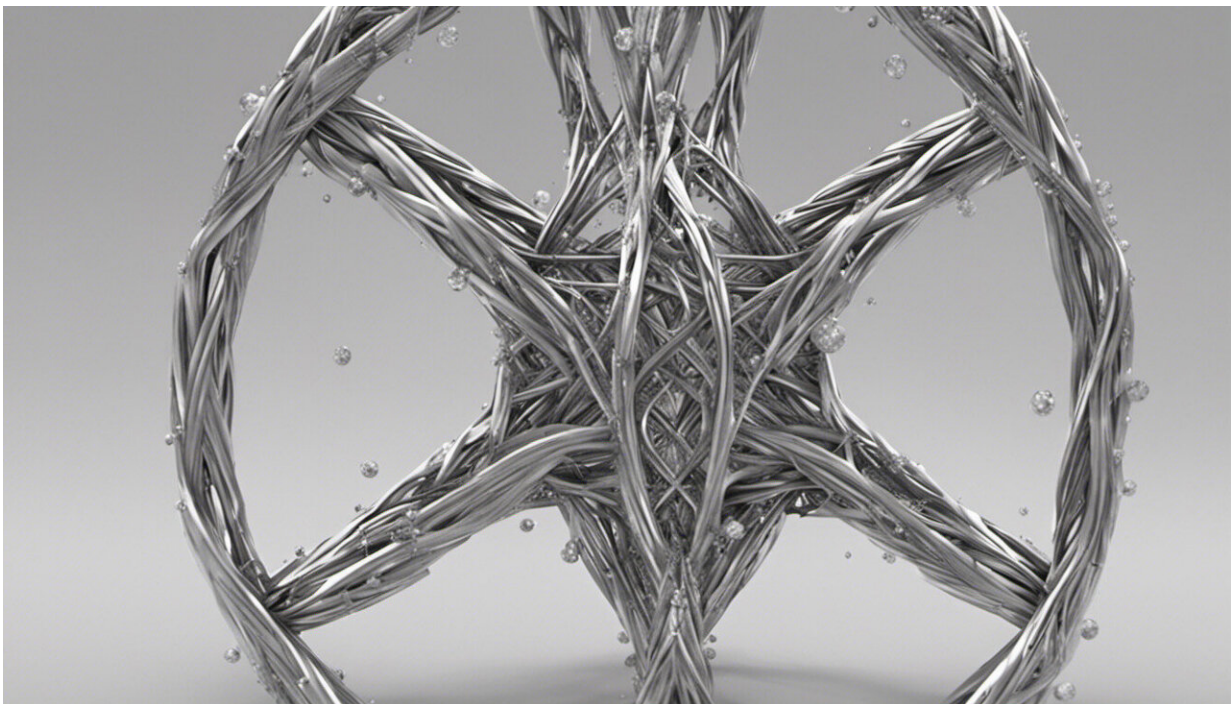


A step towards greater biomass uptake in Europe

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Credit: AI-generated image ([disclaimer](#))

Increasing the production and mobilization of biomass is crucial for tackling climate change, ensuring food security, creating sustainable raw materials and diversifying energy resources. In particular, the development of industrial crops able to grow on marginal or unused lands is expected to play an important role in driving the transition from

a fossil- to a biobased economy.

Addressing exactly this issue, partners of the EU-funded GRACE project have tested a technology that converts miscanthus biomass into lignocellulosic sugars and ethanol. According to a [press release](#) by project partner INA-Industrija nafte, d.d. (INA), miscanthus was harvested on a demonstration site in Croatia earlier in 2019. It was then shipped to the Germany-based precommercial plant of specialty chemicals company Clariant, where about 30 t of the plant's biomass were processed. "Thanks to cutting edge technology, it was possible to produce advanced bioethanol, which is blended to fossil fuels," says Stjepan Nikolić, INA's Operating Director of Refining and Marketing. He adds:

"This is just one of many steps that need to be taken into consideration to fulfill the prerequisites for the development of biorefinery in Sisak."

Upscaling potential

Miscanthus, a perennial grass originating from South-East Asia, has been attracting a lot of attention as its biomass could be utilized for various processes such as combustion, conversion to bioethanol, production of building materials and basic chemicals. Avoiding competition with food and feed crops, miscanthus and hemp are cultivated in areas that are abandoned or less favorable for food production due to lower yields or pollution by heavy metals.

GRACE focuses on the upscaling of miscanthus and hemp production on land with low productivity, abandoned land or land with contaminated soil. "In the project, ten different demonstration cases are used to show how biomass cultivation can be linked to the near-industrial-scale production of various biobased products," as noted on the project website.

The ongoing GRACE (GRowing Advanced industrial Crops on marginal lands for bioRefineries) project builds on knowledge gained from the EU-funded OPTIMISC and MULTIHEMP projects that ended in 2016 and 2017, respectively. These projects also covered miscanthus and hemp crop production suitable for various end uses. The [project](#) fact sheet on CORDIS states: "However, both projects worked on small trial plots and identified utilization options only at lab scale. Miscanthus or hemp varieties that are specifically suitable for marginal lands are not yet available. A major bottleneck for development of such varieties is the lack of information on their large scale performance. Therefore the next step to develop these biomass crops for the growing bioeconomy is to demonstrate the feasibility of upscaling their production."

More information: GRACE project website: www.grace-bbi.eu/project/

Provided by CORDIS

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