DIBANET-Development of Integrated Biomass Approaches Network.

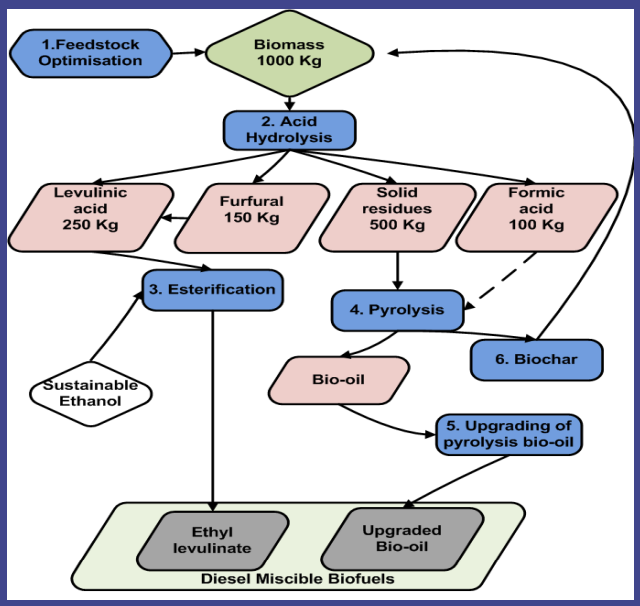
Carbolea Research Group
Chemical & Environmental Sciences Dept., University of Limerick
www.carbolea.ul.ie

DIBANET is a research project funded under the EU's Seventh Framework Programme. This project is being co-ordinated by the **Carbolea Research group** (www.carbolea.ul.ie) at the **University of Limerick** & is a response to the Energy 2008 Call - "Significant enhancement of the cooperation between key researchers & industries from the EU & Latin America in the field of biofuels". **DIBANET** stands for the "**Development of Integrated Biomass Approaches NETwork**" & the title of the Project is "The Production of Sustainable Diesel Miscible Biofuels from the Residues & Wastes of Europe & Latin America". There are 13 partners in the group, 6 from the EU & 7 from Latin America (LA. The total budget for the project is €3.7m, with €1.4m going to the Carbolea Research Group at UL.

OBJECTIVES

DIBANET will develop technologies to help towards eliminating the need for fossil diesel imports in the EU & LA by advancing the art in the production of **ethyl-levulinate from organic wastes and residues**. Ethyl levulinate (EL) is a novel diesel miscible biofuel (DMB) produced by **esterifying ethanol with levulinic acid**. DIBANET aims to:

- Optimise the yields of **levulinic acid**, from the conversion of biomass.
- Improve the energy balance & the total biofuel yields possible from a feedstock by sustainably utilising the residues in **pyrolysis** processes to produce a **bio-oil** that will be upgraded to a DMB.
- Reduce the energy & chemical costs involved in producing ethyllevulinate from levulinic acid & ethanol.
- Select key **biomass feedstocks** for conversion to levulinic acid, analyse these, & develop rapid analytical methods that can be used in an **online process**.
- Analyse the DMBs produced for their compliance to **EN590** requirements &, if non-compliant, suggest means to achieve compliance.



DIBANET processes & products & their linkages

Partner Name	Country
University of Limerick	
Aston University	
Centre for Research &Tech–Hellas	
FOSS Analytical	
Geonardo	
Centre of Sugarcane Technology	
Federal University of Rio de Janerio	
University of Buenos Aires	
Repsol	
Embrapa	
Fundacion Chile	
Unicamp	
Ecosphere Ltd	

Role of Carbolea Research Group, UL

- Co-ordination of the project
- Reactor design & levulinic acid production
- Feedstock analysis
- Develop of on-line NIR analytical tool
- Pretreatment for acid hydrolysis using ionic liquids
- Pyrolysis & biochar analysis


Prof. Michael Hayes


Prof. Julian Ross


Dr. J.J. Leahy


Dr. Witold Kwapinski


Daniel Hayes


Corinna Byrne

DIBANET will enhance co-operation between the EU & LA in biofuels by:

- Developing a tightly-integrated online network of key players in the EU & LA.
- Organising public meetings between key stakeholders from both regions.
- Training PhD & post-doctoral researchers from the opposite region.
- Develop an inter-regional Technology Transfer Business Plan for the most effective exploitation of the DIBANET technologies. This will consider the combined needs of the EU & LA & the potential for trade.