

Bringing Sustainable Steel to Your Next Hybrid Structure

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**CTBUH 2022
Steel-Timber Conference**

BRINGING SUSTAINABLE STEEL TO YOUR NEXT HYBRID STRUCTURE

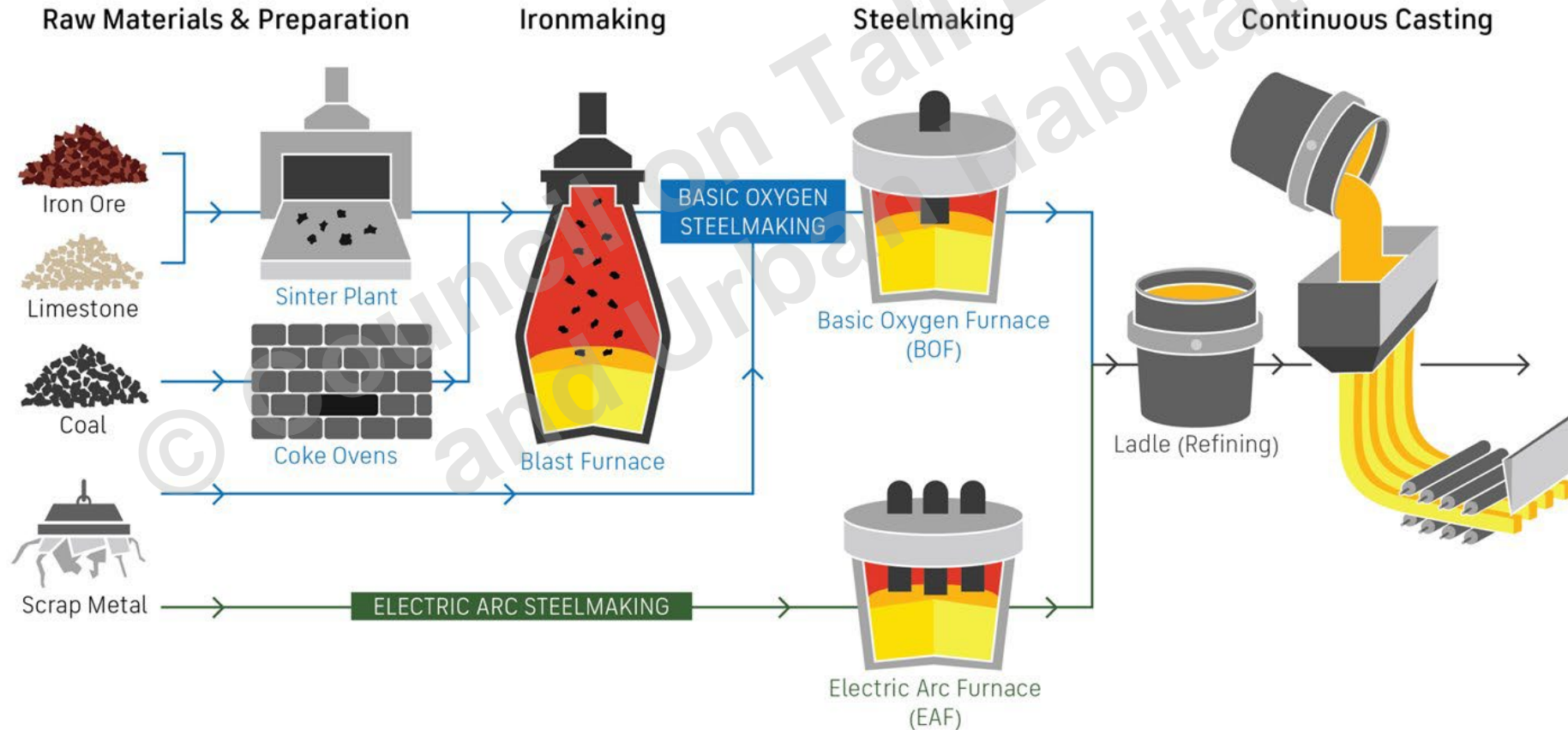
INTEGRATED MILL: BASIC OXYGEN FURNACE



Kevin Frayer / Getty Images

BASIC OXYGEN FURNACE

- **Primary Inputs:** Iron ore, coal, limestone, scrap
- **Power Source:** Coal, Electricity, Natural Gas
- Up to 20-30% **recycled content**
- Accounts for **70% of global steel production**
- Average carbon intensity: **2.33 tons GHG/ton**

