



JA - New Concepts an introduction

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RVO / OS

Geothermal ERA NET Coordination Office



The Geothermal ERA NET is supported by the European Union's Seventh Programme, for research, technological development and demonstration under grant agreement No 291866



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Budget of the Geothermal ERA NET: € 2.2 mln (2012-2016)

Geothermal ERA NET VISION

- *Minimize the fragmentation of geothermal research in Europe*
 - *Build on European know-how and know-who to utilize geothermal energy*
 - *Contribute to a framework to realise large opportunities in the utilization of geothermal energy through joint activities*
-

Technical & non-technical barriers & opportunities (task 2.2a CNR/RVO)

Shortlist of barriers and opportunities for geothermal development
Technical and non-technical issues

Country:

barriers	
Title	Short description

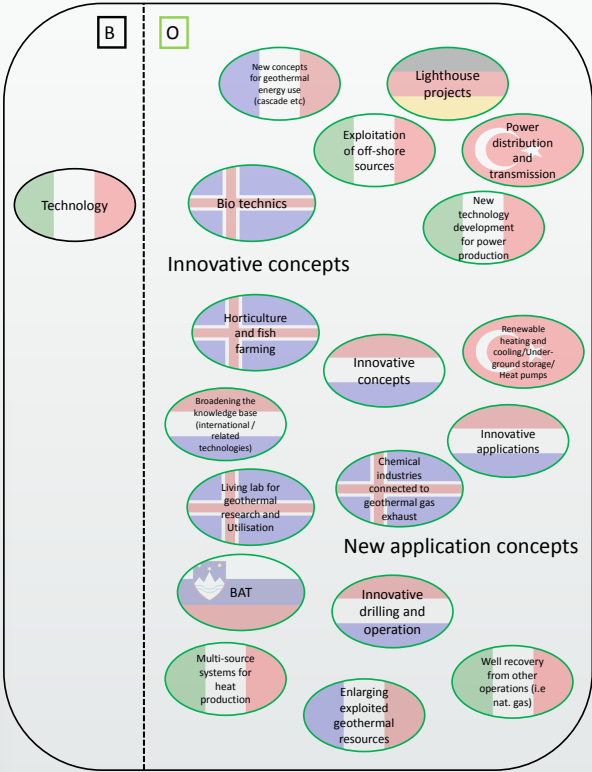
opportunities	
Title	Short description

¹ Distinguish between (one or more of): technical (T); (geological) risk (R); environmental (E); legal/regulatory (L); financial (F); social (S), or other (O) (please specify).
² Urgency U. Distinguish between urgent (++) and mid/long term issue (+).
³ Importance I. Distinguish between High importance (++), important (+) and less important (-). This column may be left blank. Default is + (important).
⁴ Sector S - which sector(s) consider this a barrier/opportunity. Distinguish between Users/Developers/Investors of geothermal projects (U), Geothermal Industry (I), Research community (R), Government/Ministry (M), other...

10-bullet lists
(per country)



clustering
workshop



Report
(barriers &
opportunities)

Common Challenges in Geothermal EraNet countries

9 clusters

Barriers & Opportunities clusters

	A1 Regulations	...
	A2 Economics & risk-mitigation	...
	A3 New/innovative concepts and applications	↔
	A4 Operational issues	↔
	A5 Sub-surface knowledge/data	↔
	A6 Structuring the geothermal sector	...
	A7 Public and education	↔

RD&D needs clusters

B4 New concepts	
B2 Operation	
B1 Reservoirs	
B3 PR & data	
B5 Anthropogenic influence	
B6 Drilling	

1.Regulations (A1)

2.Economics & Risk-mitigation (A2)

3.New/innovative concepts & applications (A3/B4)

4.Operation (A4/B2)

5.Subsurface/reservoir knowledge (A5/B1)

6.Structuring the geothermal sector (A6)

7.Public & Education (A7/B3)

8.Anthropogenic Influence (B5)

9.Drilling (B6)

All clusters are relevant for the progression of geothermal energy in Europe

Why New Concepts?

