

## Partners



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DEMETER is a project  
funded by the  
European Commission

This project has received funding from the European Union's Horizon 2020 Research and Innovation program under Grant Agreement n° 720714



Demeter

DEMONSTRATING MORE  
EFFICIENT ENZYME PRODUCTION  
TO INCREASE BIOGAS YIELDS

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The transition from an economy based on fossil resources to a bio-based economy is a must and should be realized sooner than anticipated at the moment. A drastic reduction in greenhouse gas emission is urgently needed as the goals set to limit global climate change are not being met. The conversion of biomass into energy sources (biofuels, biogas) and chemicals plays an essential role in this transition.

To efficiently convert biomass and agricultural, industrial and municipal waste into fermentable sugars, chemical building blocks or bio-based materials, enzymes play an indispensable role.

## The project

### DEMETER

#### DEMONSTRATING MORE EFFICIENT ENZYME PRODUCTION TO INCREASE BIOGAS YIELDS





The project, funded in the frame of Horizon 2020 Public-Private Partnership Bio-Based Industries Joint Undertaking (topic BBI.D7-2015), will demonstrate a yield increase and cost reduction of the production process of a C1-based biogas enzyme as well as its positive effect on biogas production in Europe.

The project will increase the yield of the fermentation process at an industrial scale as well as the down-stream processing, reducing the cost of the end product and making the enzyme available for wide-spread application in biogas production throughout Europe.

DEMETER's objectives are to increase the yield of this industrial fermentation process by at least 20%, improve the product recovery process by 40%, and reduce overall product cost by at least 15% while increasing the productivity of the process.

## Benefits

DEMETER will bring innovation to both the fermentation process used for production of the enzyme, and to the use of enzyme-enhanced fermentation in production of biogas.

-  **Innovation in enzyme production technology**
-  **Innovation in the use of enzymes to enhance biogas production**
-  **Higher process yields of at least 20% compared to the state of the art**
-  **Cost reduction of at least 15% compared to conventional down-stream processing of the fermentation broth**

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