

Master Thesis Projects

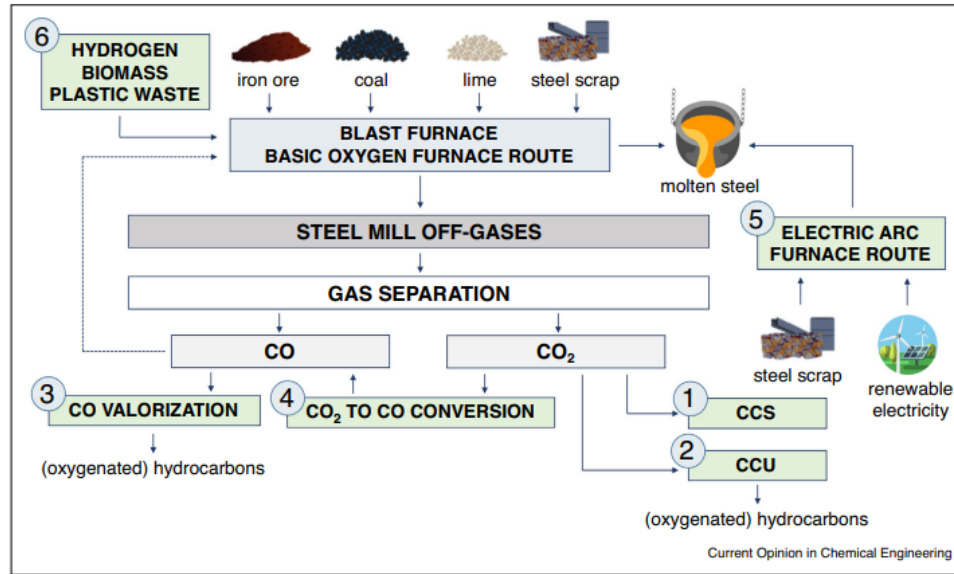
- ❑ Project 1: Prospective Life Cycle Assessment for the Decarbonization Pathways of the Steel Industry

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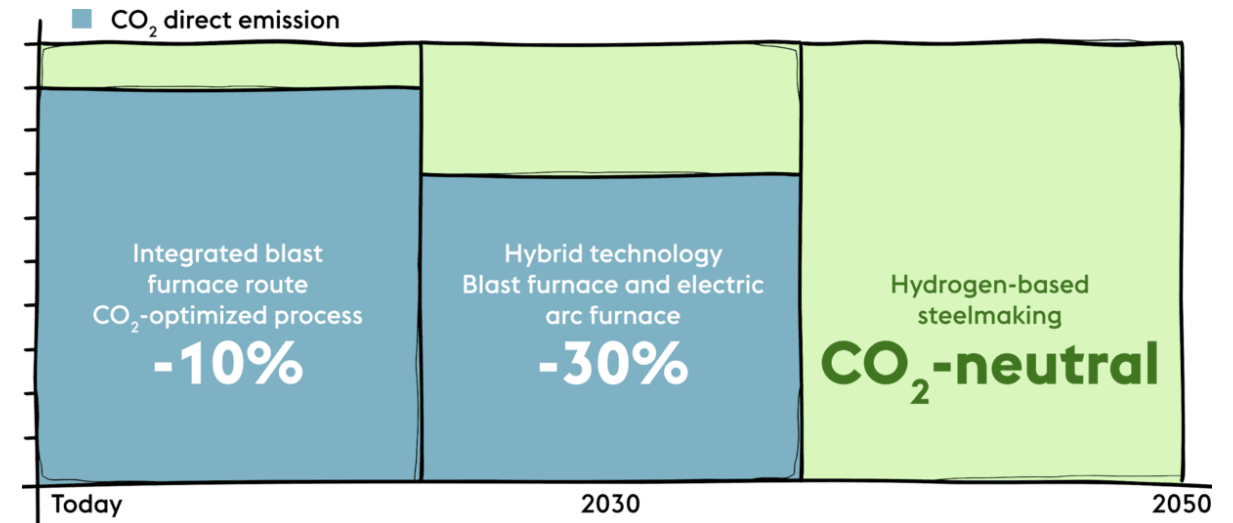
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□ Prospective Life Cycle Assessment for the Decarbonization Pathways of the Steel Industry



Schematic overview of steel production and associated solutions to reduce CO₂ emissions. 1: CCS, 2: CCU, 3: valorization of CO, 4: conversion of CO₂ to CO by (super) dry reforming, 5: transition from the BF-BOF route to the EAF route, 6: using hydrogen, biomass or plastic waste as reducing agent instead of coal.

Greentec Steel in Austria



Steel Industry — Largest emissions sources in Austria

Main research work & methods:

- Review and comparison of different decarbonization technologies for the steel industry
- Application of prospective life cycle assessment (pLCA) for the decarbonization pathways of the steel industry in Austria / EU

What you will learn & use:

Python & Jupyter Notebook/VS Code, Brightway2&2.5 (pLCA), Activity-Browser, Github & Open-sourced tools