



PRESS RELEASE

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## **A New Era in Geothermal Development The Iceland Deep Drilling Project**

Deep Vision, the steering committee of the Iceland Deep Drilling Project (IDDP) announced today that the partners in the IDDP consortium have signed a new contract to collaborate in deep drilling in Iceland. The main objective of the IDDP is to investigate whether it is economically feasible to produce energy and chemicals from geothermal systems at supercritical conditions. This will require drilling to depths of 4 to 5 km (13,000 -16,000 ft) in order to reach temperatures of 400–600°C (750 - 1,100°F). Today, typical geothermal wells range up to 2.5 km (8,000 ft) depth and produce steam at about 300°C (570°F) and at a rate sufficient to generate about 4-7 megawatts of electricity. It is estimated that producing steam from a well penetrating a reservoir hotter than 450°C - at a rate of 0.67 cubic meters (24 cubic feet) a second could be enough to generate 40-50 MW of electricity. If testing this idea proves successful, it could lead to a major step forward in the economics of developing high-temperature geothermal resources worldwide.

The first IDDP well will be drilled at the Krafla geothermal field in the latter part of 2008 and tested the following year. Two new wells, ~4 km deep, will then be drilled at the Hengill and the Reykjanes geothermal fields during 2009-2010, and subsequently deepened. Pilot plant testing should be completed around 2015.

The consortium collaborating to test the concept consists of three leading Icelandic power companies, Hitaveita Sudurnesja Ltd., Landsvirkjun, Orkuveita Reykjavíkur, together with Orkustofnun (National Energy Authority) and Alcoa Inc. (an international aluminium company). The three power companies financed a pre-feasibility study for the project which was completed in May 2003.

Each of the power companies has now made a commitment to drill at their own cost one 3.5-4.0 km deep well in a geothermal field that they operate. These wells will be designed so that they will be suitable for deepening to 4.5-5.0 km. The deepening of one of these wells as a joint IDDP-project, will be funded by the consortium with additional funds from international scientific agencies. As explained above the well drilled in 2008 at Krafla in North-East Iceland has been selected for this purpose.

Investigating such deep high-temperature geothermal resources requires highly developed drilling and well testing technology and may need modification of techniques for steam treatment and energy production. The IDDP has engendered considerable international interest. In 2002, the International Continental Scientific Drilling Program (ICDP – an international foundation, headquartered in Germany - that supports drilling on land for scientific research) gave financial support to organize two workshops to discuss the project and possible related international research cooperation. This led to the formation of an international science team with Gudmundur O. Fridleifsson (ÍSOR, Iceland) and Wilfred A. Elders (University of California, Riverside, USA) as principal investigators (PIs) and an international Science Application Group of Advisors (SAGA). The ICDP and the US National Science Foundation (NSF) are contributing major funds to this science program.

For further information: <http://www.iddp.is/>.