



Netherlands Enterprise Agency



## **Results of WP 2 Information Exchange** on national incentives and status of Geothermal Energy

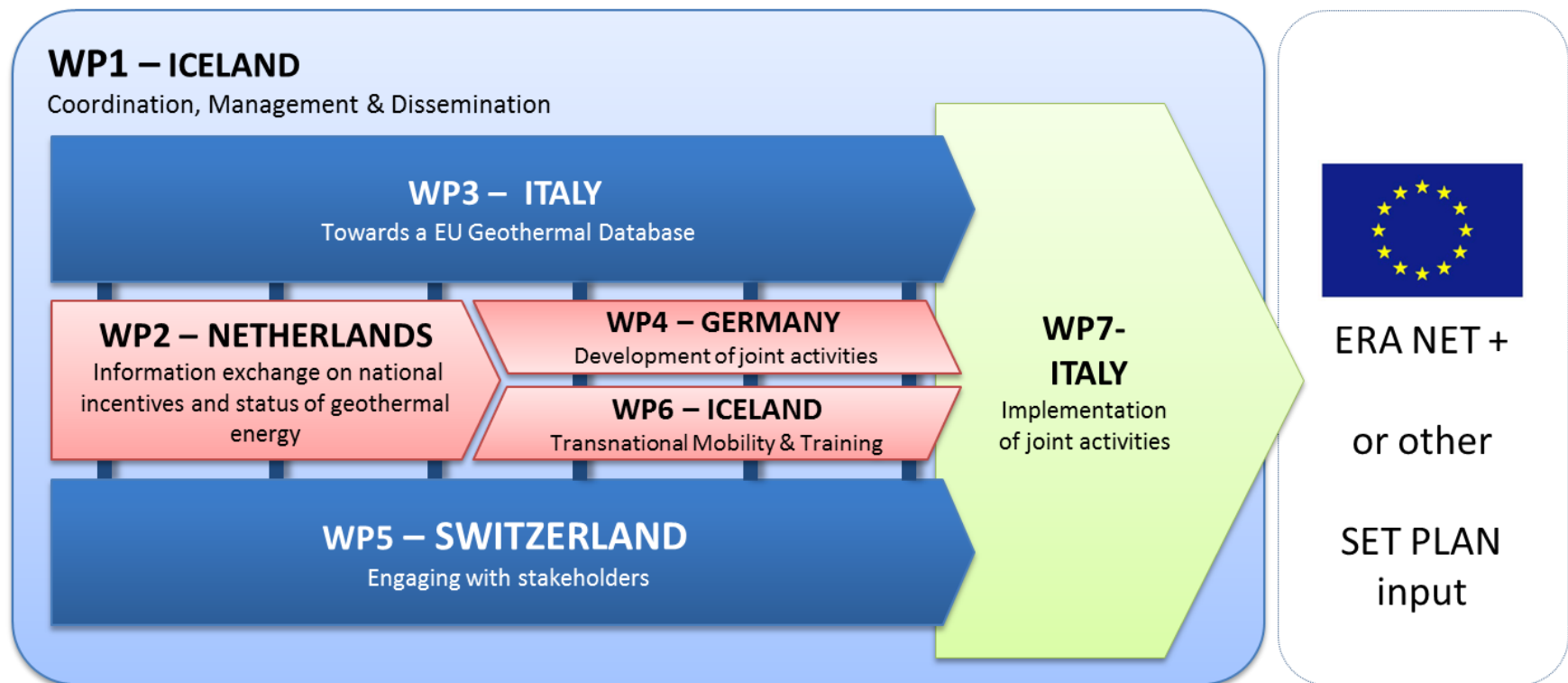
Paul Ramsak/Gerdi Breembroek  
Netherlands Enterprise Agency

