Task 42 - Biorefining in a Future BioEconomy

Bioeconomy 2017

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Task42 provides an international platform for collaboration and information exchange between industry, SMEs, GOs, NGOs, and universities concerning biorefinery research, development, demonstration, and policy analysis.

To facilitate the commercialization and market deployment of environmentally sound, socially acceptable, and cost-competitive biorefinery systems and technologies,

To advise policy and industrial decision makers accordingly.

This includes the development of networks, dissemination of information, and provision of science-based technology analysis.

http://task42.ieabioenergy.com/
Publications

Task 42 Biorefining

IEA Bioenergy

Publications

Brochures
Country reports
Factsheets
Presentations
Reports & Papers
Newsletters
Task Progress Meetings
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External publications

Assessing Biorefineries Using Wood for the BioEconomy – Current Status and Future Perspective of IEA Bioenergy Task 42 “Biorefining”


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ABSTRACT
The 11 member countries (A, USA, CA, DK, G, I, NL, NL, JPN, USA) of IEA Bioenergy Task 42 “Biorefining” state: "Biorefining is the sustainable processing of biomass into a spectrum of bio-based products (food, feed, chemicals, and materials) and bioenergy (fuels, power and/or heat)." Woods with their various characteristics offer great opportunities for the bioproduct portfolio. The purpose is to assess various feedstock types using wood in a future bioeconomy based on the assessment framework developed by Task 42. The assessment covers economic, environmental, social, infrastructural integration, implementation, and further issues relevant to the realization of bioeconomy concepts using wood. The most interesting "hydro-driven" bioenergy concepts were assessed based on wood (i.e., wood chips, saw mill, bark) were analyzed in their value chains to produce transportation biofuels and biochemicals. The life cycle based assessment is developed to cover issues from the production, operation and end of life phase.

IEA Bioenergy

Integration of Advanced Biofuels in the Circular Economy
Identifying major innovation options

European Biofuels Technology Platform
7th Stakeholder Plenary Meeting (SPM7)
Brussels, Tuesday 21 June 2016

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Continue to further contribute to the market deployment of sustainable Biorefineries, focus of 2016-2018 Triennium will be on:

- International and national networking activities,
- Standardization and certification of biobased products
- Policy advice,
- Increased co-operation with other IEA Collaboration Programmes (i.e. IEA-IETS), IEA Bioenergy Tasks, and international organizations (FAO, OECD, EC DG JRC, EU ETIP and EERA Bioenergy, etc)
News

• Canada
  – January, 2017: Bioenergy La Tuque partners with Neste Corporation to study feasibility of converting the forest harvest residues to renewable diesel
  – March, 2017: Ministry of Natural Resources announced $800,000 investment in G4 Insights, Inc. to convert forestry waste to RNG, 85% GHG reduction
  – March, 2017: Edmonton’s Forge Hydrocarbon begins construction of $25 million biodiesel plant near Sombra, Ontario
  – April 2017, Enerkem Alberta Biofuels – fully operational

• Australia:
  – Queensland Government increases support for bio-energy through the Queensland Biofutures Industry program. The Government has recognized its competitive advantage in the area of potential bioenergy and is looking to leverage the state’s natural advantages.
  – The Government is looking to develop a A$1B Biofutures industry over the next 10 years
News

- Netherlands
  - plant Zambezi process, Avantium, AkzoNobel, Chemport Europe, RWE and Staatsbosbeheer report on cost-effective process for the production of high-purity glucose from non-food biomass
  - LIBBIO: laboratory facility of the semi-industrial biorefinery with supercritical CO2 technology in the Zernike Advanced Processing facility of the Hanze University of Applied Sciences Groningen takes off preparatory treatment in the supercritical extruder, to first extract the fatty components from the biomass
    - built in the first instance for the European Horizon 2020 project LIBBIO:
    - based on the Andean Lupin plant, that contains high-quality proteins and highgrade oil
- Italy:
  - NOVAMONT Projects:
    - New fermentation plant (30,000 ton/y) in the site of a previous plant (Adria) for the production of 1,4 butanediol from renewables. Important partnership with Genomatica. Started in July 2016
    - Biorefinery in Porto Torres (Sardinia) - Joint venture between Novamont and Polimeri Europa. The biorefinery will produce monomers (40kton/y) and lubricants (30kt/y)
    - Piana di Monte Verna (Caserta): Recent Novamont’s Research Centre derived from ex-Tecnogen. The Centre is focused on the development of biotechnological processes for the production of biobased monomers for bioplastics.
  - Biobased chemical company GF-Biochemicals has started in 2016 the commercial production at its 10,000 MT/a capacity levulinic acid plant in Caserta. GFBiochemicals is the first company to produce levulinic acid at commercial scale directly from biomass.
  - ENI-Versalis and Genomatica have advanced to pilot-scale the production of bio-butadiene (bio-BDE) from renewable feedstock to make bio-rubber, namely, bio-polybutadiene (bio-BR). The project started with the establishment of a technology joint venture between Versalis and Genomatica in early 2013.