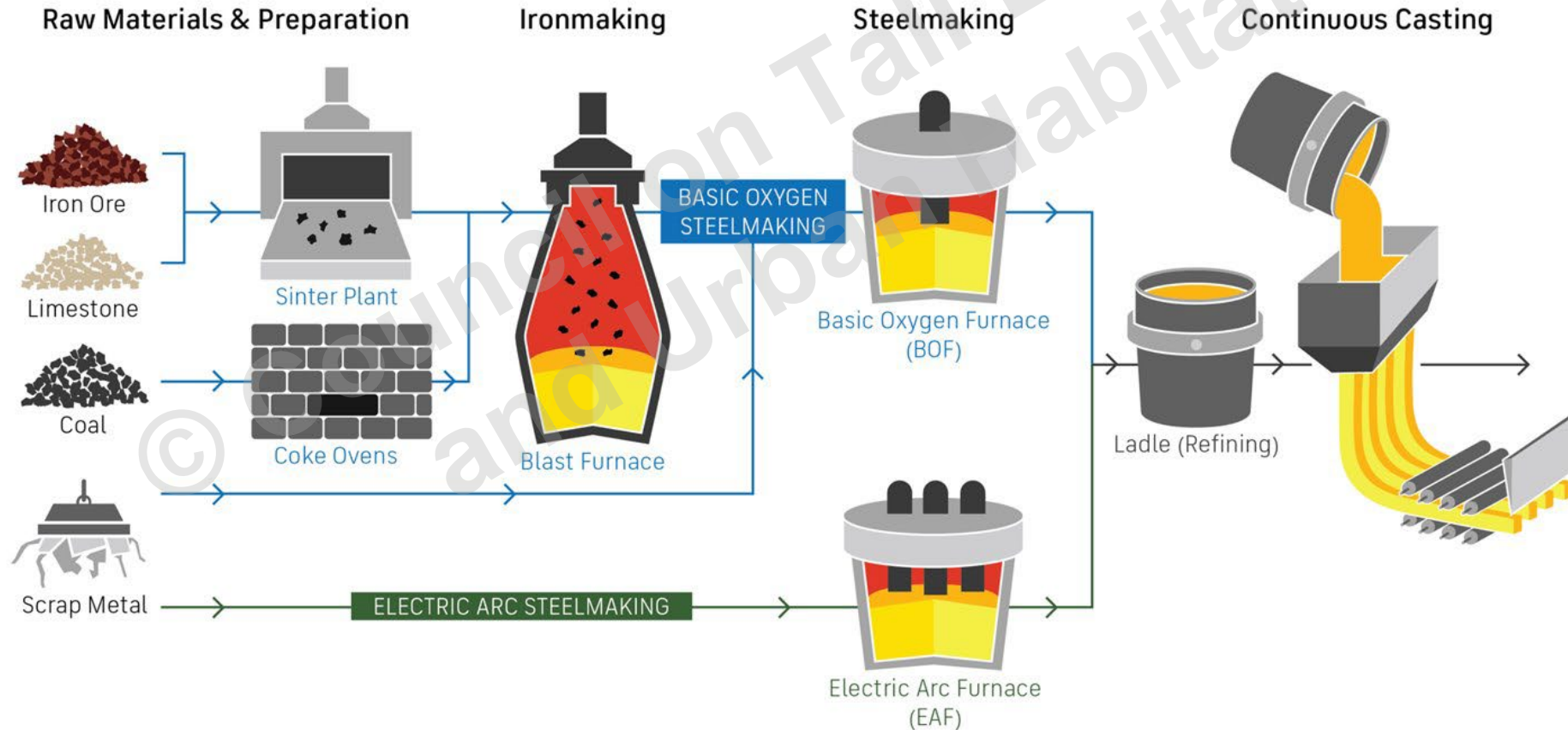


MINI MILL: ELECTRIC ARC FURNACE



ELECTRIC ARC FURNACE

- **Primary Input:** Scrap steel - DRI/supplemental inputs
- **Power Source:** Electricity
- Up to 90+% **recycled content**
- Accounts for **30% of global steel production**
- Average carbon intensity: **0.66 tons GHG/ton**



REPORTING IS KEY

Environmental Product

Declaration:

- Reports the environmental impact of a material/product
 - Hot-Rolled Structural Steel, Plate, Bar, HSS
 - Deck, Joist
- Industry-average EPDs
- Facility-specific EPDs

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per 2/3 cup	
Calories	230
% DV*	
12%	Total Fat 8g
5%	Saturated Fat 1g
	Trans Fat 0g
0%	Cholesterol 0mg
7%	Sodium 160mg
12%	Total Carbs 37g
14%	Dietary Fiber 4g
	Sugars 1g
	Added Sugars 0g
	Protein 3g
10%	Vitamin D 2mcg
20%	Calcium 260mg
45%	Iron 8mg
5%	Potassium 235mg
* Footnote on Daily Values (DV) and calories reference to be inserted here.	

