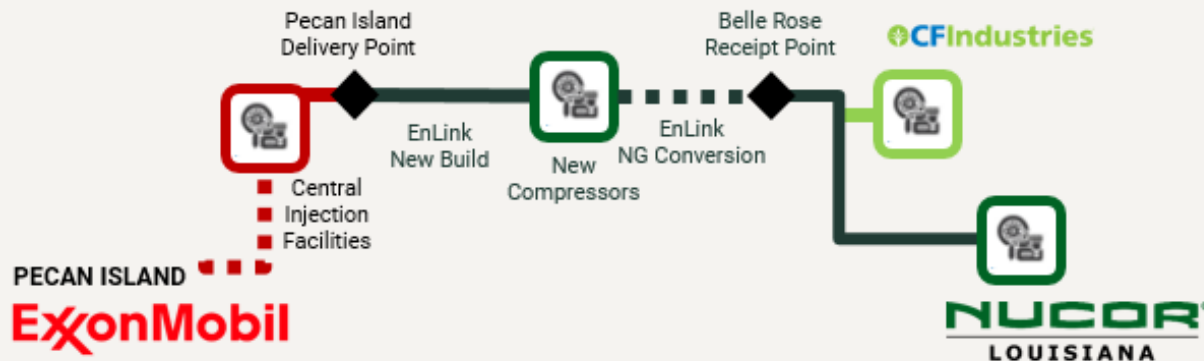
Period	Avg. Scrap Cost ^(a)	Avg. Metal Margin
2018-2022	\$385	\$566
2013-2022	\$349	\$476
2003-2022	\$328	\$413

(a) Scrap and scrap substitute per ton gross ton used



CARBON CAPTURE & STORAGE (CCS) PROJECT

- Nucor's Louisiana facility (NS-LA) currently produces DRI with only ~50% the carbon footprint compared to iron produced in blast furnaces at integrated steel mills (BF/BOF)
- CCS agreement with ExxonMobil announced in June 2023
- ExxonMobil to capture 600-800 kt/yr CO₂ from NS-LA for permanent storage
- Transformative project will result in Nucor DRI having ~80% lower carbon footprint compared to blast furnaces
- Capital-light project for Nucor with substantial impact on its steelmaking GHG footprint
- Expected start-up in 2026



LOW COPPER SHRED

- Quickly advancing separation technologies that yield a higher grade of obsolete scrap
- Capable of significant reductions in copper content (~30%)
- Able to produce higher quality metalics for our EAF mills, especially sheet mills
- Reduces pig iron need, driving down Scope 3 GHG intensity





NUCOR®