FutureBridge

DECARBONIZING the STEEL INDUSTRY

ENERGY

Global GHG emissions

Global GHG Emissions

58 Gigatons
2022

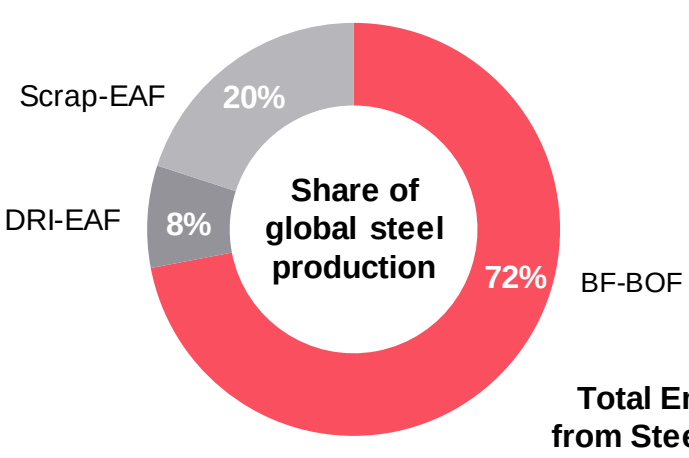
29%
Emissions from Industry sector

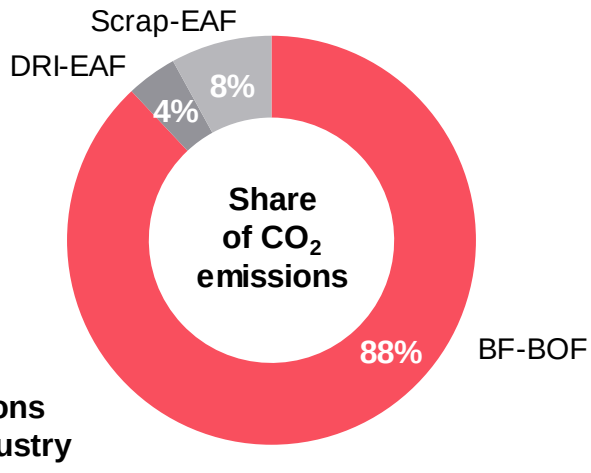
7%
Emissions from Steel Industry

Steel production is energy and carbon-intensive, emitting **4.06 gigatons of CO_2**

A major part of the emissions in the industry sectors are from the process itself, rather than the energy use

