

GasUpgrade

Upgrading process gases with microwave plasma

CHALLENGE

Process gases, such as pyrolysis gases or biogas, often do not meet the requirements for material recirculation by means of subsequent synthesis due to low calorific values, high CO₂ content, or contamination with tars, higher hydrocarbons, or dust. They are therefore usually incinerated and often used to generate electricity and heat in combined heat and power plants. However, in many cases this method does not cover costs and also causes high CO₂ emissions.

OUR PROJECT

For the post-treatment of contaminated process gases (e.g., pyrolysis gas, biogas), a compact, transportable plant with a microwave plasma burner is being built as part of the project and tested in field trials. This produces high-quality synthesis gas, which can be processed into valuable substances such as methanol and returned to the material cycle. An ecological and economic comparison will be made between conventional recycling and the proposed solution.

PARTNERS

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FUNDING

Europäischer Regional Development Fund (ERDF), Sächsische Aufbaubank (FKZ: 100770480)

DURATION

June 2025 – November 2026 (1.5 years)