- Mentioned by all:



- Crucial cluster full of **opportunities!** (not barriers)
- New Concepts/Innovations in technology and application **crucial for future of geothermal**
- Strategic positioning of geothermal in the (EU) Energy System

New Concepts—the EuRopeAn team

Coordination
IS + NL



EraNet Partners
CH + I + H + F + D + SLO + P + TR

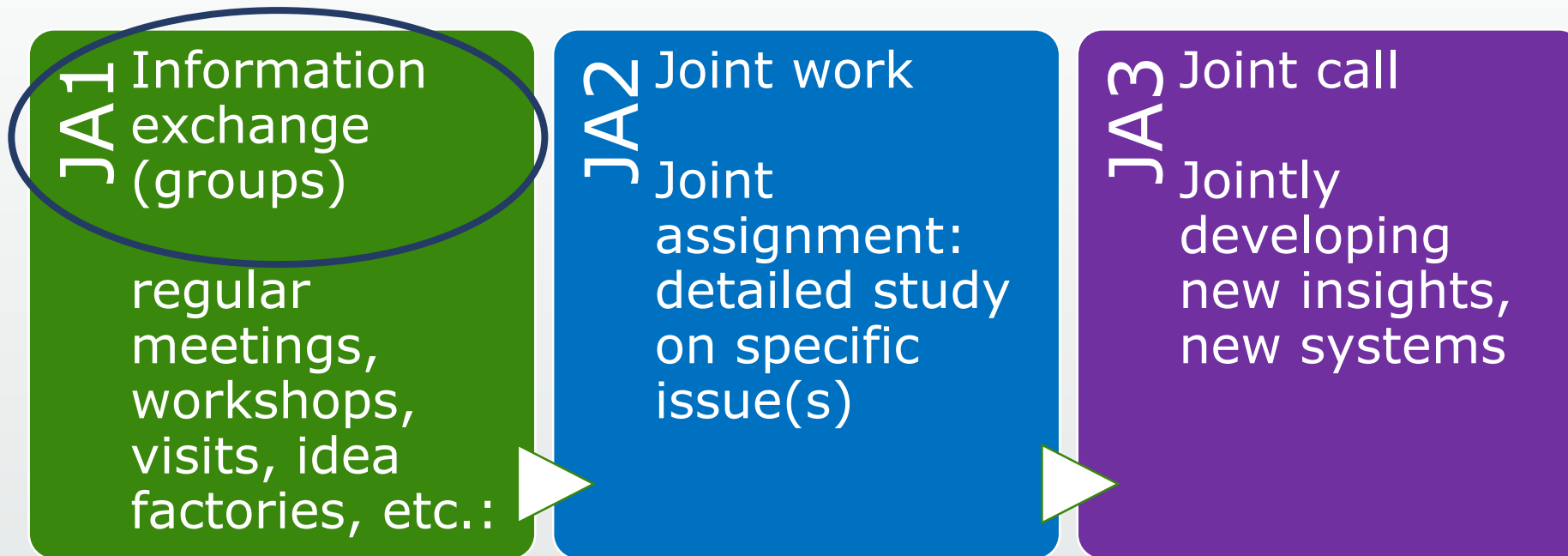


Aim

- Showcase and contribute to the **awareness of opportunities** in the geothermal sector and stimulate growth of the geothermal industry in Europe
- **Stimulate the generation of new ideas** and create **new opportunities** with regard to direct utilization of low enthalpy geothermal energy and geothermal technology
- **Encourage collaboration** and knowledge exchange between existing projects and companies working on "Geothermal New Concepts"
- Crucial is showing and stimulating **new opportunities**
- Classification of Joint Activities (JA1-JA3): JA1 which can develop into JA2 or JA3



How to collaborate?



- Appropriate (and feasible) JA-type was chosen for the specific challenge
- JA's can evolve from JA1 > JA2 > JA3
- Effectiveness/Impact more important than amount of €'s

The New Concepts Concept

Two types of events:

1. **Showcase** new concepts/innovative projects in Geothermal
2. Creative **idea generating** events (Idea Factories/Labs- *to be continued in GEOTHERMICA*)

INSPIRATIONAL POSITIVE CREATIVE PEOPLE + EVENTS

*Building the **base for a vibrant geothermal community***

open to innovations and opportunities



Geothermal ERA NET / IEA Geothermal Joint Workshop, Geneva, Switzerland, 30-10-2015

Motivation

- Dream – how high can geothermal use go
- Growing geothermal energy
- Great opportunities for networking
 - Broadening geothermal connections

Thanks to

- Gunter Siddiqi and SFOE for hosting
- The presenters...

