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Reducing blast furnace CO2 emissions

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Blast furnaces are a key lever for reducing the CO2 emissions of the steel industry. This paper will review the available technologies and best practice for blast furnaces and the effect they can have on reducing CO2 emissions. The OPEX and CAPEX costs and benefits will be discussed, with a view to identifying the "low hanging fruit"for steelmakers to implement. These options will include specific technology solutions, such as Sequence Impulse Process (SIP) and the use of Digitalization Technologies and advanced process control.
The paper will also assess the feasible medium- and longer-term developments (for example top gas recycling and carbon capture), considering the risks to actual commercialisation along with the potential for decarbonisation and competitiveness.
The findings will underscore the importance of adopting a multi-faceted approach when considering how to mitigate environmental impact while maintaining operational efficiency.

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