



Gas Processing for Green Steel Making

L. Lücking^{1*}, H.A.J. van Dijk¹, Z. Asgar Pour², Marco Guala³, Gabriele Fiorenza⁴, Xingqiang Song⁵, Durgesh Gupta⁶

¹ TNO, The Netherlands ⁴ Acciaierie d'Italia, Italy ² Kisuma Chemicals, The Netherlands ⁵ SWERIM, Sweden

(*) leonie.lucking@tno.nl

³ Paul Wurth, Italy

⁶ H₂ Green Steel, Sweden

GreenSmith concept and objective of this work

GreenSmith will demonstrate hydrogen recovery from various integration of BF-BOFG and DRP-EAF steel production routes through the application of the STEPWISE technology



The **objective** of this project is derisking and conceptual design of the application of the GreenSmith concept to novel steel industry integrations leading to an overall carbon reduction of 85% compared to traditional BF-BOFG routes

Sorption Enhanced Water-Gas Shift in GreenSmith



 $CO + H_2O \iff CO_2 \downarrow + H_2$

Analysis of large-scale application



AdI's Taranto Site



H2GS Boden Site



Expected Results

Basic Engineering for TRL8 Plant



Example of a plot plan from project STEPWISE

GreenSmith Partners

- Advanced sorbent development in shape and composition, tuned for the integration option with a two-fold performance increase
- **De-risking of the technology** for low carbon steelmaking through intensive testing campaigns on TRL5 level
- **Basic Design Package** for a 50 ktaCO₂ capture plant at TRL8 for the treatment of BFG at the Taranto plant in \bullet south Italy, aiming for 200 ktonCO₂ captured by 2030
- Acceleration of the wider adaption of the technology through definition the TEA and LCA for two implementation cases



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