ORGANISING TEAM



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New Concepts workshop Participants

- Innovative Project developers & entrepreneurs
- Country representatives for Geothermal Innovation
- Positive, inspirational, creative, motivated

*40 participants from 11 European countries
+ 4 non-European countries. 20 speakers*

- Building a network
- New Concepts JA as a platform to stimulate creativity and innovation in Geothermal
- You'er part of that network!

***We need Creativity and Innovation and a Positive Vibe
for Geothermal Energy to flourish***

New Concepts Program – 30.10.2015

Morning 8:30-12:30

Welcome & Introduction



I EGS + Direct Use



Break

II Built Environment NewCon



Lunch

Afternoon 13:45-19:00

III Other Sectors NewCon



Break

IV Worldwide InnovApp



Visionary Panel, Conclusions & Next Steps



Networking Réception

Innovative thinking – additional task for the participants

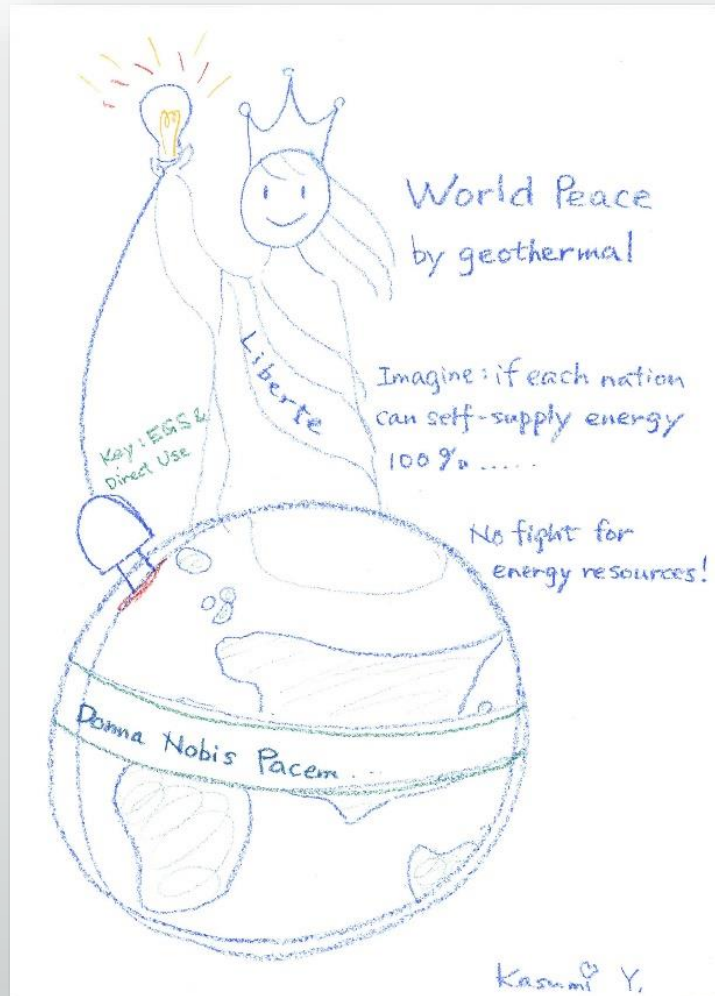
What is your vision of -
how do you imagine
the Future of Geothermal ?

