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Isobutene from wheat straw at demo scale

Global Bioenergies announces on 6 February that runs using wheat straw hydrolysate provided by its partner Clariant were successfully performed in its Leuna demo plant, leading to the production of cellulosic isobutene for the first time at this scale. These runs were part of OPTISO-CHEM, a project which started in June 2017 and was granted €9.8 million by the Bio Based Industry- Joint Undertaking (BBI-JU) as part of the H2020 program. The aim of the project is to demonstrate a new value chain combining Global Bioenergies bio-Isobutene process with technologies developed by Clariant and INEOS: currently underutilized residual wheat straw has been converted at demo scale into second generation renewable bio-isobutene, and will eventually be transformed into oligomers and polymers usable in lubricants, rubbers, cosmetics, solvents, plastics, or fuels applications. The intense R&D cooperation will continue until May 2021.

OPTISO-CHEM focuses on the demonstration of a new value chain, based on the combination of the technologies and know-how of the participants from four EU member states:

- Conversion of straw into glucose- and xylose-rich hydrolysates by Clariant sunliquid® technology,
- Fermentation of the straw hydrolysates into bio-isobutene by Global Bioenergies,
- Conversion of bio-isobutene into oligomers and polymers by INEOS,
- Preliminary engineering of an hydrolysate-to-isobutene plant and overall integration with a straw-to-hydrolysate plant, by TechnipFMC and IPSB, and
- Assessment of the sustainability and environmental benefits by the Energy Institute at the JKU Linz.

The BBI-JU, a public-private partnership between the European Union and the Bio-Industries Consortium (BIC), is dedicated to realizing the European bio-economy potential, turning biological residues and wastes into greener everyday products through innovative technologies and bio-refineries expected to become the heart of the bio-economy.

The BBI-JU selected this project under the name OPTISO-CHEM (N°744330), in the frame of the European HORIZON 2020 programme for research and innovation, following a very selective and competitive process led by independent experts.

Source/ read more: Global-bioenergies

www.global-bioenergies.com/first-production-of-isobutene-from-wheat-straw-at-demo-scale/?lang=en