

# Developing Global Standards for Classifying Geothermal Resources

Horst Rüter

IGA Service GmbH, Germany



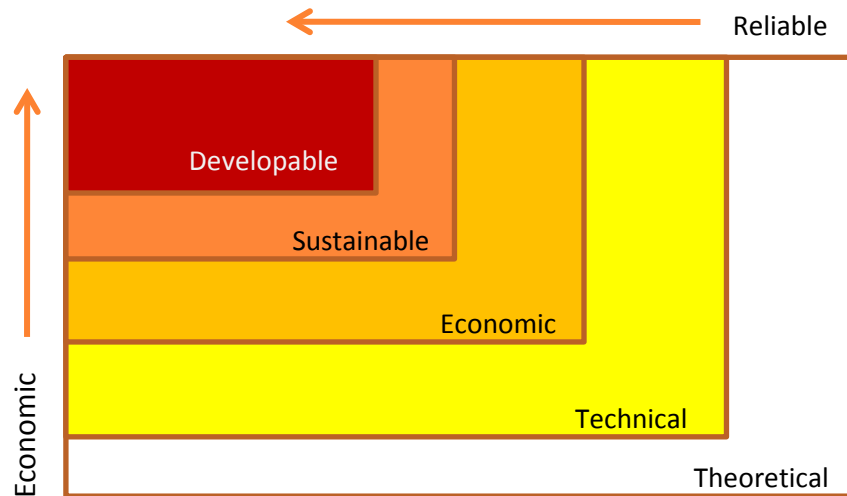
# International Geothermal Association (IGA) and IGA Service GmbH

The **International Geothermal Association** (IGA), founded in 1988, is a scientific, educational and cultural organization established to operate worldwide. It has more than **5,200 members** in over **65 countries**. The IGA is a non-political, non-profit, non-governmental organization.

The **IGA Service GmbH** is a limited liability company with headquarters in Bochum, Germany. It was founded in 2009 in Germany and is owned by the International Geothermal Association (IGA). The main objectives are the

- promotion of geothermal energy and its application,
- sharing of knowledge,
- research,
- event organization,
- consulting tasks

# The Problem: Classifying Geothermal Potential



Rybach (2010)

# Existing reporting codes

The [Australian](#) code - 2008

The [Canadian](#) code

UNFC – 2009 (for hydrocarbons)

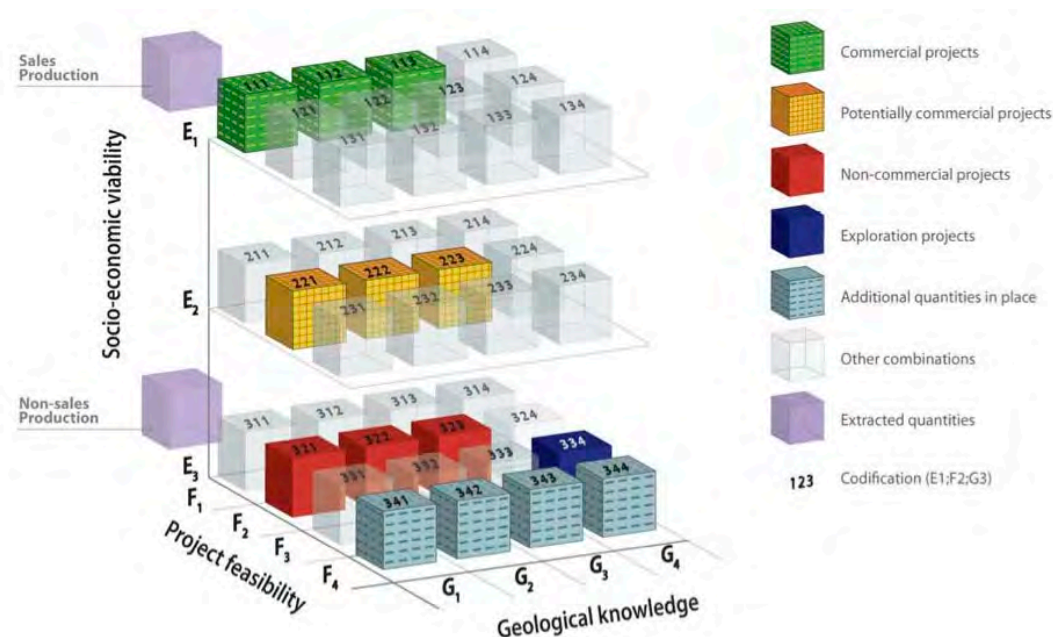
*UNFC = United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources*

A global code in agreement with UNFC is still missing!