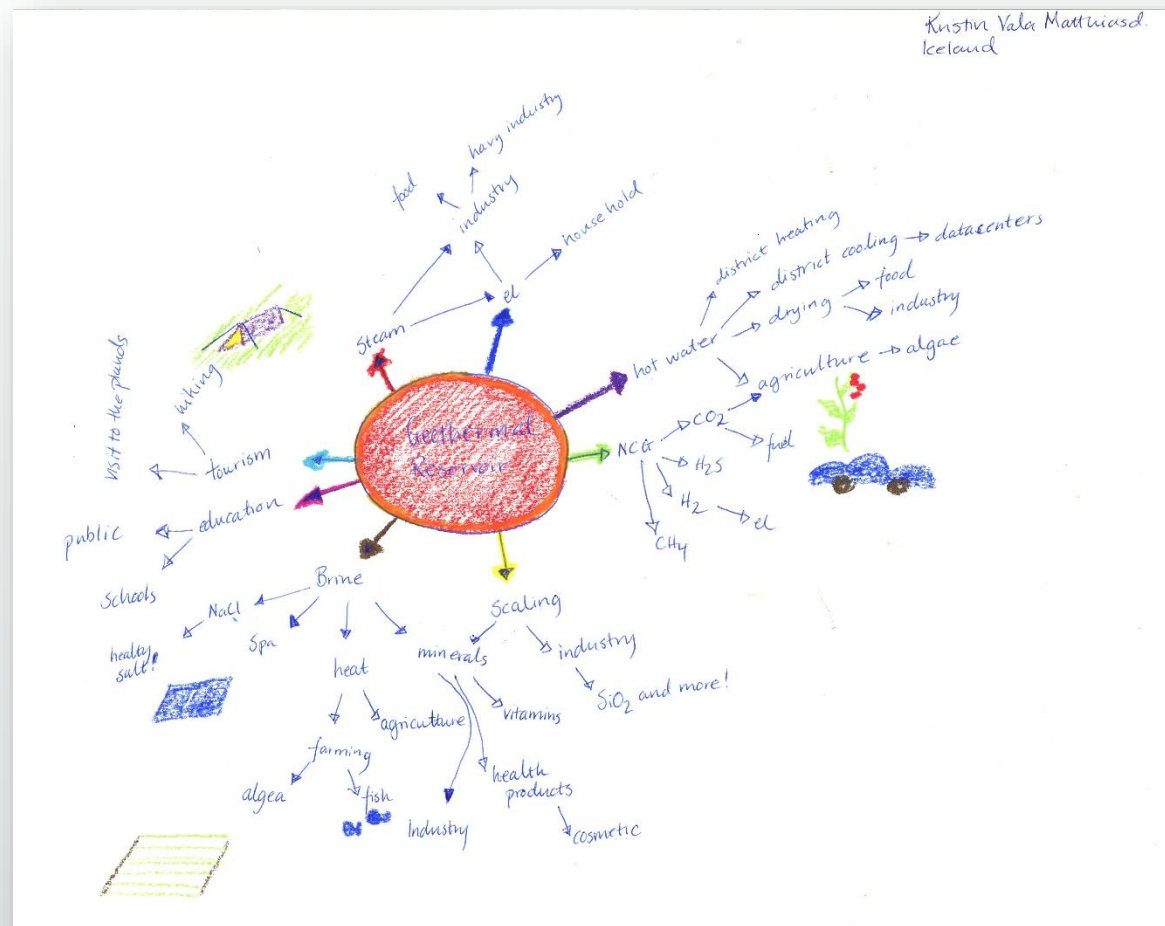
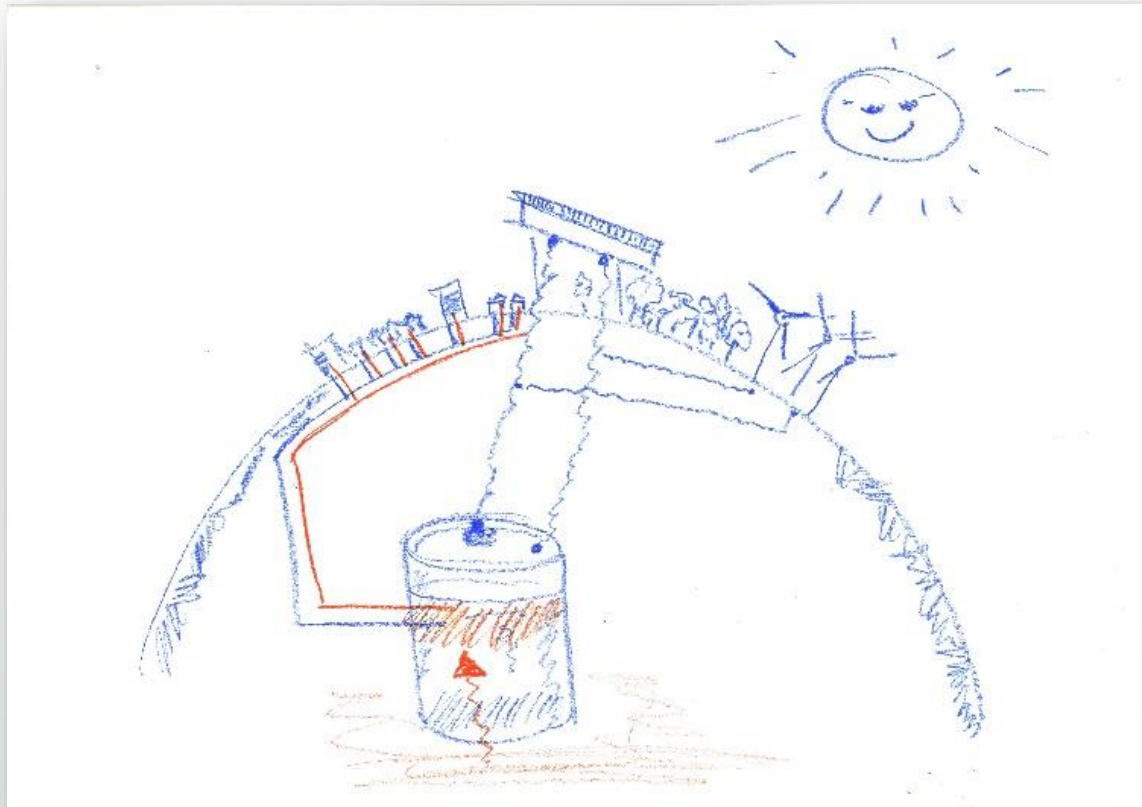
The tools