Geothermal ERA NET  
SB Meeting – Leiden  
4 december 2014






# Organisational structure / work packages





# Task 2.1 Initial Information Exchange



Geothermal  
ERA-NET

Geothermal energy status and  
policy review

Geothermal ERA NET Participating countries  
PART A Analysis

WP2 D 2.1  
NL Agency: Breembroek, Dijkshoorn, Ramsak  
December 2013



D2.1  
December  
2013  
>ready



Geothermal  
ERA-NET

Inventory of  
RD&D project highlights

WP2 D 2.2  
NL Agency: Breembroek, Ramsak  
October 2013



D2.2  
October  
2013  
>ready



# 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*	Category†	U‡	I‡	S‡

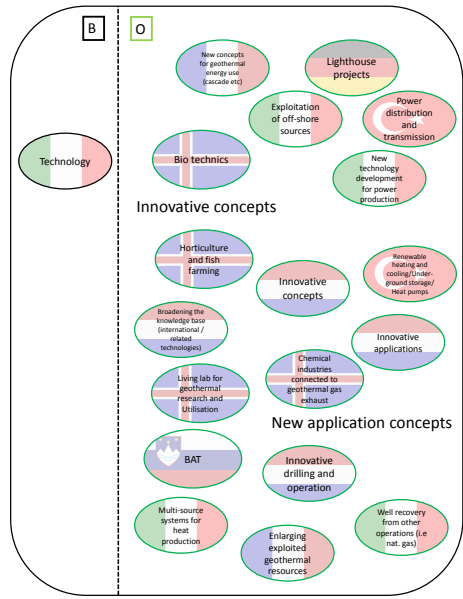
opportunities					
Title	Short description*	Category†	U‡	I‡	S‡

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

10-bullet lists  
 (per country)



clustering workshop



Report  
 (barriers & opportunities)



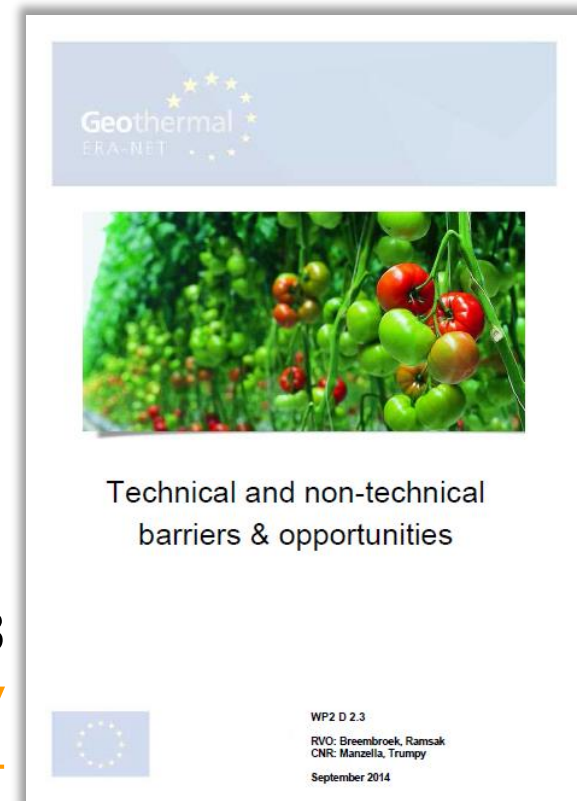
# Technical/non-tech. barriers & opportunities

7 B&O clusters

<b>A1 Regulations</b>	
<b>A2 Economics &amp; risk-mitigation</b>	a investment
	b operational support
	c risk mitigation
<b>A3 New/innovative concepts and applications</b>	
<b>A4 Operational issues</b>	
<b>A5 Sub-surface knowledge/data</b>	
<b>A6 Structuring the geothermal sector</b>	
<b>A7 Public and education</b>	a public acceptance
	b visibility & dissemination
	c education and training



