

Advanced Carbon Capture for Steel Industries Integrated in CCUS Clusters

The Project

Funded by the European Union H2020 programme, C⁴U is a holistic interdisciplinary project addressing all the essential elements required for the optimal integration of CO₂ capture in the iron and steel industry as part of the CCUS chain. This spans demonstration of two highly efficient solid based CO₂ capture technologies for optimal integration into an iron and steel plant and detailed consideration of the safety, environmental, societal, policy and business aspects for successful incorporation into the North Sea Port CCUS industrial cluster in Belgium and the Netherlands.

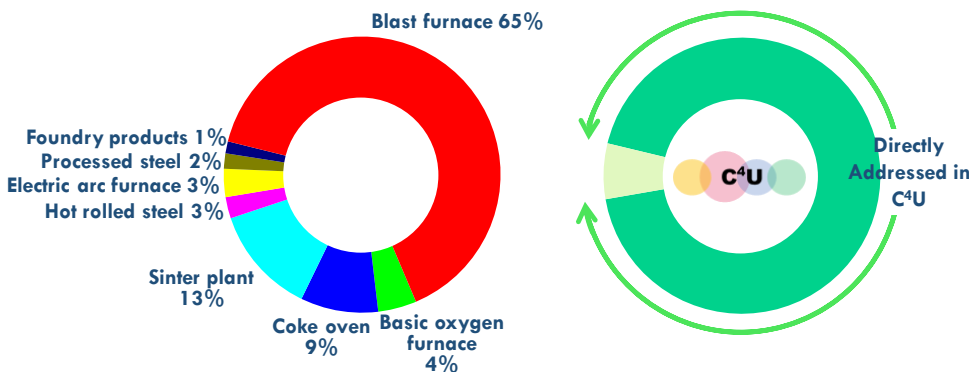
Our Objectives

- Elevate two novel sorption based CO₂ capture technologies, known as **DISPLACE*** and **CASOH****, from TRL5 to TRL7 & design for optimal integration in the steel industry
- Analyse the economic, environmental and business impacts and opportunities of applying CCUS in a large-scale (TRL9) steel plant in the North Sea Port industrial cluster
- Develop and test approaches with stakeholders and end-users to assess and advance societal readiness for CCUS in industrial clusters
- Ensure that the project's results are exploited to the full extent and disseminated to relevant stakeholders to facilitate the large-scale rollout of CCUS

***DISPLACE** - High temperature sorption-displacement process for CO₂ recovery

****CASOH** - Calcium Assisted Steel-mill Off-gas Hydrogen production

C⁴U AMBITION



In combination, the two C⁴U capture technologies aim to capture up to 94% of the total emissions in a steel plant, resulting in an overall CO₂ emission reduction of 89%

C⁴U CONSORTIUM

C⁴U comprises an interdisciplinary consortium of industrial end users, technology developers, engineers, social scientists, policy and business specialists across 8 European countries, Canada, China and USA



Radboud University



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