



## Project Summary

### EFFICIENT LOW TEMPERATURE GEOTHERMAL BINARY POWER

#### LOW-BIN

**Action Line:** Cost-effective supply of renewable energies  
**Contract Type:** Specific targeted research projects  
**Activity area:** Geothermal Energy

#### Coordinator:

**Organisation:** CENTRE FOR RENEWABLE ENERGY SOURCES  
Marathonos Avenue 19th Km  
19009 Pikermi/Athens  
Greece

**Contact Persons:** [IOANNIS AGAPITIDIS](#)

#### Project details

<b>Reference:</b>	GeoEn/518277/2005	<b>Start Date:</b>	01/03/2006
<b>Status:</b>	Execution	<b>End Date:</b>	28/02/2009
<b>Project Cost (€):</b>	3.935.913	<b>Duration (months):</b>	36
<b>Project Funding (€):</b>	1.878.812		

#### Summary

The LOW-BIN project aims to improve 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, by:

1. Widening market perspectives of geothermal Rankine Cycle power generation by developing a unit that can generate electricity from low temperature geothermal resources, with a temperature threshold for economic operation at 65°C, compared with 90-100°C for existing units.
2. Developing a Rankine Cycle machine for cogeneration of heat and power by heat recovery from the cooling water circuit. This will result in generation of heat and power from Rankine Cycle units in present and future geothermal district heating schemes with overall energy efficiency of 98-99%, compared with 7-15% for existing units producing only electricity and for 35-60% of existing geothermal cogeneration schemes.

The project will involve theoretical research, laboratory experimentation, pre-prototype development, technology evaluation of the pre-prototype in terms of technology breakthrough achievement, energy efficiency, electricity generation costs and market potential, manufacturing and demonstration of successful prototypes, monitoring and technology validation, as well as dissemination of the technology and other innovation related activities.

The LOW-BIN project consortium consists of 9 partners from 8 countries: CRES (Greece-Coordinator), TURBODEN (Italy), GFZ-Potsdam (Germany), GEOTEAM (Austria), University of Oradea (Romania), ESTSetubal (Portugal), Politecnico di Milano (Italy), BRGM (France) and ISOR (Iceland). The consortium involves 3 SME partners (TURBODEN, GEOTEAM and ISOR), which represent 62,01% of the budget. The total budget of the LOW-BIN project amounts at 3.996.590, of which 17,70% is devoted to R&D activities, 69,64% for Demonstration and 9,28% to Innovation Related Activities...



## Partners

1	CENTRE FOR RENEWABLE ENERGY SOURCES	GR
2	TURBODEN SRL	IT
3	GEOFORSCHUNGSZENTRUM POTSDAM	DE
4	GEOTEAM Technisches Buro fur Hydrogeologie, Geothermie und Umwelt Ges.m.b.H.	AT
5	UNIVERSITY OF ORADEA	RO
6	ESCOLA SUPERIOR DE TECNOLOGIA DE SETUBAL	PT
7	DIPARTIMENTO DI ENERGETICA - POLITECNICO DI MILANO	IT
8	BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES	FR
9	ISLENSKAR ORKURANNSOKNIR (Iceland GeoSurvey)	IS