

MÖGLICHE THEMEN FÜR:

PROJEKT „DIGITALISIERUNG IN DER ENERGIETECHNIK“

PROJEKT „ENERGIETECHNIK“

David Banasiak (david.banasiak@unileoben.ac.at):

Modelling the processes for zinc extraction from lead and steel mill residuals (GreenZinc)

The aim of this project is to create models that can calculate the heat produced and energy consumption in form of different energy carriers in the process steps of zinc extraction. Furthermore, process flexibilities need to be identified for main and side processes.

Earliest starting date: Dec. 2024



Analysis of the energy system of a lead production and an electro steel mill and local electricity and heating grids (GreenZinc)

The analysis of the industrial energy systems shall enable an efficient integration of the zinc extraction process with a high degree of waste heat utilization and synergies of providing energy feed streams (O₂, H₂).

Earliest starting date: Nov. 2024

Ramin Ghiami Sardroud (ramin.ghiami-sardroud@unileoben.ac.at):

Investigation of utilizing piperazine (PZ) and monoethanolamine (MEA) combination as a solvent for CO₂ capture

This project aims to assess the utilization of PZ and MEA combination for CO₂ capture using Aspen Plus. This project can lead to evaluate the effects of different variables on the CO₂ concentration of the flue gas leaving the absorber. Earliest starting date: November 2024.

Julia Vopava-Wrienz (Julia.vopava-wrienz@unileoben.ac.at):

Specification of future scenarios (only: Projekt “Energietechnik”; work possible in German and English)

This project work focuses on developing comprehensive future scenarios to assess the large-scale impact on energy grids. These scenarios incorporate key variables such as electric vehicle (EV) penetration, population growth, and the integration of smart charging points. Additionally, the scenarios explore sector coupling, particularly the interaction between mobility, energy production, and storage, with a focus on technologies like heat pumps and photovoltaic (PV) systems. Data from previous studies and existing literature are used to model load and production profiles, while insights from governmental reports and collaboration with EVT members enhance the precision of the analysis. This holistic approach ensures that the scenarios reflect the latest developments in the energy sector.