## New activities:

Develop a globally consistent set of terminology and definitions for a **Classification Framework for Geothermal Potential** (eg. Resources/Reserves) in UNFC Formats.

Develop a comprehensive range of generic conceptual models of **Geothermal Play Types** within which geothermal reservoirs might be discovered or engineered.



# The MoU between IGA and UNECE

*UNECE = United Nations Economic Commission for Europe*

- ✓ Develop **Specifications** and **Guidelines** ('texts') for the application of UNFC-2009 to geothermal energy,
- ✓ Maintain and **evergreen the texts** in a manner consistent with their proper application through regular and periodic review,
- ✓ Conduct its activities in relation to development and maintenance of the texts through a transparent **governance structure and processes** that allows input from all stakeholders,
- ✓ Select a **representative from the UNECE Expert Group** on Resource Classification to participate in IGA **development of the texts**,
- ✓ Invite a **representative from the UNECE Expert Group** to be an observer at **meetings of the IGA Board** of Directors.

# Funding agreement with the World Bank (ESMAP)

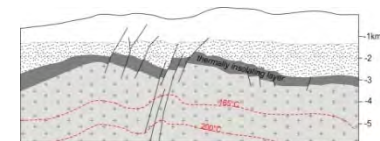
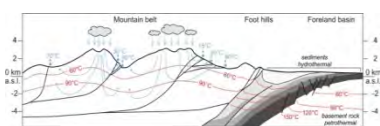
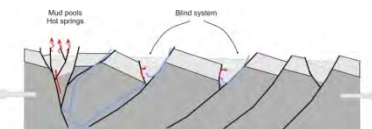
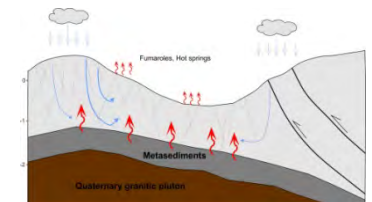
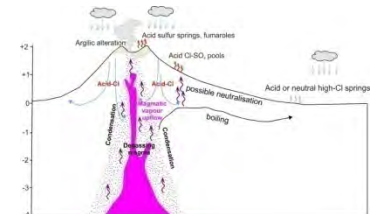
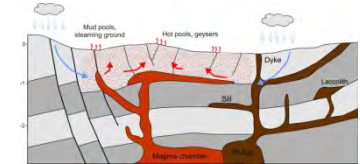
ESMAP = Energy Sector Management Assistance Program

## Deliverables:

- ✓ Case study with explanatory notes on application of the Australian and Canadian Reporting Codes to a specific country/region
- ✓ Set of draft 'Specifications' for application of UNFC-2009 to geothermal energy
- ✓ Interpretations of existing national/regional classification schemes in terms of the new 'Geothermal Specifications'

Responsible within IGA is the standing **Committee on Reserves and resources (R&R)**

Note: Geothermal energy is **renewable** and not a certain resource just to be mined as hydrocarbons or other minerals! Already the definition of 'heat in place' is a problem!



# Special issues of Geothermal Energy Science (GtES)

*GtES = Geothermal Energy Science*

The open access journal [Geothermal Energy Science \(GtES\)](#) is co-owned by the IGA and the German Geothermal Association. It is published by Copernicus Publications.

