International Workshop

On the way from Biorefineries to a Bioeconomy

Oporto – FEUP
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CONTENTS

Background

Objective

Structure

Activities

Cooperation

Vision
• Background
  – International Cooperation and with other IEA Implementing Agreements, namely the Bioenergy, and European Projects aiming at combining the knowledge of industrial technologies with energy efficiency and the biomass conversion processes

• Providing a global forum to exchange information, disseminate knowledge gained and lessons learned in an atmosphere that promotes interaction and collaboration
• Encouraging participants to engage in truly collaborative, value-adding research and development of activities and to promote demonstrations
• Focusing the research efforts by regularly updating a prioritized list of research needs and knowledge gaps
• Involving industry and communicating progress apart from industry, government representatives and other appropriate people
**Objective**

The general objective is to provide a sound basis for the integration of biorefinery concept in different industrial sectors where biomass is used as resource or biomass based waste is available, which could be used for fuel/energy production, also considering opportunities of bio- products generation with added value.
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FEUP, Oporto 12th September 2014

**ANNEX XI**

**TASKS**

- **TASK I**
  Bioenergy and Biofuels

- **TASK II**
  Biochemicals and New Fiber Materials
  **BUGWORKERS**
  (Portugal and Netherlands)

- **TASK III**
  Sustainability Studies

- **TASK IV**
  Process Integration
  **Process Integration of Gasification-based biorefineries**
  Joint activity with Task 42 of Bioenergy IA

- **TASK V**
  Membranes for Separation of Lignocellulosic Biomass Components

**TASK VI**

Dissemination & Information Exchange

Joint activity with EU funded project R&D **BioConSept**

Active Participating countries

- Sweden
- Belgium
- Portugal

Joint Initiatives with other collaborative structures

IEA Bioenergy

TASK IV

Invitations to entities of United States of America and The Netherlands

TASK VI

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Technology Approach

– Biomass gasification, including waste and black liquor gasification
– Pyrolysis
– Biogas production and integration
– Biological conversion
– Combustion
– Gas clean-up processes, including CCS techniques (e.g. using microalgae for CO₂ fixation producing hydrocarbons and/or hydrogen)
– Fuels and chemicals synthesis
• **Action Items & Priorities**

Works under development in 2014

- Seek new ventures and implement collaborations for the new activities with industrial orientation (Bioproducts Market Viability and New Cellulosic Materials)
- Participation in education & training activities related to the Biorefinery concept (HIIntBioref)
- Development of prospective studies
  - **Industry-based Biorefineries: Cases of Success and Barriers**
  - **Bioproducts and Markets**
- Strengthening cooperation with BioConSept EU project
  - **Collaboration proposal on dissemination activities, including workshops/conferences**
- Implementation of the new Tasks **IV, V and VI**
A competitive sustainable component of the World Economy

- International cooperation should be strengthened by governments
  - complementarities in targeted actions
  - information management and exchange

- Governments should consider priorities and roadmaps built upon targeted technology or on a mix of technologies
  - integrated multi-disciplinary teams, both of national expertise and foreign identified groups with relevant knowledge on specific needed competences
  - technology transfer
  - incentives for adoption of new technologies

- R&D budgets need to consider a multi-year scheme, with concrete targets
Discussion on a vision, needs and international collaboration.

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Recommendations on a way to go forward
Strengthen international cooperation establishing milestones
Thank you for your attention

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