



# Steel Snapshot



## Steel for beginners

### WHAT

When iron is combined with carbon, recycled steel and small amounts of other elements it is transformed into steel which can be 1000 times stronger than iron. Steel is 100% recyclable without loss of quality and can be infinity recycled.

### WHERE

There are more than 3500 different grades of steel each designed for a specific application. In the building industry, the most common applications of steel are reinforcing bars, structural sections and sheet products like roofing, walling and purlins. The global construction industry recovers 85% steel for recycling.

### WHEN

In the mid-1850s, Henry Bessemer invented a technique to mass produce steel by blowing air through molten pig iron to oxidise the material and separate impurities.

### WHY

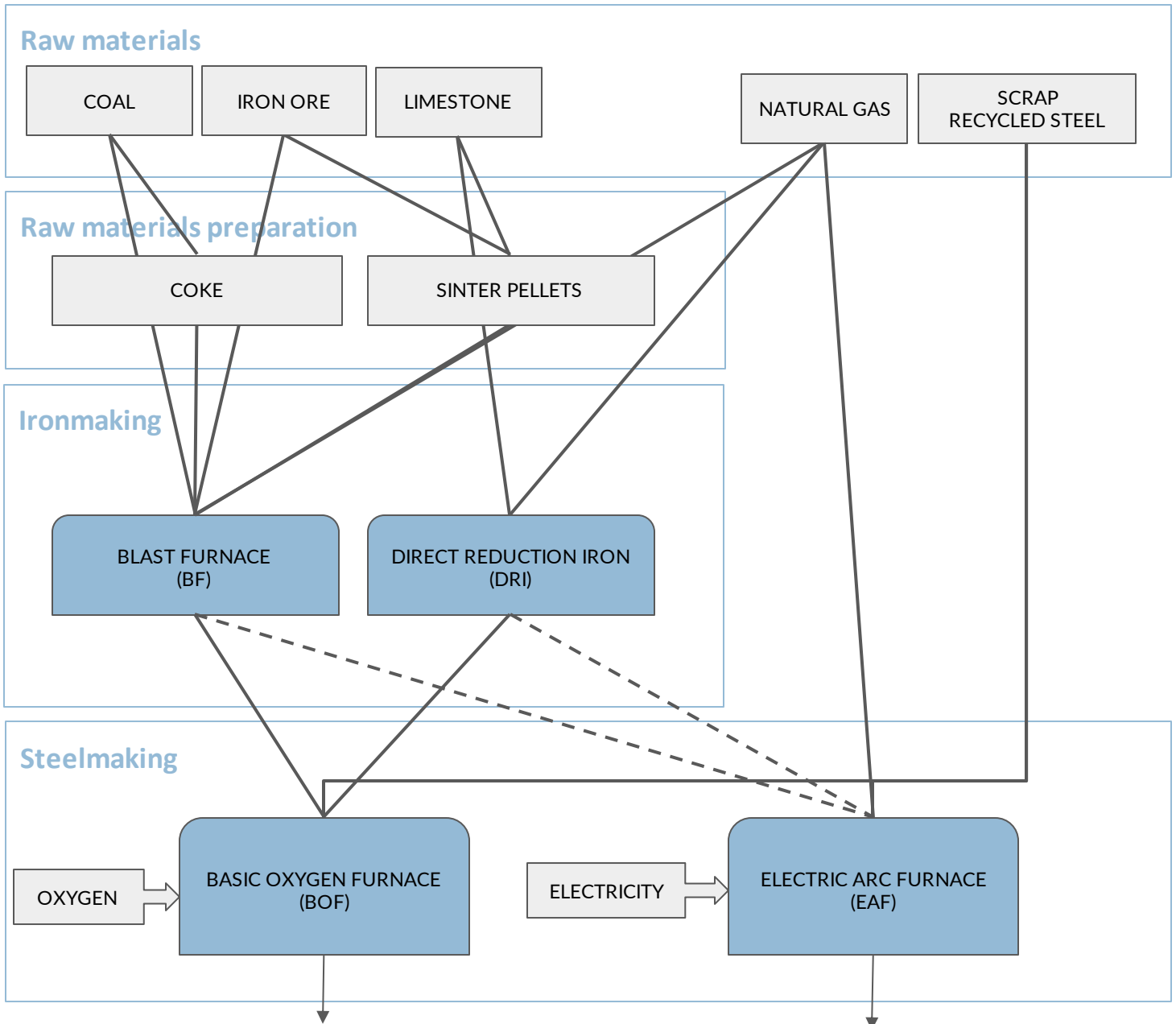
The iron and steel industry contributes approximately 7-9% of global greenhouse gas emissions. On average 1.89 tonnes CO<sub>2</sub> are emitted for every tonne of steel produced.

### HOW

The majority of CO<sub>2</sub> comes from the chemical reaction of steelmaking.

The industry is collaborating to revolutionise the way steel is made.

# How to make crude steel



About 70% of global steel production follows the BF-BOS path. To make 1 tonne (1000 kg) of BF-BOS steel you need 1370 kg iron ore, 780 kg metallurgical coal, 270 kg limestone and 125 kg recycled steel. BF-BOS can contain up to 30% recycled steel

About 30% of global steel is EAF produced. Depending on the plant configuration and availability of recycled steel, BF iron or DRI can also be used. To make 1 tonne (1000 kg) of EAF steel you need 710 kg recycled steel, 586 kg iron ore, 150kg coal 88 kg limestone and 2.3GJ electricity. EAF can contain up to 100% recycled steel.

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