## Get involved

Active engagement with local biogas stakeholders is critical to ensure that the successful introduction and adoption of the innovative biogas filter in Vietnam.

There are many oppotunities to get involved in

S-IRLCE project including:

- Participating in the biogas workshop
- Joining the 3rd international conference of "Valorization of agricultural residues"
- Follow our work at:

www.s-ircle.com

## Coordinated by

**Technische Universität Berlin**
Institute of Environmental Technology
Chair of Circular Economy and Recycling Technology
http://www.circulareconomy.tu-berlin.de/

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## Partners

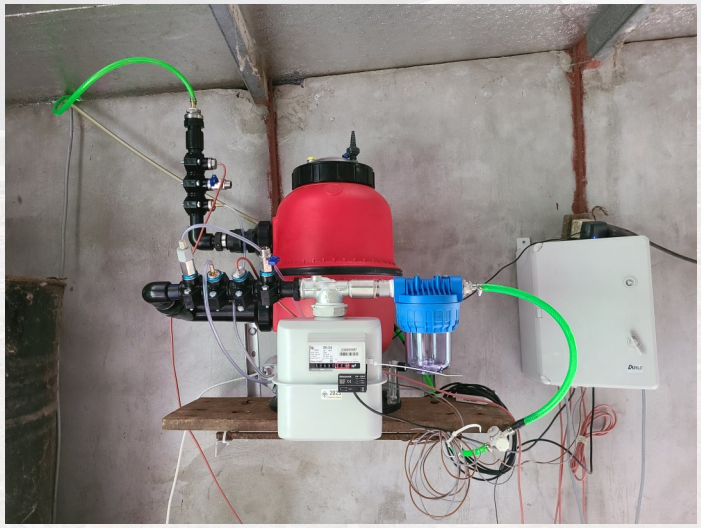
**S-IRCLE is a project under the Export Initiative Environment Protection (EXI) Program**

Supported by:

Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

based on a decision of
the German Bundestag

# Circular Biogas Technology - Smart Filter Systems for $H_2S$ Removal and S-Recovery



**Project duration: 03/2023 - 02/2025**

**www.s-ircle.com**

## The challenge

In Vietnam, there are over 500,000 small-scale biogas plants with digester volumes under 50m$^3$ , primarily producing biogas for household cooking. Biogas utilization is hindered by excessive hydrogen sulfide ($H_2S$) in the output.

- $H_2S$ is toxic, smells bad and corrodes biogas appliances
- Current biogas filters in Vietnam are ineffective, short-lived and lack warranty

**Therefore, a demand exists for high-quality, effective, durable and affordable biogas filter.**

## Objective

**The goals of S-IRCLE project are**

- Develop an innovative, automatic regenerable external filter system to remove $H_2S$ in small-scale biogas plants
- Waste mitigation through the implementation of a refillable filter system
- Develop sulfur fertilizer from loaded filter material - FerroSorp®.

## Work packages

**WP1:** Project coordination and data management

**WP2:** Further developing and test the biogas filter for $H_2S$ removal

**WP3:** Develop the sulfur fertilizer from loaded FerroSorp®

**WP4:** Calculate the recycling efficiency and evaluate the environmental impact

**WP5:** Communication and publication

**Project start** — 03/2023

Start of plant experiment

Start of biogas filter test — 07/2023

**Milestone 1:**

- Organize a biogas workshop with stakeholders in Vietnam
- Launching project website
- Publish project flyer
- Project presentation in an international conference

**Milestone 2:**

- Complete the plant experiment using loaded filter material as fertilizer
- Result evaluation

02/2024


08/2024

**Milestone 3:**

- Complete field test of the biogas filter
- Result evaluation

**Milestone 4:**

- International Conference
- Result publication

09/2024

**Project end** — 02/2025