



OXYSTEEL – ENERGY EFFICIENCY AND DSM IN STEEL PRODUCTION BY THE USE OF OXY-FUEL AND CCU TECHNOLOGY

“The steel industry is a fascinating area of research because efficiency measures have a big impact. For example, after the implementation of OxySteel, we expect annual energy savings of 12 GWh. This equates to approx. 10 % of the annual natural gas consumption of the city of Leoben. Considering a subsequent technology rollout, the savings are a multiple thereof.”

THOMAS KIENBERGER, Project Manager OXYSTEEL, Lehrstuhl für
Energieverbundtechnik, Montanuniversität Leoben

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KEY FACTS

CO₂-savings potential: 2.700
tones per year in the European
Union, which is a valuable
contribution for energy
transition

Duration: 09/18 – 08/22

Project volume: €2,6 Mio

OxySteel encompasses the increase of energy efficiency by the use of novel technologies and the evaluation of DSM potentials in a steel mill. The first goal is tackled by the development and implementation of a new process design using oxy-fuel combustion and CCU. The second objective is to identify flexibilities for the increased use of renewable energy sources and possible grid services.

MAIN GOALS

Identification of flexibilities and energy efficiency in process heat production by the use of oxyfuel combustion.

Replacement of gas burners by oxy-fuel burners.

Reduction of the required electrical storages and support of the stability of the electrical power grid.

OxySteel demonstrator project in the Breitenfeld Edelstahl AG steel mill.
