



# Best

# NER300

## The project

Technology category: Bioenergy  
Location: Crescentino, Piedmont, Italy  
Max. NER 300 funding: EUR 28.4 million  
Final investment decision: 2011  
Entry into operation: June 2013

## State of advancement

The BEST project is in operation since June 2013.

## Outlook for coming year

In the next years, the BEST project has the objective to increase plant performance and to guarantee the plant operability on constant basis.

## Outlook for coming 5 years

The BEST project is in operation since 2013. In the 5-year operation the plant will produce second generation bioethanol from lignocellulosic biomasses with innovative technological solutions. The M&G Group has spent many efforts to integrate all process units of the biorefinery aim to maximize sugar conversion into ethanol and to minimize energy/water consumption.

## Project sponsor

Italian Bio Products (IBP), part of M&G Group

## Project website

[www.gruppomg.com](http://www.gruppomg.com)

## Project summary

The BEST project concerns the operation of an integrated advanced bioethanol demonstration plant in Crescentino (Piedmont region, Italy) capable of converting lignocellulosic non-food biomass from selected feedstock (such as agro-residues and woody biomass) into bioethanol.

The plant is utilising the proprietary Beta Renewables-M&G PROESATM process (platform producing high quality low cost C5 and C6 sugars from lignocellulosic biomass), component design, novel enzymes cocktail and high-efficiency fermenting microorganisms. The annual ethanol nominal capacity of this advanced biorefinery is 51 million litres per year (40 000 ton/y).

The innovative PROESA™ process encompasses a first pretreatment step, so-called "smart cooking", necessary to separate the basic elements of biomass (lignin, cellulose and hemicellulose). This is followed by a proprietary process for the reduction of viscosity, which prepares the substrate for the subsequent simultaneous saccharification of cellulose/hemicellulose and the co-fermentation of simple C5 and C6 sugars into ethanol. To achieve a high separation efficiency, chemical additives are not required. PROESA™ is therefore a highly competitive process, also from an economic point of view. The bioethanol is then obtained by distillation and purified to meet specific regulations regarding its use as fuel.