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Project Website

www.bioref-integ.eu



The dissemination of results will be via the BIOREF-INTEG website, newsletters, related conferences and workshops.



This project is a part of the 7th Framework Programme of the European Commission - Area Energy

Partners

Energy Research Centre of the Netherlands (ECN) - **The Netherlands**

Abengoa Bioenergy New Technologies (ABNT) - **Spain**

University Ghent (UGENT) - **Belgium**

Bioro NV (Bioro) - **Belgium**

STFI-Packforsk AB (STFI) - **Sweden**

Energitekniskt Centrum I Pitea (ETC) - **Sweden**

Valtion teknillinen tutkimuskeskus (VTT) - **Finland**

Aston University (Aston) - **United Kingdom**

Ten Kate Holding BV (Ten Kate) - **The Netherlands**

Value for Technology (VFT) - **Belgium**

Cooperatie Cehave Landbouwbelang U.A. (Cehave) - **The Netherlands**

Repsol YPF SA (Repsol) - **Spain**

Agrotechnology and Food Innovations (AFSG) - **The Netherlands**



Development of Advanced **BIOREF**inery Schemes to be **INTEG**rated into Existing Industrial Fuel Complexes

June 2008 - May 2010

Background

As described in the European Commission's Green Paper on a "European strategy for sustainable, competitive, and secure energy (2006)", Europe has entered into a new era.

The new energy landscape of the 21st century is one in which the world's economic regions are dependent on each other for ensuring energy security and stable conditions, and for ensuring effective action against climate change.

Europe's energy economy and that of the world is currently not sustainable. With an increasing global demand for energy to drive economic development and growth, the world is faced with huge challenge.

Aims

The four main general scientific and technological project objectives of the BIOREF-INTEG are:

- To make the production of biofuels more cost competitive.
- To identify and develop optimal integrated schemes for the production of the best suited "building blocks" in terms of processes and bio-products.
- To identify the opportunities for various biomass-based sectors to produce fuels, while increasing their competitiveness.
- To develop advanced biorefinery schemes to be integrated into various existing fuel producing sectors.

The aforementioned objectives can be met with a biorefinery approach. The biorefinery concept is analogous to today's oil refineries, which produce multiple fuels and products from petroleum.

The BIOREF-INTEG aims to provide significant breakthroughs in developing new knowledge, as well as the integration of new knowledge in existing processes and products.

Expected Results

- Existing industrial fuel producing complexes in the EC identified and mapped resulting in the definition of market-specific reference cases.
- A short list with the most promising added-value bio-products.
- Process models for integral technical, economic and environmental system assessments.
- Opportunities in a variety of market sectors to produce their conventional main products (fuels) with increased market competitiveness by co-producing added-value bioproducts.
- Plan for the deployment of most promising technologies.
- Knowledge dissemination and training activities.

Biorefinery Integration Sectors

Seven different existing market sectors have been identified to explore opportunities of integration with the advanced biorefineries. These sectors are:

- Sugar/Starch Sector (Bioethanol)
- Biodiesel Sector
- Pulp/Paper Sector
- Conventional Oil Refinery Sector
- Power Production Sector
- Food Industry Sector
- Agro Sector

The main goal of BIOREF-INTEG is to identify opportunities in the sectors identified above to produce their main conventional products with increased market competitiveness by co-producing added-value bio-products (materials, chemicals, power, and/or heat).