

Lignin biorefinery to fuel additives, materials and energy (Lignin biorefinery)

Publieke samenvatting / Public summary

Aanleiding

In order to achieve the Dutch sustainable Renewable Energy Policy goal of 16 % in 2020, in a truly sustainable manner, the development of innovative biomass conversion technologies enabling to extract more total value from biomass is mandatory.

Doelstelling

The objective of this project is to demonstrate, at laboratory and pilot-scale, the feasibility of using lignocellulosic resources, which do not compete with food resources, for the sustainable production of energy (at a base equivalent of 15 cent per kWh or 103,53 cents / Nm³), energy carriers, fuel additives, materials and chemicals via cascading biorefinery concepts. In particular lignin-rich biomass side-streams which are currently underexploited, such as municipal waste and corn stover will be used as input for the biorefinery.

Korte omschrijving

A consortium consisting of Progression Industry, ADM, Essent, ECN, FeyeCon, SOPREMA and Wageningen UR Food & Biobased research (FBR) will isolate lignin from lignocellulosic side streams and further convert lignin into energy, energy carriers and materials. In case the feasibility is positively demonstrated, more future R&D activities are anticipated at the consortium partners, aiming at developing a full-scale integrated biorefinery using resources such as municipal waste, agro-side streams and side streams from the production of

Projectinformatie / Project information

Projectnummer / Project number
TEBE113004

Subsidiebedrag / Grant amount
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Algemene informatie / General information

Penvoerder / Secretariat
Progression-Industry B.V.

Publicaties en materialen / Publications and attachments

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Eindrapport TEBE113004

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lignocellulosic ethanol. The intended lignin-derived product(s) of such a biorefinery offers a unique combination of properties, that unlikely can be achieved by other biomass-based technologies: - It is based upon well-established biomass which is not in competition with food use - It gives an outlet to a major biomass-based feedstock (lignin) which is still mainly regarded as a waste instead of a valuable side-stream - It will reduce cost prices of co-firing biomass and making co-firing of biomass more sustainable increasing the potential to replace coal. - It will produce biobased base chemicals - It will produce yet fuels or shipping fuels with l

Resultaat

The expected result of this project is a proof of principle that lignin-rich residual biomass can be made suitable for the production of energy, biofuels, chemicals and materials and that lignin as energy carrier can be made available at lower costs compared to the current situation.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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