Demonstrating and Connecting Production Innovations in the Biomethane Universe

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innovations in the BIOMETHANE UNIVERSE

BIOMETHAVERSE in a nutshell

BIOMETHAVERSE (Demonstrating and Connecting Production Innovations in the Biomethane Universe) aims to diversify the technology basis for biomethane production in Europe, to increase its cost-effectiveness, and to contribute to the uptake of biomethane technologies. To this aim five innovative biomethane production pathways will be demonstrated in five European countries: France, Greece, Italy, Sweden and Ukraine.

BIOMETHAVERSE's Challenges

- Demonstrate increased cost-effectiveness and innovative biomethane production
- Increase biomethane sustainability by reducing GHG emissions
- Ensure replicability & upscaling of the demonstrated biomethane production pathways
- Guarantee market access of the demonstrated technologies

BIOMETHAVERSE's Impact

- Increase biomethane production potential by 66% by 2030
- Create 294,000 jobs by 2030
- Enable 113 Mt CO_{2eq} GHG savings by 2030
- Reduce biomethane production costs by 13% to 44%

The project production routes cover one or a combination of the following production pathways: thermochemical, biochemical, electrochemical, and biological. As a starting point, four demonstration plants use conventional anaerobic digestion (AD), and one uses conventional gasification.

In the BIOMETHAVERSE demonstrators, **CO_2 effluents from AD or gasification and other intermediate products are combined with renewable hydrogen or renewable electricity to increase the overall biomethane yield**.

All demonstrated production routes go beyond conventional technologies, with a circular approach for the use of energy and materials, while aiming at reducing the overall biomethane production costs and increasing the biomethane production.

> *"Biomethane is a cornerstone of the present and future energy system, and BIOMETHAVERSE will strongly contribute to shape it."*
> *Stefano Proietti, Project coordinator*