



Project Acronym : LOW-BIN

Project Title : Efficient low temperature geothermal binary

Coordinator : CRES (Greece)

Website : www.lowbin.eu

ABSTRACT

The LOW-BIN project aims at improving cost-effectiveness, competitiveness and market penetration of geothermal electricity generation schemes, targeting both hydrothermal resources for immediate market penetration and future hot dry rock systems.

Main objectives of the LOW-BIN projects are :

- reducing greenhouse gases and pollutants emissions (Kyoto)
- increasing security of energy supplies
- improving energy efficiency
- increasing the use of renewable energy
- enhancing the competitiveness of European industry
- improving quality of life with the EU and globally
- development and uptake environmentally sound technologies
- introduction of innovative and cost competitive renewable and energy efficiency technologies into the market
- implementation of EU directives on electricity from renewable energy sources
- bring forward and demonstrate the next generation of cost-effective technologies at full scale.

The scientific and technological objectives are mainly 2 :

1. Develop water cooled Rankine Cycle units able to generate power from low enthalpy geothermal resources, with lower temperature threshold for profitable operation down to 65°C (rather than 90°C of the state of the art). In order to reduce costs, the machine will be tailor made for low temperature operation, namely for supply temperature 65-90°C.

2. Develop geothermal water cooled Rankine Cycle units for heat and power cogeneration with overall energy efficiency of around 99% by heat recovery from the cooling water circuit. The units will be able to utilize geothermal fluids of 120-150°C (rather than biomass units operating at ~300°C), and will use as cooling media the water supplying a district heating system (at 60/80 °C). LOW-BIN project objectives set up to now, have been already achieved.

PARTNERS

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