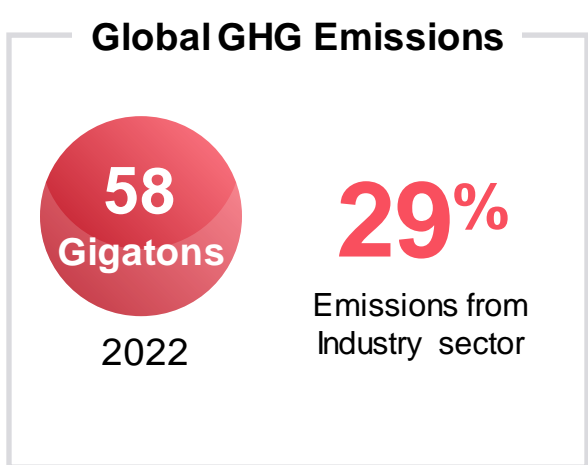


DECARBONIZING the STEEL INDUSTRY

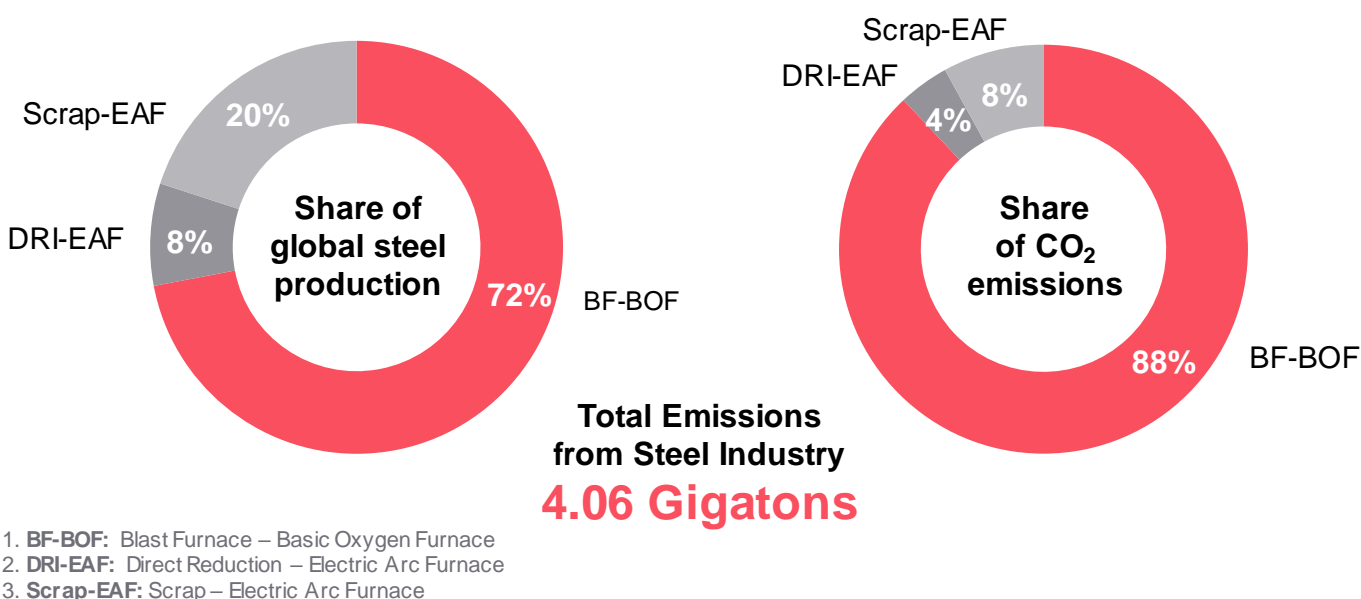
ENERGY

Global GHG emissions

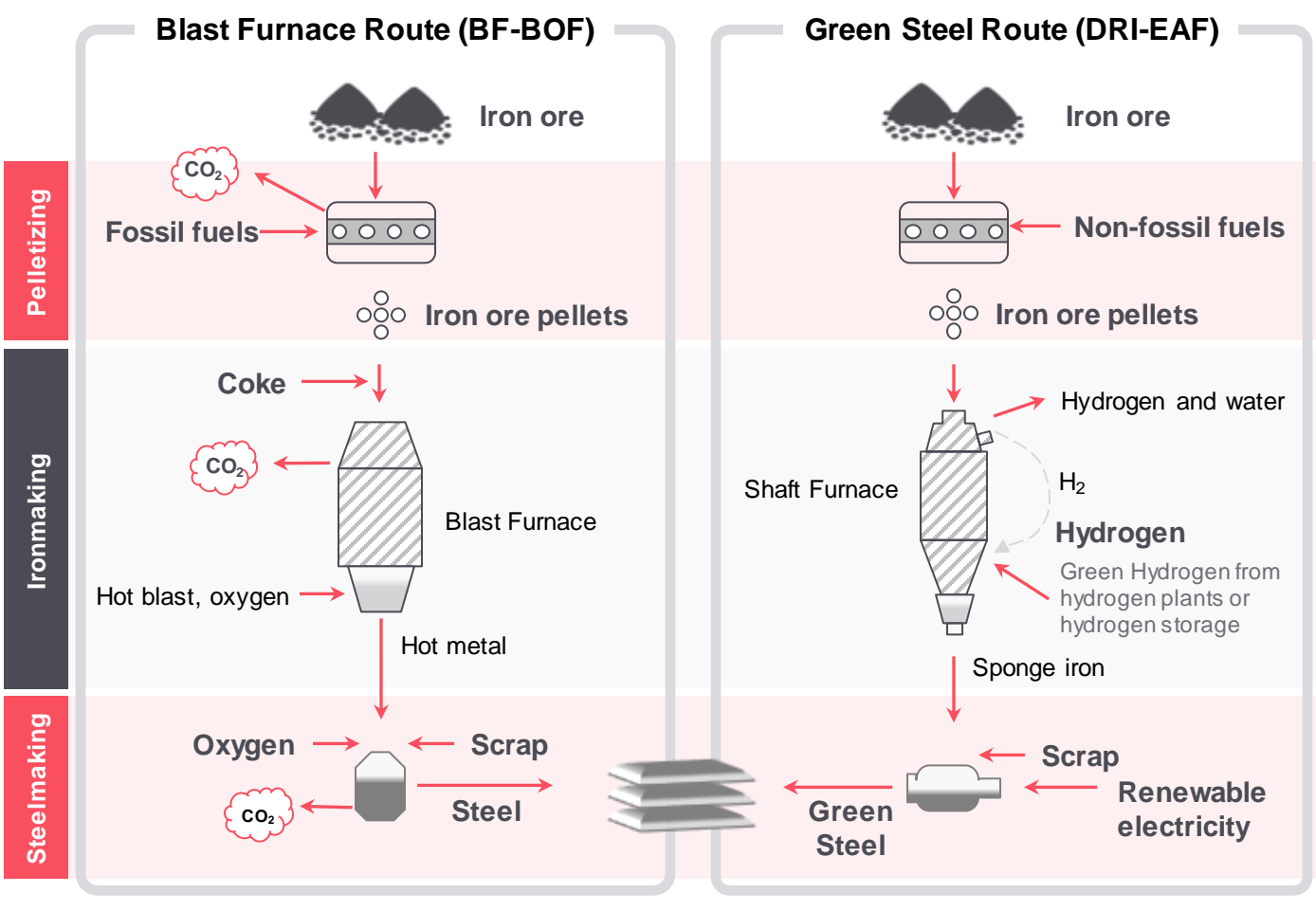


Steel production is energy and carbon-intensive, emitting **4.06 gigatons of CO₂**. A major part of the emissions in the industry sectors