



**Project Acronym :** NILE

**Project Title :** New Improvements in Lignocellulosic Ethanol

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**Website :** [www.nile-bioethanol.org](http://www.nile-bioethanol.org)

## ABSTRACT

New Improvements for Ligno-cellulosic Ethanol (NILE) is an Integrated Project carried out within the 6th Framework Program of the European Union. The project runs from October 2005 to September 2009 and has a total budget of 12.8 M€ (7.7 M€ will be contributed by the EU)

Its overall objective is to develop cost effective production of clean bioethanol from lignocellulosic biomass (LCB), enabling its use as a transport biofuel. NILE will develop, investigate and evaluate new technologies for efficient conversion of lignocellulose to bioethanol. These technologies will be verified using a unique and fully integrated pilot plant providing reliable data for global socio-economic and environmental assessments and for the design of a future demonstration unit.

The activities of NILE aim at overcoming critical hurdles in process development. Key issues are:

- decreasing the cost of enzymatic hydrolysis of lignocellulose to fermentable sugars using new engineered enzyme systems;
- removing current intrinsic limitations in the conversion of fermentable sugars to ethanol
- validating the engineered enzyme systems and yeast strains in a fully integrated pilot plant. Validation includes all process steps and recycling of process streams;
- analysing socio-economic and global environmental impacts of the production and use of bioethanol from LCB based on the new data obtained;
- dissemination and training of target groups.

The project mobilises the critical mass of end-users and world-leading expertise necessary to improve the whole bioethanol from LCB chain. By its integrated structure, NILE supports the development of research activities in close connection with industrial processes, their validation, their technical and socio-economic assessments, their dissemination as well as training activities. This development ensures a real industrial and societal impact of the developed technology thus strengthening European

## PARTNERS

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