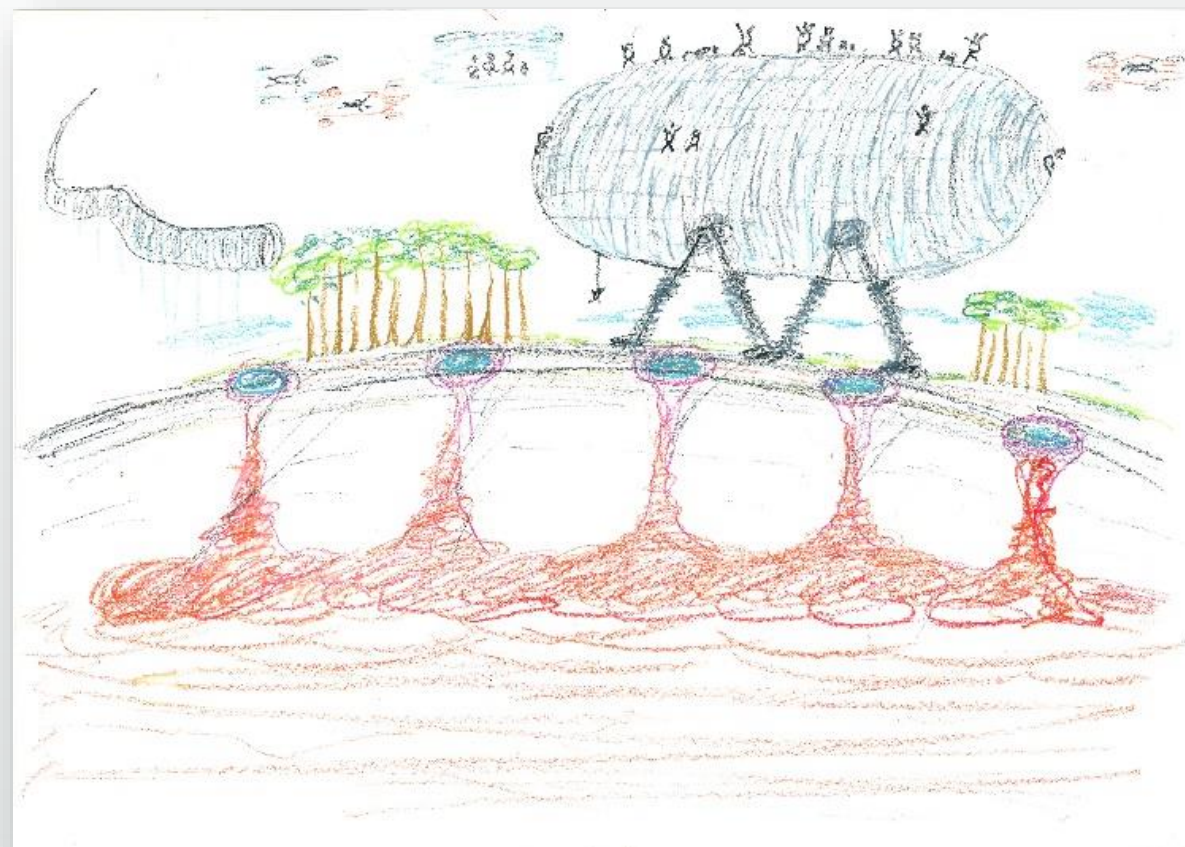


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The outcome







Proceedings published

New Concepts – New and Innovative