

## MeConize

*Development of a novel process for methane conversion under ionized high-temperature conditions*

### CHALLENGE

The MeConize project addresses the challenge of using biomethane in a climate-friendly and economically viable way for hydrogen production. The background to this is the need for decentralized, practical solutions for biogas plant operators, whose existing business models are under economic pressure. At the same time, demand for hydrogen as an energy carrier and feedstock is growing. The project therefore explores how hydrogen and usable carbon products can be produced efficiently from biomethane. Of particular importance are high plant availability, good product quality, compact plant design, and viable business models for future market deployment.

### OUR PROJECT

In the MeConize project, a novel process for methane conversion under ionized high-temperature conditions is being developed. At its core is the use of microwave plasma, in which biomethane is employed directly as the plasma-forming gas in order to increase methane conversion and produce high-quality hydrogen. At the same time, process-engineering solutions are being developed for the separation and handling of the resulting carbon black. The aim of the international collaboration between research institutions and SMEs from Sweden and Germany is to develop innovative and economically viable technical solutions for compact, transportable container-based plants that enable greater value creation from biomethane through the production of high-purity hydrogen and versatile, high-quality carbon materials.

### PARTNERS

- H&O Development AB, Stockholm, Sweden, Project Lead
- Kungliga Tekniska högskolan (KTH), Stockholm, Sweden
- IBT GmbH, Freiberg, Deutschland

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