ENVIRONMENTAL PRODUCT DECLARATIONS

ON JANUARY 1, 2021

Nucor had **1 EPD** for **1 Product** covering
1 Facility

TODAY

Nucor has **7 EPDs** for **6 Products**
covering
35 Facilities



NUCOR 2030 GREENHOUSE GAS (GHG) TARGETS

1

Consistent with our industry leading performance, Nucor is committed to an additional **35% combined reduction** in our Scope 1 and Scope 2 GHG Intensity by 2030 (2015 baseline).

2

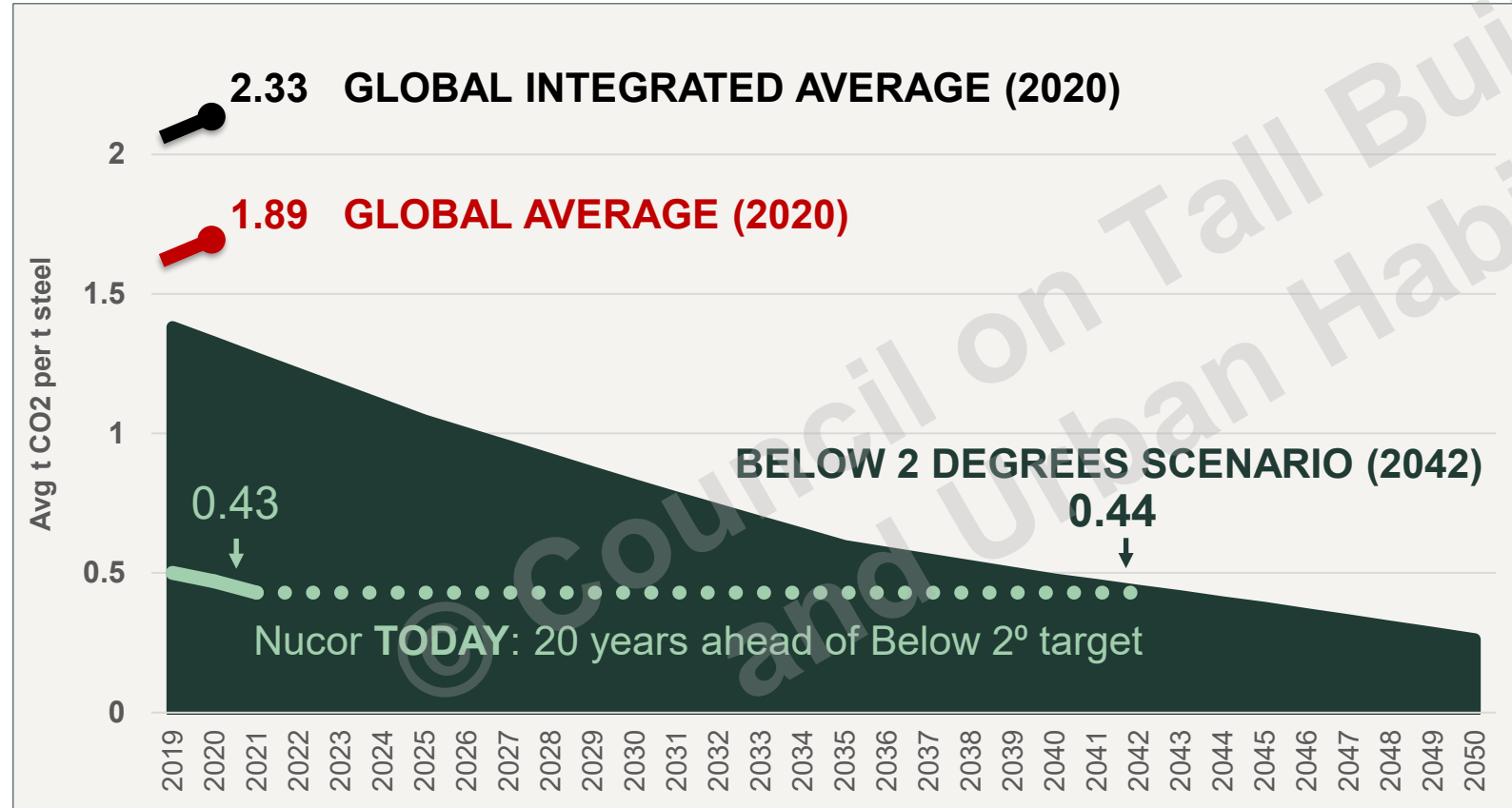
Nucor values transparency and will continue to **publicly disclose and reduce** our Scope 1, Scope 2, and Scope 3 GHG emissions.

3

Beyond 2030, Nucor is committed to reducing our GHG emissions with the **ambition of net zero emission steel** to meet the demands of the green economy.