Applications of Geothermal Energy

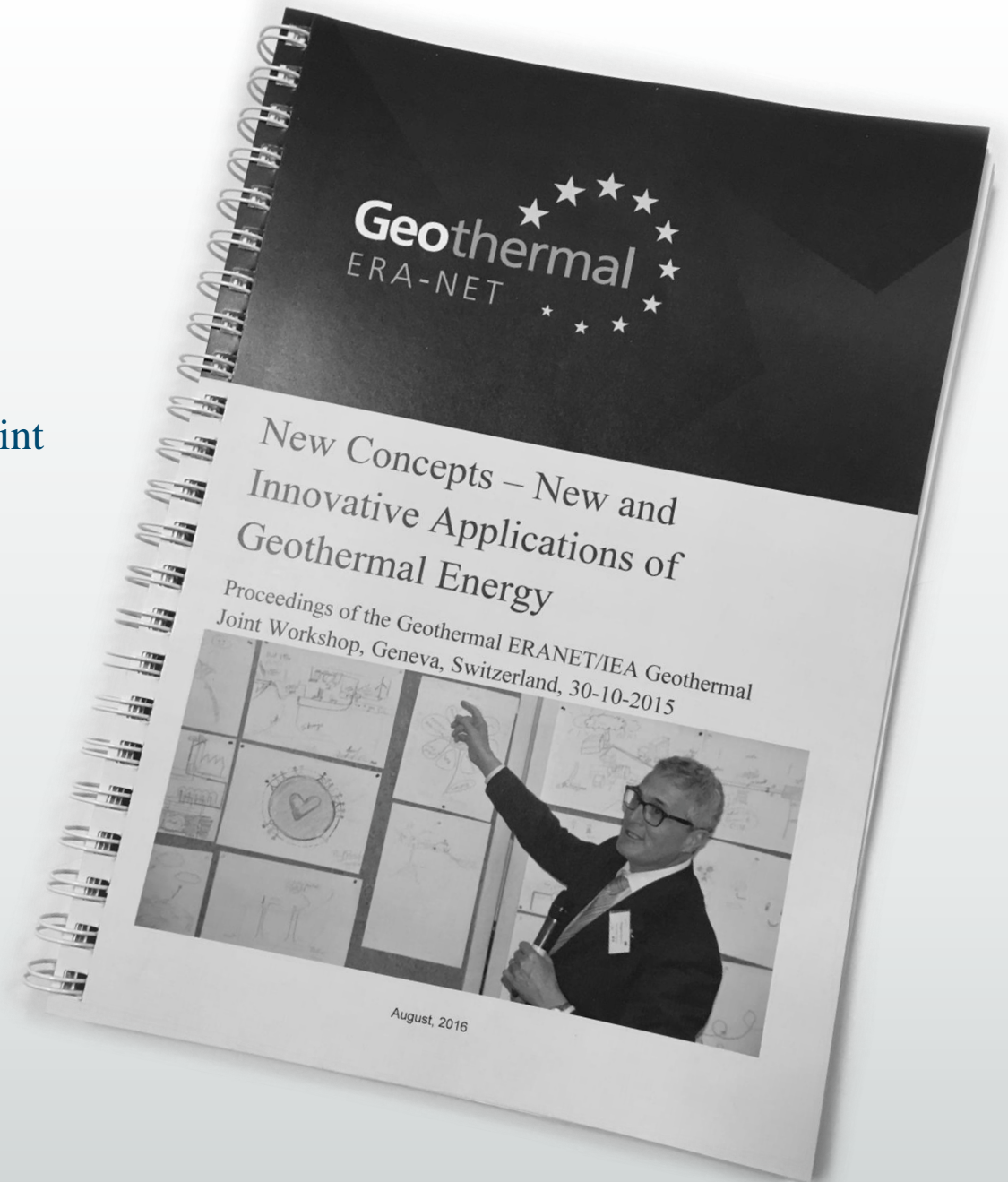
Proceedings of the Geothermal ERANET/IEA Geothermal Joint Workshop, Geneva, Switzerland, 30-10-2015