report D2.3  
> ready  
sep'14





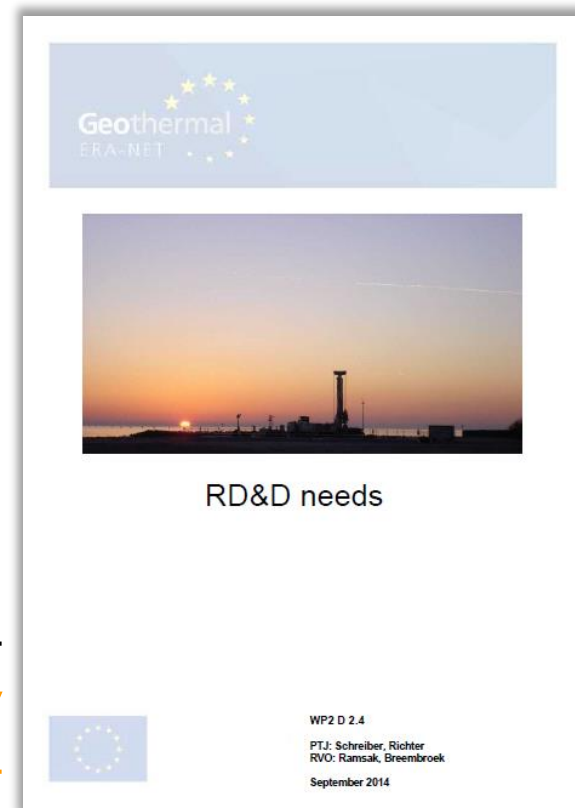
# RD&D needs

## RD&D clusters

<b>B1 Reservoirs</b>	A reservoirs (general)
	B reservoir modelling
	C reservoir exploration
<b>B2 Operation</b>	A operational issues
	B injection issues
	C pumps & components
<b>B3 PR &amp; data</b>	A dissemination
	B acceptance
	C reporting code/statistics
<b>B4 New concepts</b>	A innovative concepts
	B heat
	C power cycle
<b>B5 Anthropogenic influence</b>	A reservoir creation
	B seismicity
<b>B6 Drilling</b>	



report D2.4  
 > ready  
 sep'14



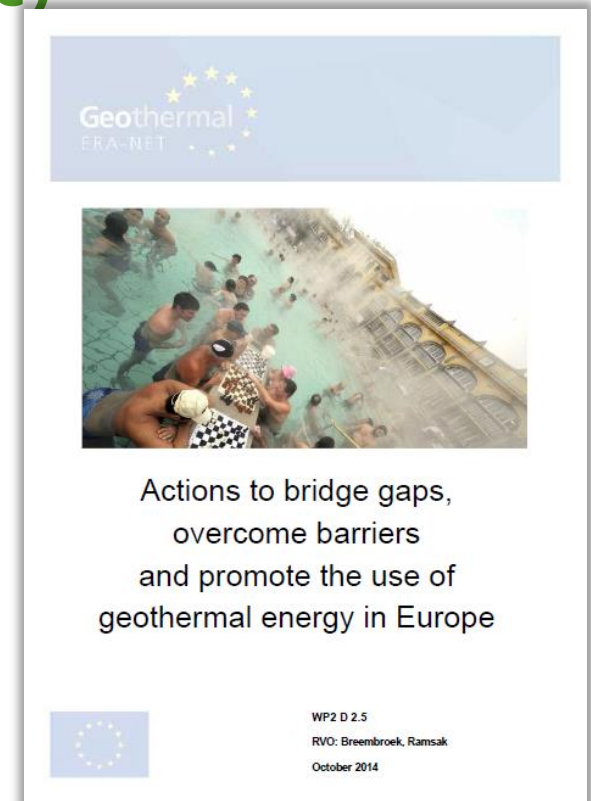


# Actions to bridge gaps, overcome barriers and promote the use of geothermal energy in Europe (task 2.2c)

Report D2.5

> ready nov '14

**wp2.2 > Basis for wp4:  
development of joint activities**





# Common Challenges in Geothermal EraNet countries

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	

## 9 clusters

- 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**





## How to collaborate?

**JA1** Information exchange (groups)

regular meetings, workshops, visits, idea factories, etc.:

**JA2** Joint work  
Joint assignment: detailed study on specific issue

**JA3** Joint call  
Jointly developing new insights, new systems

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



## How to start/organise joint activities ?

- Bottom-up
- Bi- or multilateral
- Based on countries preferences (within the clusters)

At least two countries to take the initiative

**The Geothermal Era Network as a  
continuing vehicle to launch JA's  
also after the project period !**



**Let's work together !**



**It might be fun...**



**Dank voor uw aandacht!**