



INDUSTRY-BASED BIOREFINERIES

International Workshop

On the way from Biorefineries to a Bioeconomy

Oporto – FEUP

12th September 2014

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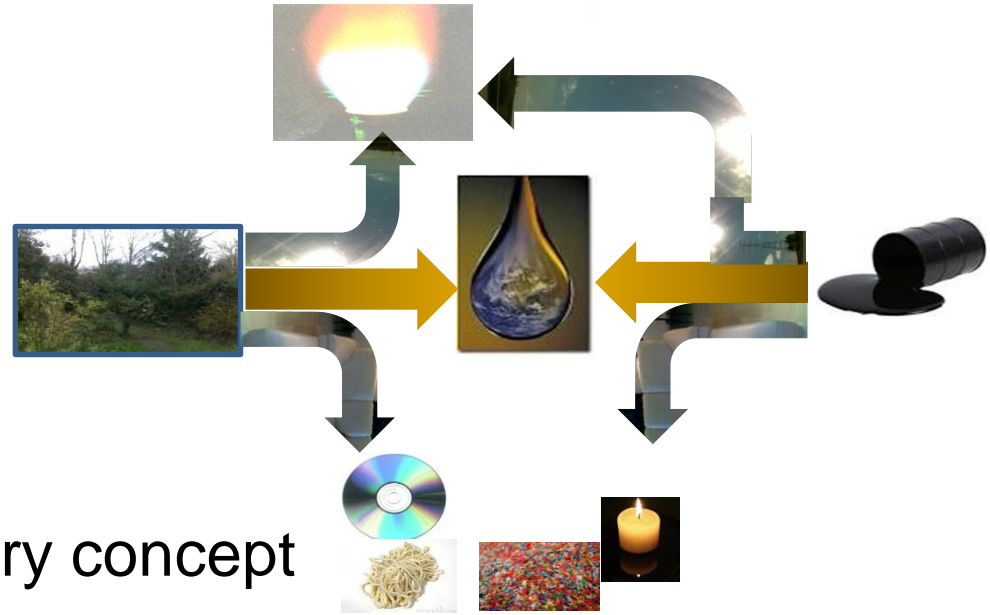
Cooperation

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

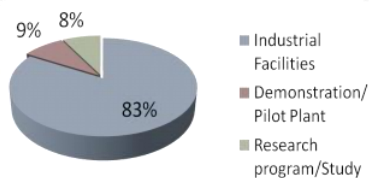
Objective

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.



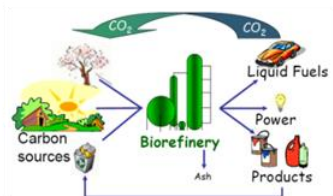
TASKS

<http://www.iea.industry.orgongoing-annexes/annex-11.html>



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



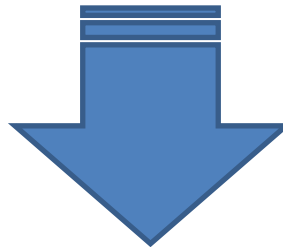
Belgium



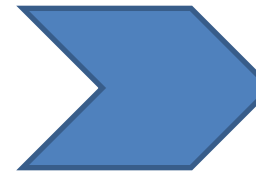
Portugal

Joint Initiatives with other collaborative structures

IEA Bioenergy



TASK IV



BioConSepT
From Plants to Plastics!

Biomass transferred into valuable chemicals

Isabel Cabrita
14.07.2014

KBBE-2011-5-289194



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration. www.bioconsept.eu


Invitations to entities
of United States of America and The Netherlands

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 (HIntBioref)
- 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

BIOENERGY

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*

Strategic Workshop

September 12th, 2014

Recommendations on a way to go forward

Strengthen international cooperation establishing milestones



Thank you for your attention

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