are from the process itself, rather than the energy use.

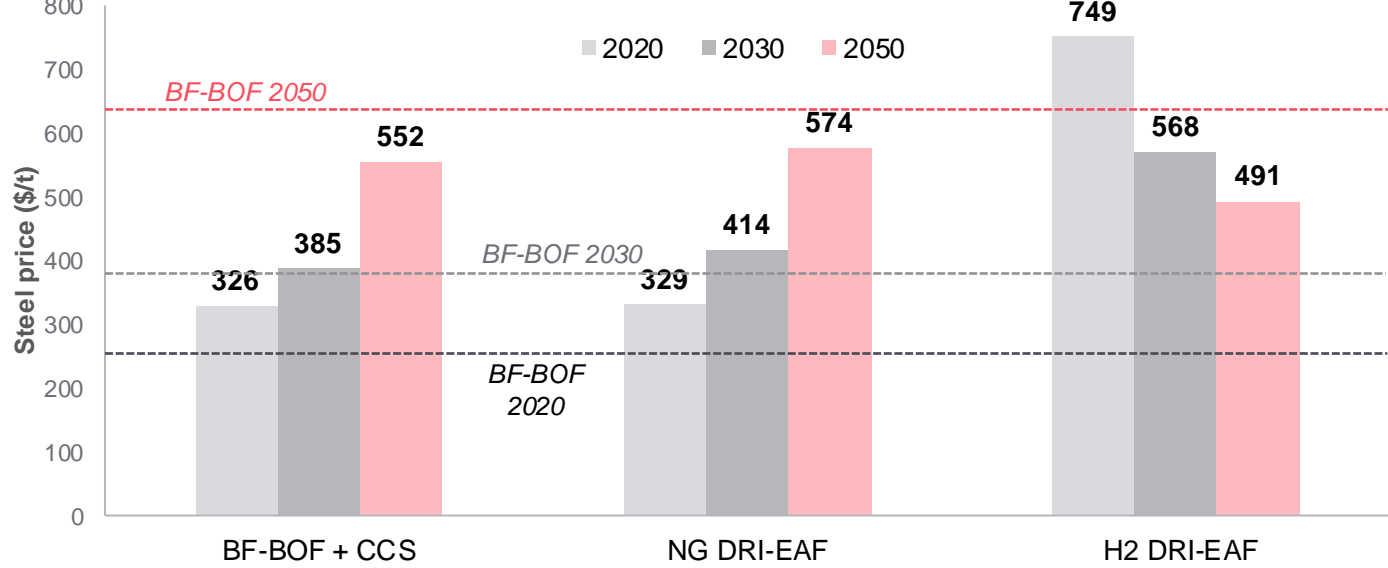
Blast furnace dominates the steel production route



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 (H₂) as feedstock could become cost-competitive by 2050.

% CO₂ 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.