



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of the Environment, Transport,
Energy and Communications DETEC

Swiss Federal Office of Energy SFOE
Energy Research and Cleantech

Research Programme Bioenergy – Call 2024

Full proposals accepted for funding





File: BFE-223-1/33

TOPIC 1: Capture and utilisation of CO₂ from biogas plants (agricultural and industrial biogas plants, wastewater treatment plants)

Title: BioCUBES – Biogenic CO₂ capture and utilization from Swiss biogas plants: Technical, economic and environmental analysis

Main applicant: Planair SA, Yverdon-les-Bains, Dr. Mathieu Boccard

Project duration: 01.12.2024 – 31.01.2027

Abstract: This project aims to evaluate carbon capture and utilization (CCU) in biogas plants to generate an added value economically as well as environmentally. Key objectives include estimating CO₂ capture possibilities from existing biogas plants, quantifying the technical CCU potential, analysing cost-effectiveness, and assessing the CO₂-equivalent emission balance. The study will investigate various utilization strategies to cover the complete biogenic CO₂ utilization pathway. Additionally, it will explore both the current systems and evaluate prospective scenarios, such as new manure-based biogas plants and emerging CO₂ utilization technologies.

Title: SHIFT- Sustainable Hydrogenotrophic In-situ methanation For energy inTegration

Main applicant: SUPSI - University of Applied Sciences and Arts of Southern Switzerland

Project duration: 01.12.2024 – 31.12.2027

Abstract: In this research project, we propose to study the *in-situ* biological methanation by designing and monitoring the process in two different configurations focusing on the most important and impacting process variables. First, basic research questions that can be investigated in the laboratory are examined in small continuous anaerobic bioreactors, which include the investigation of hydrogen mass transfer, the reaction kinetics, the product gas quality, process inhibitors and the adaptation of the biocenosis. The final goal is the definition of a process upscaling design that will be tested in 60 L continuous anaerobic bioreactors and analyzed in a cost/benefit scenario specifically built for the Swiss economy and energy strategy.

TOPIC 2: Flexibility of Biogas plants

None of the submitted projects was eligible.