

Workshop Biorefinery – Austrian Activities and IEA Bioenergy Task 42 Summary

The workshop, organized by Joanneum Research and the members of the new IEA Task 42 “Biorefinery” in Vienna the 4th of October 2007, had the aim to present Austrian biorefinery activities and the initiatives of the IEA Bioenergy Task 42 on Biorefinery.

After the Welcome by the BMVIT (Michael Hübner), that showed the biorefinery in national R&D programs the following presentations were held and discussed:

- IEA Task 42 Biorefinery: Ed de Jong (IEA Task 42 leader) depicted the activities of the Task 42 and the international status quo and future directions of developing biorefinery concepts. Currently 9 countries are participating in the task (A, G, NL, F, S, Ca, Dk, IR, FIN)
- Pilot plant green biorefinery in Upper Austria: Horst Steinmüller (Energieinstitut der Johannes Kepler Universität Linz) presented the planned demonstration plant in Upper Austria which produces lactic acid, amino acids and biogas from grass silage and will go into operation in spring 2008.
- Separation of chemicals as co-products in pulp and fibre processing: Hedda Weber (Lenzing AG) showed the Lenzing activities, where high-value chemicals e.g. organic and inorganic celluloseesters and energy are coproduced in the Lenzing pulp mill.
- Environmental evaluation of biorefinery concepts: Gerfried Jungmeier (Joanneum Research) pointed out the LCA findings of a lignocellulosic biorefinery producing bioethanol, electricity, heat and phenols. (“Two platform biorefinery concept with sugar and syngas platform). He also presented an overview of the different biorefinery concepts.
- Green biorefinery research in Austria – An overview: Michael Mandl (Joanneum Research) described the basic concepts of “green biorefinery” and gave an overview of the main chemical compounds which can be recovered.
- Possible role of gasification in biorefinery: Hermann Hofbauer (TU Wien) introduced the gasification CHP plant Güssing, where a side stream of the producer gas is used to develop the syngas platform of a biorefinery to produce synthetic natural gas, FT-fuels and chemicals, e.g. methanol.
- Biorefinery concepts for the production of ethanol: Anton Friedl (TU Wien) shown the possible combination of small-scale ethanol production systems in combination with biogas to outline future perspectives to improve the energy efficiency.
- Biogas as a key technology within biofuels oriented biorefinery concepts: Thomas Amon (University of Natural Resources and Applied Life Sciences) deepened the whole-crop biorefinery concept with the aim of reaching a co-production of ethanol (from corn) and biogas (from corn straw), by considering different energy crop rotating systems.

The audience has actively participated to the discussion, highlighting some key issues for the development of biorefinery systems and asked for a positive and constructive interaction between the national leaders of the IEA Bioenergy Task 42 and the several national stakeholders. The 35 participants will be part of the Austrian Team of IEA Task

42 “Biorefinery”, which is led by the National Team Leader Gerfried Jungmeier (gerfried.jungmeier@joanneum.at) and will kept informed on ongoing activities. Details of the workshop can be obtained by Gerfried Jungmeier or the www.energytech.at
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