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# **Geothermal Implementing Agreement of the International Energy agency**

**(Annex III, Hot Dry Rock)**

## **Enhanced Geothermal Systems References Database**

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**February 2004**

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# Enhanced Geothermal Systems References Database

## Introduction

This references database has been created in 1997 in the field of Hot Dry Rock technology (HDR) and has been under development since then. It includes all the terminology variations around HOT DRY ROCK, such as Hot Wet Rock (HWR), Hot Fractured Rock (HFR), Enhanced Geothermal Systems (EGS), Deep Heat Mining (DHM), etc. Presently the term Enhanced Geothermal Systems (EGS) is widely recognised and used.

The origin of the references collected and implemented in the database are diverse: GEOREF database, literature, scientific journals, proceedings of congresses, references lists from annual or final reports, references lists received directly from past or active EGS programmes.

## Characteristics of the database

Name of the database	<ul style="list-style-type: none"> <li>• <b>EGS_REF.enl</b> (EndNote Enhanced Geothermal Systems References Database)</li> </ul>
Version	<ul style="list-style-type: none"> <li>• 02.04 (February 2004)</li> </ul>
State of the database	<ul style="list-style-type: none"> <li>• Total of 2'638 references</li> </ul>
Code used	<ul style="list-style-type: none"> <li>• Completed with EndNote 6.0.2 for Macintosh</li> <li>• EndNote is a Registered Mark of ISI ResearchSoft, Berkeley, CA, USA</li> <li>• See also : <a href="http://www.endnote.com/">http://www.endnote.com/</a> for more information.</li> </ul>
Compatibility	<ul style="list-style-type: none"> <li>• This EndNote database (.enl) is fully compatible with EndNote for Macintosh and Windows. It can also be opened with older versions of EndNote.</li> </ul>
Trial version of EndNote	<ul style="list-style-type: none"> <li>• If you do not have EndNote, you can find a trial version on this CD-ROM or download the last free « trial version » : <a href="http://www.endnote.com/">http://www.endnote.com/</a> for Macintosh or Windows.</li> <li>• The trial version is fully working during one month, then turning into <i>searching mode only</i>. Installation is fast and simple to proceed !</li> </ul>

EndNote provides a simple way to search online bibliographic databases and retrieve the references directly into EndNote. It specialises in storing, managing and searching for bibliographic references in an EndNote personal library. EndNote is capable to build lists of cited works automatically, to insert citations into word processing documents and to scan those documents for text-in citations in order to compile a bibliography in any format. It is also possible to insert footnotes in compatibility with Microsoft Word®.

The great majority of the references concern the main past or present EGS programmes, such as Fenton Hill (USA), Rosemanowes (UK), Bad Urach (D), Hijiori and Ogachi (J), Soultz-sous-Forets (F), Fjaellbacka (S), Deep Heat Mining (CH), Hunter Valley (AUS). However, a fair number of references are also taken from the literature dealing with conventional geothermal technology or hydrothermal systems.

EndNote references lists can be edited on Word according numerous types of formats corresponding to existing journals, most of them already pre-selected in EndNote.

Each reference is filed into a reference type: journal article, book, book section, edited book, newspaper article, conference proceedings, thesis, personal communication, computer programme, report, map, etc.

All reference data are organised around different fields, according to the reference type: author, year, title, journal name, volume, issue, pages, date of the conference, publisher, ISBN/ISSN, edition, label, keywords, notes, abstract, etc.

## Search of references

EndNote is a powerful tool for searching specific references. Requests can be carried out on any field or on specific field(s), such as author, year and keywords for example. Keywords can be of course localised in the keywords field (about 4'700 keywords), but also in the label field (17 labelling words), or even in the title itself or in the abstract.

In the **EGS\_REF** database, the references can be sorted by means of one label registered in the labels field, which allows to search for a category of topics:

100% of the references have a label in the labels field (see list of labels below),

100% of the references have keywords in the keywords field,

29% of the references have an abstract.

### Total number of references per period

Period	No. of references
2003	80
2002-1998	441
1997-1993	758
1992-1988	630
1987-1978	539
< 1978 or unknown	190
<b>Total refs</b>	<b>2'638</b>

### References per label and covered topics

Label	Topics covered	No. of references
borehole	drilling technology, well completion, well equipment, pumping	223
corrosion + scaling	corrosion, scaling	74
economics	financing, economic modelling	50
energy production	electricity production, heat production	21
environmental aspects	surface and underground environmental aspects, air, water, soil, sustainability	40
geochemistry	hydrochemistry, chemical monitoring, tracer tests, geochemical modelling	493
geology	geology, tectonics, petrology, fractures analysis	128
geophysics	well logging, seismic monitoring,	473
geothermics	heat flow, heat exchange, EGS programme, HDR programme, general aspects, potential	426
hydrogeology	regional hydrogeology	19
legal aspects	energy policy	5
planning	programming, meetings, progress reports	82
powerplant	heating plant, power plant, turbine, ORC	14
public relations	promotion, advertising	11
reservoir engineering	reservoir creation and development, flow tests, packers, stimulation	307
rock mechanics	stress field, rock properties, tests	151
thermo-hydraulic modelling	reservoir modelling, coupled processes	121
<b>Total: 17 labels</b>		<b>Total: 2'638 ref.</b>