Blast furnace dominates the steel production route

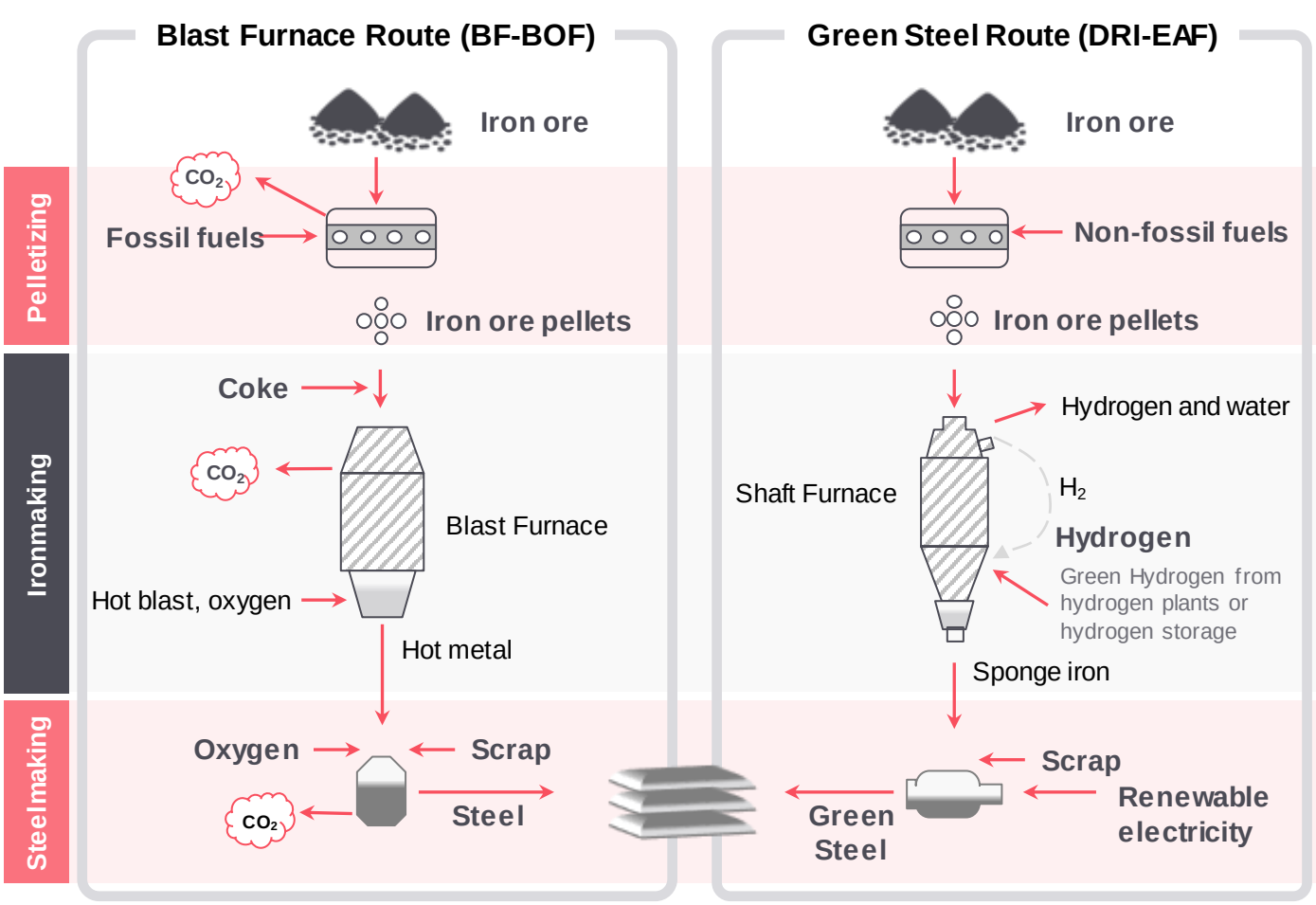




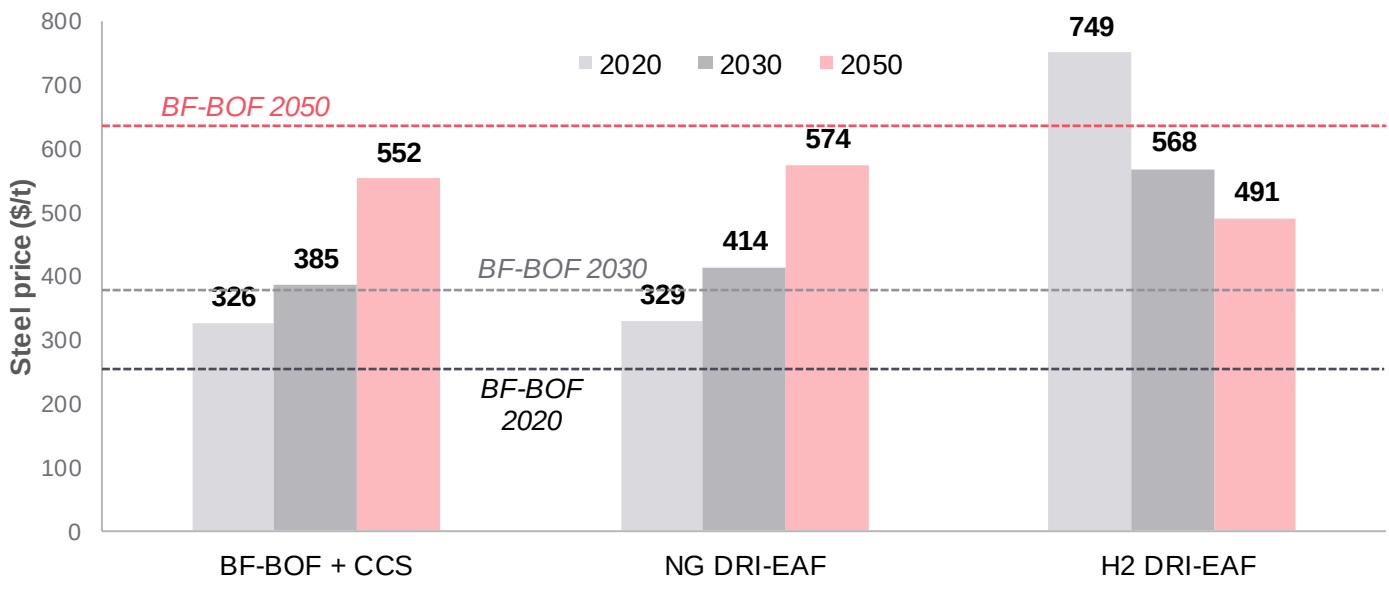
Total Emissions from Steel Industry
4.06 Gigatons

1. **BF-BOF:** Blast Furnace – Basic Oxygen Furnace
2. **DRI-EAF:** Direct Reduction – Electric Arc Furnace
3. **Scrap-EAF:** Scrap – Electric Arc Furnace

Hydrogen-based Steel production



Comparison of low carbon steel pathways



With steel prices increasing by **10% YoY till 2050**, it is expected that the cost of steel manufacturing with the integration of CCS or using Natural Gas (NG) as feedstock will become cost-competitive as compared with traditional manufacturing techniques by 2030. While steel manufacturing using Hydrogen (H_2) as feedstock could become cost-competitive by 2050

% CO_2 Reduction

52%
Blast Furnace – Basic Oxygen Furnace with Carbon Capture and Storage

56%
Direct Reduced Iron – Electric Arc Furnace using Natural Gas

91%
Direct Reduced Iron – Electric Arc Furnace using Hydrogen

About FutureBridge

FutureBridge tracks and advises on the future of industries from a 1-to-25 year perspective.

We keep you ahead on the technology curve, propel your growth, identify new opportunities, markets and business models, answer your unknowns, and facilitate best-fit solutions and partnerships using our platforms, programs, and access to global ecosystems and players.