SUSTAINABLE STEELMAKING

NUCOR ACHIEVES THE MOST AGGRESSIVE CLIMATE BENCHMARKS THROUGH 2042



PARIS CLIMATE AGREEMENT BENCHMARKS		
Steelmaking Sector Emissions Intensity Scope 1 & 2** metric tons of CO ₂ e per metric ton of steel produced		
	2025	2030
Paris Pledges***	1.65	1.64
Below 2 Degrees	1.05	0.82
NUCOR (2021)	0.43	

*All comparison numbers sourced from WorldSteel 2020 data.

**Greenhouse Gas (GHG) emissions: Scope 1 = direct emissions from operations; Scope 2 = indirect emissions from purchased electricity

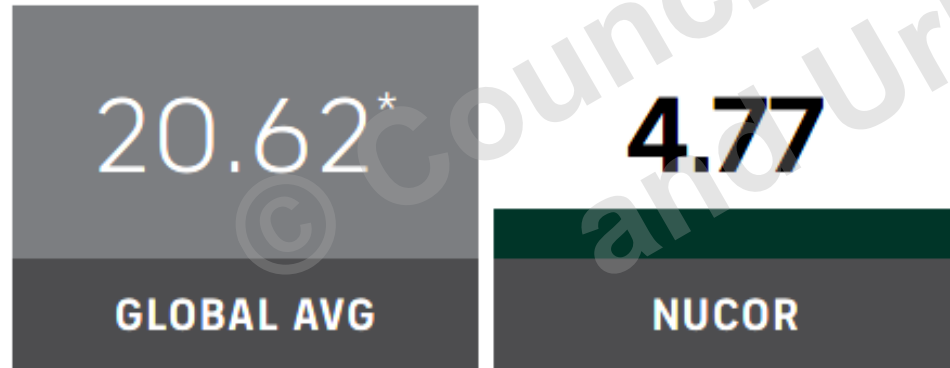
***Emissions reductions pledged by countries that are part of the Paris Agreement

ACHIEVING SUSTAINABILITY AT SCALE

International Energy Agency recommendations to effectively address goals set by the Paris Climate Agreement

#1 | **Energy intensity** of steel needs to decline by 1.2% annually 2018-30

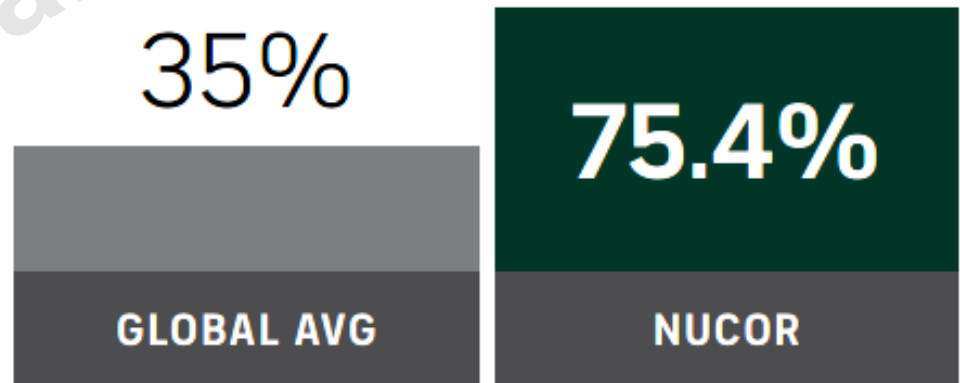
Nucor's energy intensity is **CURRENTLY** 77% lower than the global average



Average gigajoules per metric ton of steel produced

#2 | **Scrap inputs** should be over 40% of steel production by 2030

Scrap inputs **ALREADY** account for 75.4% of Nucor's steel products, on average



Average percent recycled content of steel produced

World's first net-zero steel at scale

- Lowest GHG emissions steel product available on the market, helps steel purchasers meet their sustainability goals
- Econiq™ certification can be applied to any product from our steelmaking facilities
- Taking **active role** that is directly resulting in the greening of our electrical grid
 - Eliminates Scope 1 emissions through carbon offsets
 - Eliminates Scope 2 emissions through 100% renewable electricity via VPPAs
- First Econiq™ coil shipped in January 2022
- Nucor received **GM Overdrive Award** for our partnership with GM on Econiq™

INTRODUCING ECONIQ™



Asymmetric Beam Research

- Study the behavior of hot rolled asymmetric I-beams (AIBs)
- Evaluate:
 - Constructability
 - Construction Behavior
 - Service Behavior
 - Ultimate Capacity



INNOVATION

Asymmetric Beam Research

Improve:

- Building Economy
- Speed of Construction
- Building and Material Efficiency



INNOVATION

Redicor Project - Boston

- 43,000 SF
- 6-stories – 34 residential units
- Prefabricated CLT floor panels, heavy timber structure
- Nucor Redicor modular system



INNOVATION

Redicor Project - Boston

- Beam to Core Wall Connections
- Speed of Construction
- Open Floor Plate
- Exposed Wood Framing



THANK YOU

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