



Detect-it2 Success Story

HYBIOFLEX

Flexible, high efficient and ultra-clean power generation and power utilisation from biomass through gasification, high temperature fuel cells, gas turbine and hydrogen production for a ecobuilding application

BIC Lazio, DETECT-it2 partner, was contacted by the Lazio Region to support them in the project preparation and in particular in finding suitable partners. Through the DETECT-it2 Partner Search tool, BIC Lazio had access to a large database of over 1300 registered organizations. Interested organisations replied online and finally one German and another Italian SMEs were selected by the co-ordinator and integrated in the proposal.

The project proposal submitted to the EC has its origins in the "Hydrogen Lazio Centre" funded by the Lazio Region through a special grant. The Centre is devoted to the study and development of Hydrogen systems and Renewable Energy Sources and is lead by **CIRPS** (Interuniversity research centre based at university of Rome La Sapienza).

The polygeneration power plant is made to supply the total energy demand of the hydrogen centre (electricity/heat/hydrogen) and a small portion of the actual energy port demand (electricity/heat/diesel) of the dockland, shifting part of the energy consumption of the port from fossil to renewable energy and making more sustainable the hydrogen centre, really demonstrating new technologies.

This research project was submitted under the Collaborative call: ENERGY.2007.8.2.1: *High efficiency poly - generation - applications with renewable energies.*

The aim of the research project is to *optimise, validate and demonstrate* a highly efficient and low emissions *combined heat, power and bio-fuel* generation system to serve a *Hydrogen Centre* (eco-building constituted by offices, laboratories, classroom and lecture hall, hydrogen bus) that will be built in the *Civitavecchia Port*.

Moreover, in a site with high environmental constraints, there is a need to realize high efficient, clean and flexible energy conversion/end-use systems, especially in the low to medium capacity range to fit with the "distributed generation policy" and the "disperseness" of the renewable energy sources.

This project is an opportunity for the Lazio Region to have the necessary European high level expertise and technologies and for the European Union to implement these technologies in a well structured and co-funded environment.

For more information on **HYBIOFLEX** please contact Titta Vadalà from BIC Lazio email: tittavadala@biclazio.it