

Electrochemical regeneration of alkaline solvent for carbon capture

Type of Project: MSc Thesis

Starting date: September 2022

Duration: > 6 months

Salary: 200€ / month

Location: Wetsus – European centre of excellence for sustainable water technology (Leeuwarden, Netherlands)

Project description:

This internship project will be assisting the 4-year European collaborative project ConsenCUS, funded within the Horizon 2020 Innovation Action framework. The focus of the project will be the electro-regeneration of the alkaline solvent for carbon capture. Such a process operates with a pH swing established by an electrochemical cell, carbon dioxide will be released at low pH, and the solvent will regain alkalinity at the cathode (Fig. 1). The aim of the project is to optimize the electrochemical system from the perspective of energy consumption and performance stability, assisting the further scaling-up process. Your specific task will be performing experiments to understand the overpotential and build up a pH profile across the electrochemical cell with the assistance of our mathematic model.

Your profile:

- Has environmental engineering, chemical engineering, or any other relative engineering background;
- Currently enrolling in Master's studies;
- Experience with laboratory work;
- Good English communication skills, both writing and spoken;
- Currently studying in the Netherlands, or has citizenship from an EU country.

Your benefit:

- Opportunity to close interact with EU carbon capture project;
- Contribute solutions to global warming;
- Experience working in an international environment.

Contact details:

Please send your CV and motivation letter to mu.lin@wetsus.nl. Do not hesitate to contact in case you have any further questions or if you need more information.

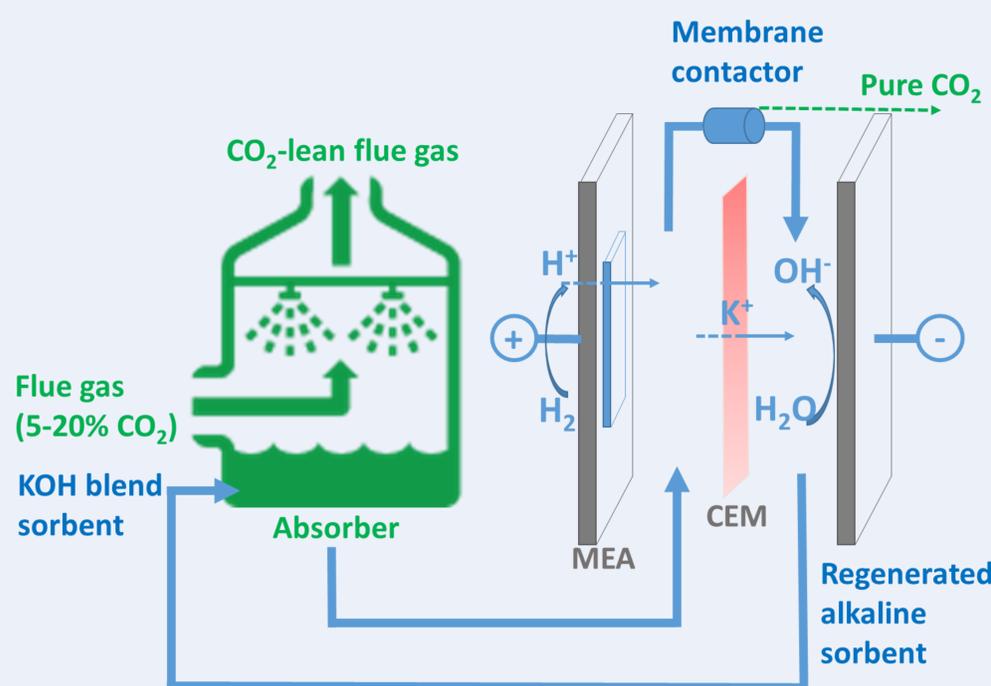


Fig.1 Illustration of pH-swing based electrochemical regeneration



ConsenCUS

This work is performed in the framework of the ConsenCUS project ("Carbon Neutral clusters by Electricity-based innovation in Capture, Utilization and Storage"). The ConsenCUS project has received funding from the European Union's Horizon 2020 Research and Innovation program under Grant Agreement no. 101022484 (www.consencus.eu).