

Country Report Denmark

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Renescience waste conversion plant Northwich, England

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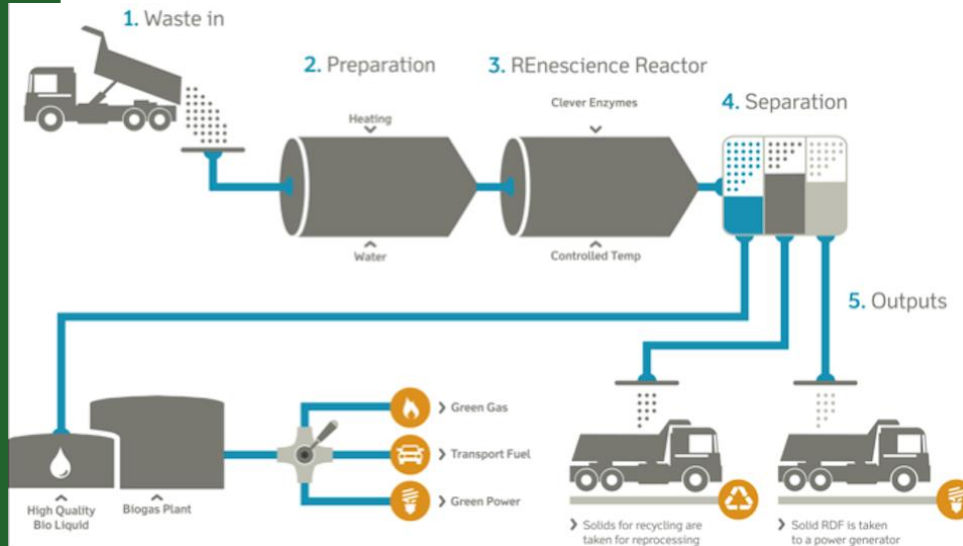
Task 42 Biorefining

- Re-launch of National Bioeconomy Panel
- In August a new National Bioeconomy Panel was appointed by the Minister of Environment and Food. The panel consists of 15 members from industry, universities and organizations (e.g. Confederation of Danish Industry) .
- The first National Bioeconomy panel was setup in 2013 and evaluated in 2016. One of the products was a report in 2014 with four recommendations for how to promote the development of bioeconomy in the near to long term perspective
- The new panel will have a strengthened business focus. One of the first focus areas for the panel is to look at new values chains for green biomass.



Renescience going full scale in UK

Renescience (part of DONG Energy A/S – now Ørsted) is constructing full scale plant in Northwich (close to Manchester).



Construction progressing but delayed a few months. Inauguration still expected autumn 2017.

Capacity up to 144,000 tonnes of waste per year, and the biogas produced from the organic fraction will generate 5 MW electricity

<http://www.dongenergy.co.uk/uk-business-activities/renescience-northwich-bioresource-project>



Center for Circular Bioeconomy

- In May Aarhus University, Science and Technology, opened a new Center for Circular Bioeconomy (CBIO).
- The aim of the center is to carry out research and develop bio-economy production systems and recirculation concepts.
- Activities at CBIO will include research within the entire value-chain from cultivation of biomass, logistics, refining, product development, recirculation and LCA.
- Among the facilities are the world largest biogas plant for research purposes, pilot scale facilities for refining of green biomass (protein from grass) and a pilot plant for hydrothermal conversion of biomass to fuel.
- More information is available at www.Cbio.au.dk.



Funding for energy research cut by 50% (and generally public funding has been cut last 2 years).

Separation

- Protein from green biomass
- Lignin/silicates from straw (bioethanol production)

Processing

- Pretreatment of straw for use in biogas production
- Thermal liquefaction (HTL)

Fuels

- C6 ethers to jet fuels
- CO₂ reforming to methane
- Lignin to diesel
- Marine fuels

Chemicals and materials

- C5 sugars to acrylic acid (Haldor Topsoe)
- Lignin building blocks

- + 😊
 - Renaissance expansion
 - National blending target
 - Enzyme technology expanding in waste/biogas
 - New technologies for biochemicals
 - Lot of focus on green biomass and biorefining
- - 😞
 - Biofuel SME's have a hard time (low oil prices)
 - Political uncertainty/hesitant investors
 - MEC postponed/cancelled (?)
 - Inbicon stalled
 - -50% in funding for energy research

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