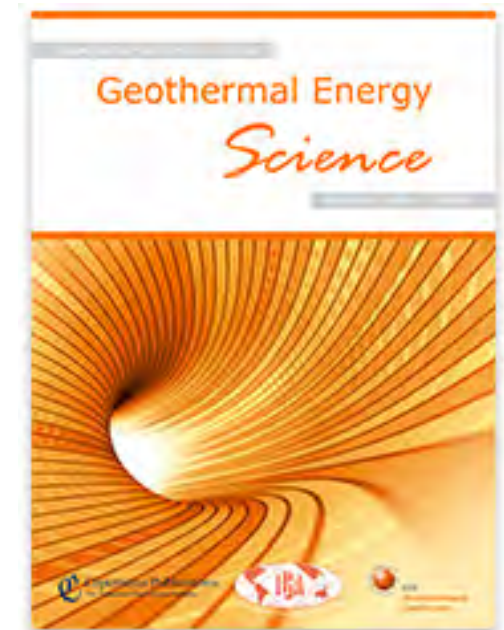
Two '**special issues**' of GtES have been created at the request of the R&R Committee:

[Estimation and Classification of Geothermal Potential - A Global Review](#)

(Ed: G. Beardsmore), until now 8 manuscripts.

[Geothermal Play Types - Categories and worldwide cases](#)

(Ed: I. Moeck), until now 3 manuscripts



# Next step: The Bonn Workshop

The R&R Committee has commenced to address its obligations under the MoU with UNECE by convening a

[workshop](#) at the International Renewable Energy Agency (IRENA) offices in [Bonn](#), Germany, on [8th and 9th December 2014](#).

*IRENA = International Renewable Energy Agency*

Attendance at the workshop will be by [invitation only](#), with travel support provided by the IGA-SC through the agreement with ESMAP.

The title of the workshop will be **“IGA Workshop on a globally consistent classification system for geothermal energy resources.”**

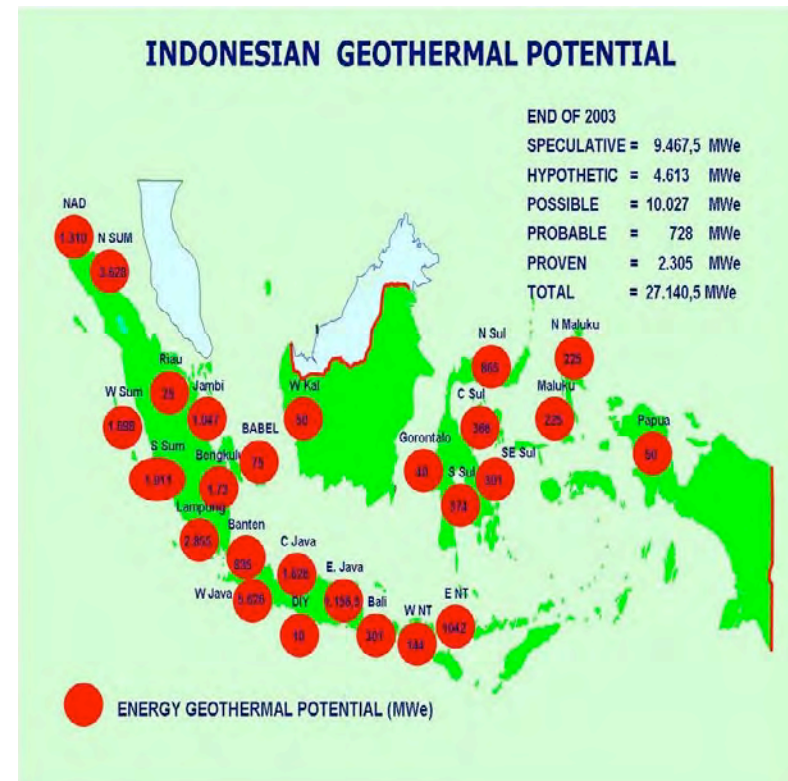
I will include:

- [Geothermal Specifications to be drafted for the UNFC-2009](#).
- [Identify volunteers for a working group](#) to draft the formal text for the UNFC-2009 Geothermal Specifications for public release for comment by WGC 2015 in April 2015.



Thanks and

hope for good cooperation in those projects



[http://www.geothermal-energy.org/uploads/media/2014-10-15CallVolunteers\\_IGA.pdf](http://www.geothermal-energy.org/uploads/media/2014-10-15CallVolunteers_IGA.pdf)