IEA Bioenergy
Technology Collaboration Programme

Task 42
Biorefining in a circular economy

The Netherlands - update

Bert Annevelink, Ed de Jong & Rene van Ree

MS Teams, 9 June 2022

Content

- Subsidy of € 3 million for new Cosun Beet Company factory in Delfzijl
- Avantium reaches financial close for FDCA flagship plant
- Avantium to convert CO_2 into consumer products via electrochemistry
- GIDARA selects Rotterdam for second biomethanol plant
- Mission Innovation - Consultation Roadmap Integrated Biorefineries
- Mobile grass biorefinery system of Grassa tested successfully in Ireland

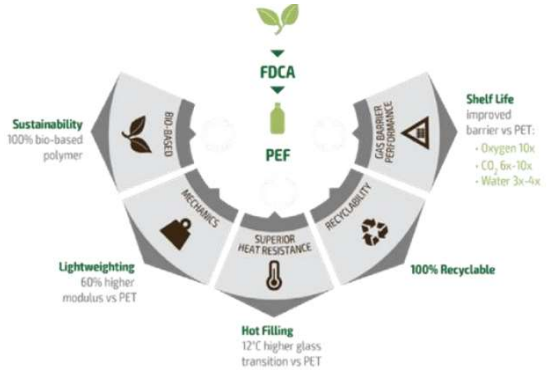
Subsidy of € 3 million for new Cosun Beet Company factory in Delfzijl

- Cosun Beet Company will receive a €3 million grant from the province of Groningen to build a new sustainable biorefinery in Delfzijl in The Northern Netherlands
- The total investment in the factory will amount to €50 million
- This innovative factory will convert beet pulp from the sugar factory in Vierverlaten into new plant-based products
- These products can be used as environmentally friendly replacements for microplastics in paint, detergents, toothpaste, shampoo and make-up
- The factory will be fully electrified and will create more than 40 new jobs
- The subsidy is granted under the Investing in Future-Proof Industry scheme

https://www.agro-chemistry.com/news/three-million-for-new-cosun-beet-company-factory-in-delfzijl/

Avantium reaches financial close for FDCA flagship plant

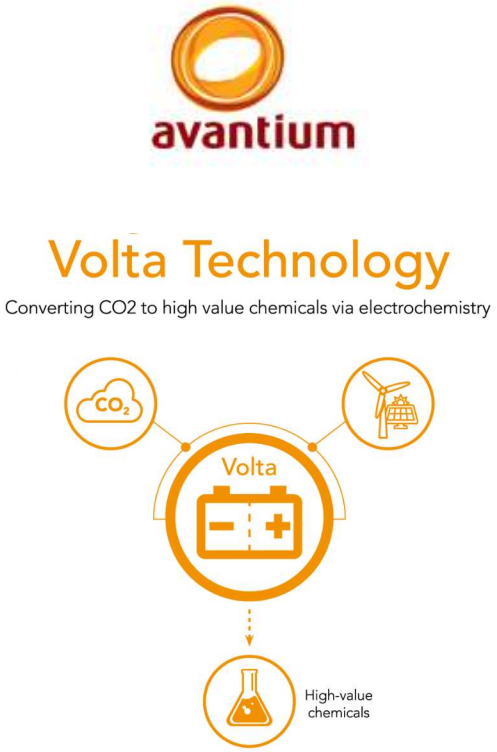
- The total investment in the FDCA-plant amounts to more than € 150 million
- Avantium will start the construction of the FDCA Flagship Plant in Delfzijl
- The plant is scheduled for completion in late 2023 and will produce 5 kilotons of FDCA (furanic dicarboxylic acid) per year
- FDCA is an important building block for the 100% plant-based, recyclable polymer PEF (polyethylene furanoate)
- Commercial production of PEF will be launched from 2024



https://www.agro-chemistry.com/news/avantium-reaches-financial-close-for-fdca-flagship-plant/
https://www.avantium.com/

Avantium to convert CO_2 into consumer products via electrochemistry

- Avantium NV from the Netherlands has received a € 3 million grant from the EU Horizon Europe program for its participation in the four-year research and development program WaterProof
- This program aims to demonstrate the value of electrochemical conversion of carbon dioxide (CO_2) into high value chemicals and products
- One of Avantium's innovative technology platforms is called Volta Technology and uses electrochemistry to convert CO_2 to high-value products and chemical building blocks such as formic acid, oxalic acid and glycolic acid
- The latter two are key building blocks for polyesters and other materials, allowing production of CO_2 negative plastics



https://www.agro-chemistry.com/news/avantium-to-convert-co2-into-consumer-products-via-electrochemistry/
https://www.avantium.com/