Report

A.W. Stoklosa, G. Breembroek, P. Ramsak,
H.P. Ingolfsson
Orkustofnun, RVO
August, 2016

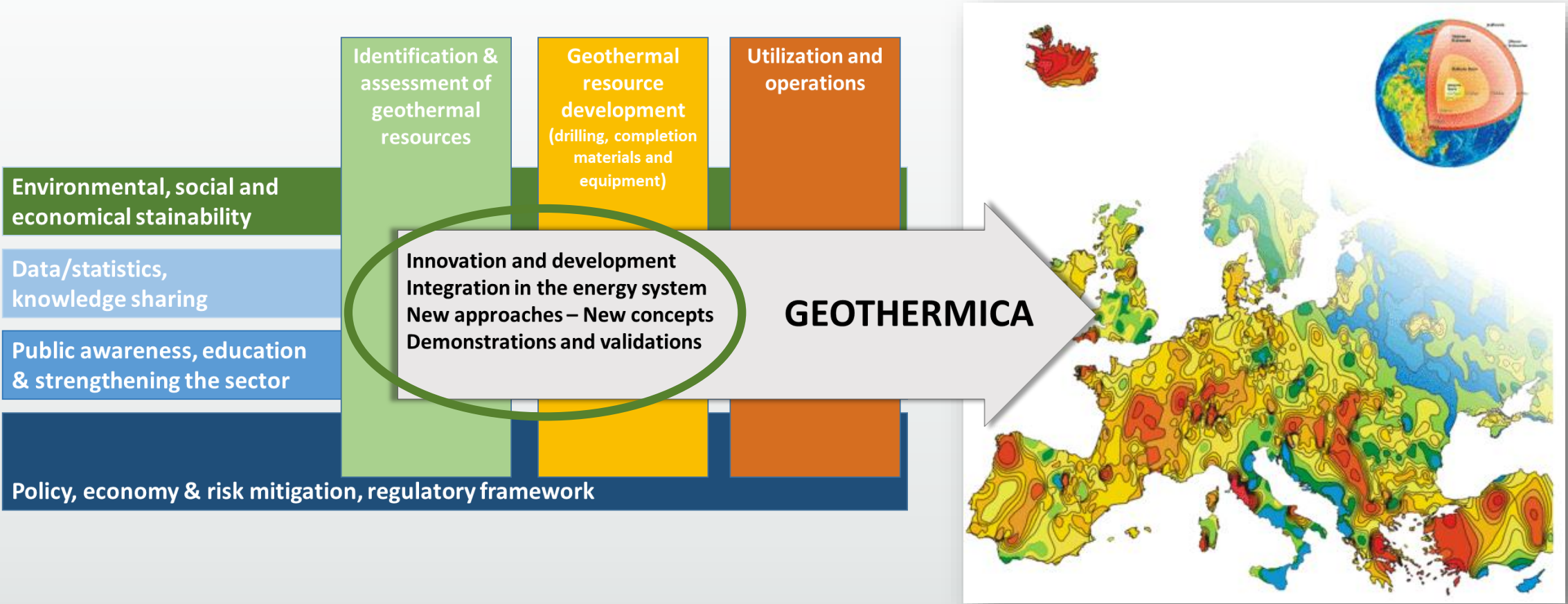
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Follow-up: GEOTHERMICA – Geothermal ERA NET Cofund

