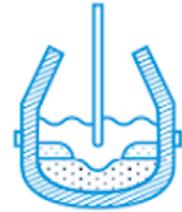
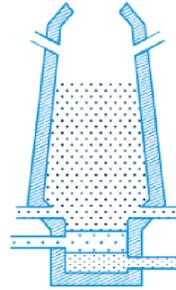
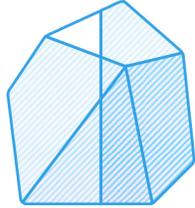
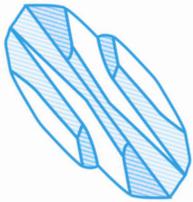


Green Steel Basics



How primary steel is currently made:



COKE

Processed form of coal



IRON ORE

From minerals like magnetite



BLAST FURNACE (BF)

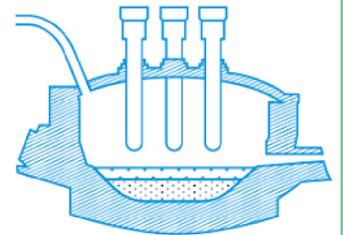
High temperature coal-based furnace to make iron



BASIC OXYGEN FURNACE (BOF)

Final step to make steel

How primary green steel *can* be made:



GREEN HYDROGEN

Produced via electrolysis using renewable energy



IRON ORE

From minerals like magnetite



DIRECT REDUCED IRON (DRI) FURNACE

Chemical reaction to make iron using green hydrogen



ELECTRIC ARC FURNACE (EAF)

Renewable energy-powered steelmaking



The Future of Green Primary Steelmaking

Most new steel made from iron ore today is made in antiquated blast furnaces that run on coal. Blast furnaces are the single biggest source of both climate and health-harming air pollution in the steelmaking process.

However, an established, alternative process for iron production called direct reduced iron, paired with an electric arc furnace for steelmaking, can significantly reduce pollution by eliminating the need for coal and other fossil fuels.

By using green hydrogen made with renewable energy in the reduction process and powering the electric arc furnace with renewable energy, steelmakers can eliminate more than 90% of climate pollution to make green steel.

Additional fossil-free pathways are currently under development including direct electrification through electrolysis. These promising technologies may have a significant role to play in the green steel market in the near future.

Quick Definitions:

Primary steel: new steel made with iron ore.

Electrolysis: a process that uses electricity to break water into hydrogen and oxygen.

Green Hydrogen: hydrogen made in an electrolyzer powered by renewable energy.

How to Get Green Steel:

Green steel is not currently available in the United States and there are no planned investments in new or upgraded green steel facilities, however, important customers like automakers can change this.

Visit racetogreensteel.com for more information on what automakers can do to procure primary green steel in the United States.