GIDARA selects Rotterdam for second biomethanol plant

- IDARA Energy and the Port of Rotterdam Authority announce GIDARA's next advanced biofuel facility in the Netherlands; Advanced Methanol Rotterdam ("AMR")
- Annually, approximately 90,000 tons of renewable methanol will be produced at this location by converting 180,000 tons of local non-recyclable waste, which is currently incinerated
- Use GIDARA's patented HTW® (High-Temperature Winkler) gasification technology
- Refuse derived fuel - RDF, Municipal Solid Waste – MSW and Wood waste
- The advanced methanol can be used in road transport, shipping and aviation

https://www.agro-chemistry.com/news/gidara-selects-rotterdam-for-second-biomethanol-plant/
https://www.gidara-energy.com/

Mission Innovation - Consultation Roadmap Integrated Biorefineries

- Tuesday 21st of June MI will consult Dutch stakeholders about biorefinery innovations
- The goal of the meeting is to:
  - identify and validate innovation questions for biorefineries
  - identify what topics are suited for international cooperation to accelerate the deployment of biorefinery innovations
- Organized by the Ministry of Economic Affairs and Climate Policy
- The results of the consultation will be used as input for a Roadmap Integrated Biorefineries

INTEGRATED BIOREFINERIES MISSION

Existing Efforts	Innovation Gaps	Opportunities for the Mission
• E.g. Map out existing national activities • E.g. Map out international initiatives.	• E.g. What are the technical gaps? • E.g. What are the challenges that industry / users / developers encounter?	• E.g. What kinds of domestic and international activities could help to address gaps? • E.g. What *could* the Mission do to contribute?

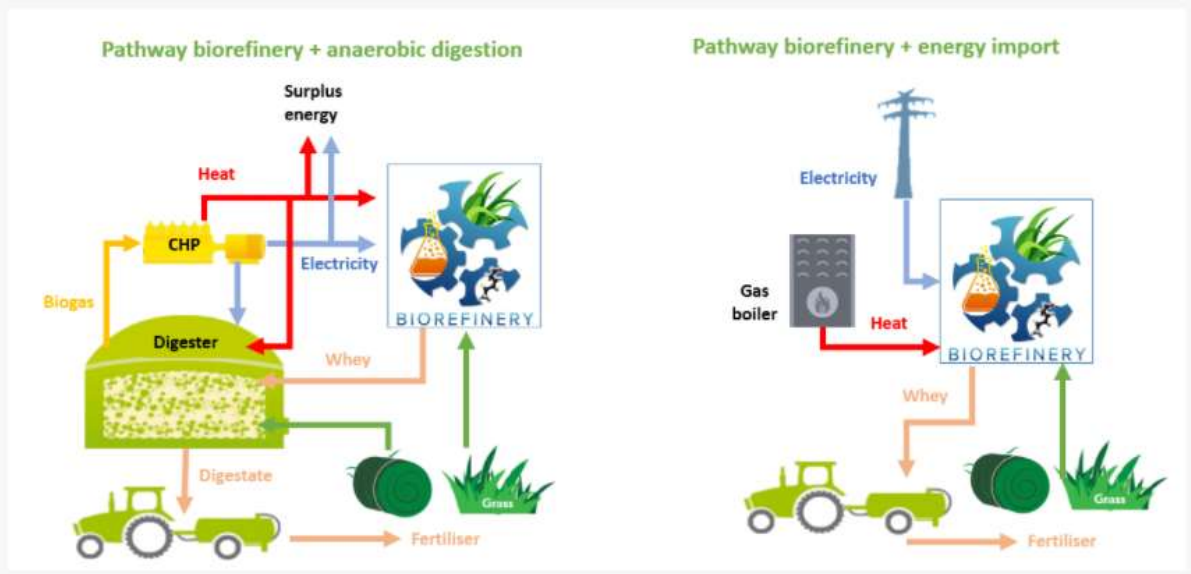
Government of the Netherlands

Ministry of Economic Affairs and Climate Policy

http://mission-innovation.net/missions/integrated-biorefineries-mission/

Mobile grass biorefinery system of Grassa tested successfully in Ireland

- The Biorefinery Glas Project (www.biorefineryglas.eu) was completed in 2021
- Mobile grass biorefinery



https://biorefineryglas.eu/
https://grassa.nl/

Thank you for your attention

Bert Annevelink,
Ed de Jong &
Rene van Ree

IEA Bioenergy
Technology Collaboration Programme
Task 42
Biorefining in a circular economy

www.ieabioenergy.com
http://task42.ieabioenergy.com