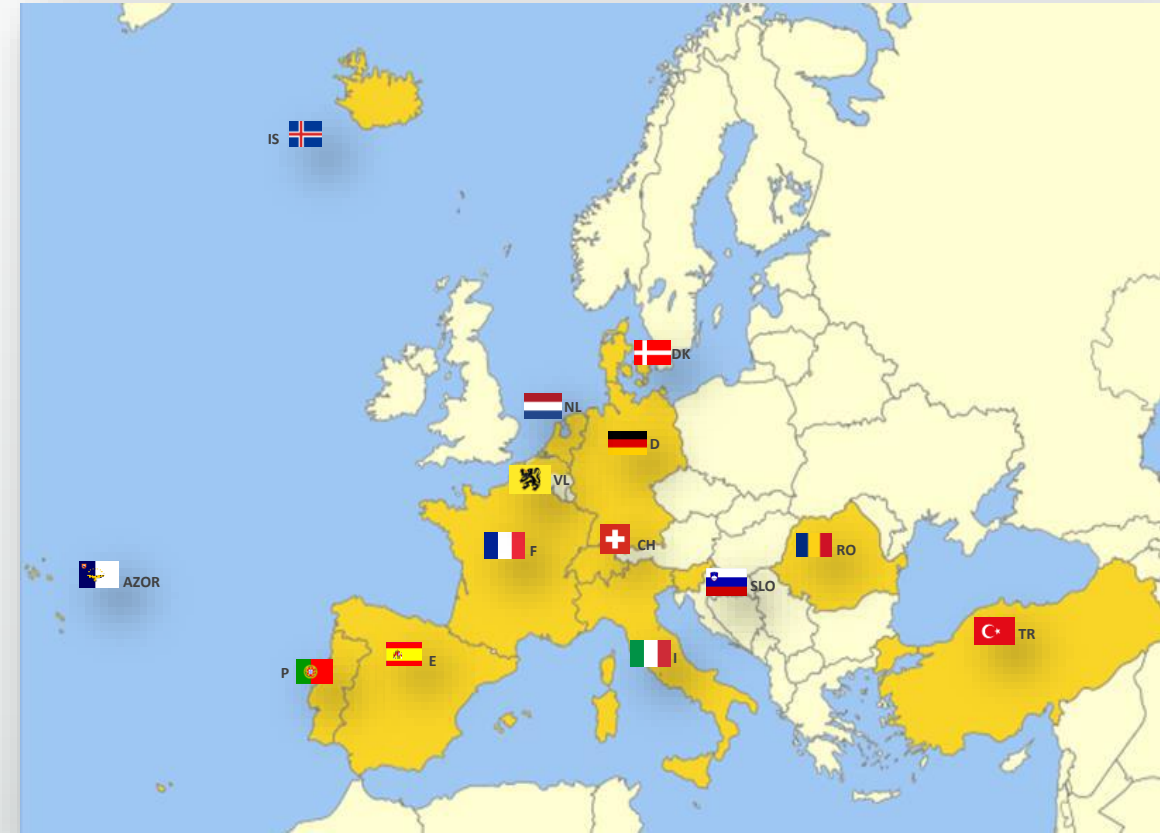


National commitment	EC contribution “top up”	Estimated industry contribution
~22M€	~10M€	~30M€

Follow-up: GEOTHERMICA ERA-NET Co-fund

Creating a European research & innovation framework

- organize and pool national financial and human resources as well as national research infrastructures, **to accelerate research and innovation.**
- Building on relationships with industry and researchers and bridge the gap between research and the market with **innovative solutions.**
- Focus on what is often called “deep” geothermal energy. The scope includes the **integration of geothermal reservoirs into novel energy system concepts** (e.g. use of reservoirs for energy storage, CO₂ storage, integration with near-surface geothermal applications).



Thank you



Chris Bramley.