

Liquid Syngas: A Renewable Carbon and Hydrogen Source

Publieke samenvatting / Public summary

Aanleiding

Almost all chemical production routes involve C, H, O molecules, whereby natural gas and syngas are widely used as feedstock. Syngas by itself is a feasible feedstock but is currently predominantly obtained from fossil fuel based routes. Alternative feedstocks, such as formic acid or methanol, produced in a sustainable way have a clear potential to become the chemical building blocks of the future.

Doelstelling

Explore uncharted territories of the sustainable produced formic acid and the intersections of those territories in order to identify and develop entirely new paths for the production of high-value products. The activities will focus primarily on products and product routes close to end users with a high sustainability awareness.

Korte omschrijving

Explore uncharted territories of the sustainable produced formic acid and the intersections of those territories in order to identify and develop entirely new paths for the production of high-value products. There will be a number of activities focusing on possible synthesis routes of syngas-like molecules (formic acid and methanol) and exploring production processes employing syngas. - A desktop study, based on a literature and patent review - Modeling work including solving mass and heat balances and thermodynamics of the reactions and process development - A techno-economical

Projectinformatie / Project information

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TES1216094

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Algemene informatie / General information

Penvoerder / Secretariat
Coval Energy BV

Publicaties en materialen / Publications and attachments

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evaluation will be conducted for one or two specific cases to assess the main economic and technological challenges of liquid, chemical building blocks as a generic feedstock. The results will be used to benchmark against existing processes.

Resultaat

The project will result in: - Insight in the potential of different chemical building block applications in terms of the overall energy efficiency and the efficiency of the various reactions and conversions steps; - A detailed overview of the economics and the technical specifications for the various conversion steps; and - Preliminary process design packages, based on a process flow diagram, for the most interesting applications.

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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