# **GEOELEC Project Overview**

## Regional Workshop

# Germany, Poland, Czech Rep., Slovakia, Hungary, Austria, Switzerland

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European Geothermal Energy Council

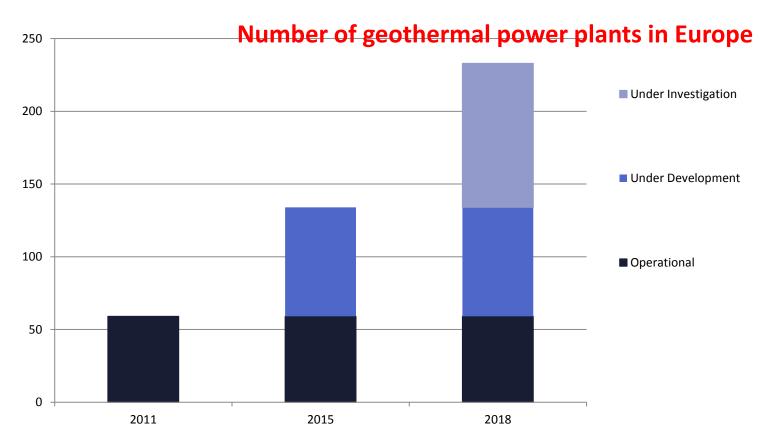
Offenburg, 29/02/2012





## Objective of GEOELEC project is to

 convince decision-makers about the potential of geothermal electricity in Europe: Create awareness and improve perception among policy makers





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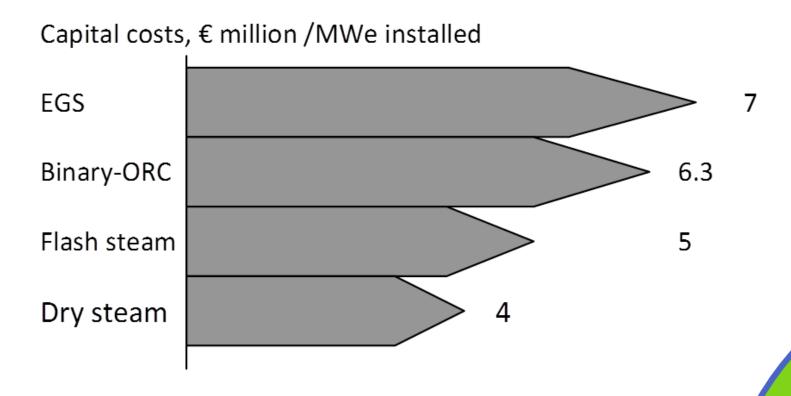
- stimulate banks and investors in financing geothermal power installations.
- Geothermal project development has high upfront costs and can take several years: 3-6 years, need innovative mechanisms for funding

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	
Exploration	Ехр	oloration							
Early drilling		Pre- prod	<b>)</b>						
Drilling & Confirmation	n		Dril	lling					
Engineering & Construction	1					Engineering & onstruction			
Operation & maintenance								0 & M	
Seed capital		<b>A</b>			Construction financing		Project financing Tax equity		
		enture apital		Bridge debt					



## Objective of GEOELEC project is to...

- attract key potential investors such as oil and gas companies and electrical utilities to invest in the geothermal power.
- Geothermal projects are capital intensive





#### Results

- GEOELEC will result in an action plan towards more geothermal electricity generation in Europe, with the objective to double installed geothermal power capacity in Europe by 2020.
- GEOELEC will also result in setting concrete actions to reach these objectives:
- conditions for financial feasibility,
- a regulatory framework, and
- public acceptance.

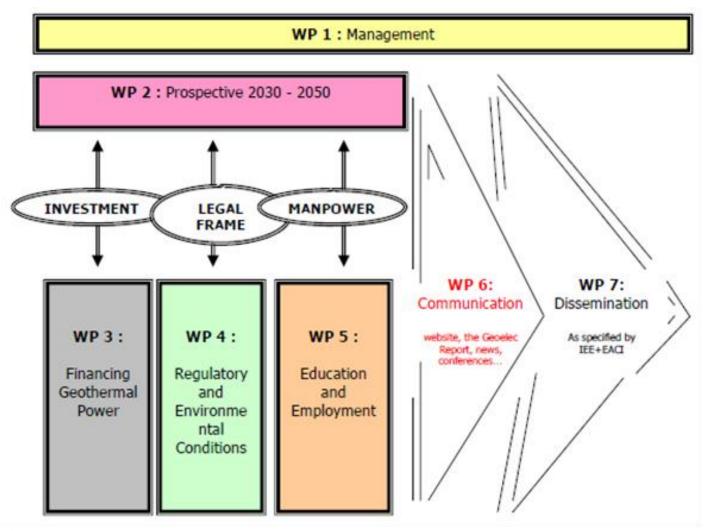


## **List of Participants**

European Geothermal Energy Council	EGEC	BE
Bureau De Recherches Géologiques Et Minières	BRGM	FR
Centre For Renewable Energy Sources And Saving	CRES	EL
Consiglio Nazionale Delle Ricerche	CNR-IGG	IT
Istituto Di Geoscienze e Georisorse		
Asociacion De Productores De Energias Renovables	APPA	ES
Gaßner, Groth, Siederer & Coll.	GGSC	DE
EnBW Energie Baden-Württemberg AG	EnBW	DE
Mannvit	Mannvit	IS
Helmhotz Zentrum Postdam - Deutsches Geoforschungszentrum	GFZ	DE
Nederlandse Organisatie Voor Toegepast- Natuurwetenschappelijk Onderzoek - TNO	TNO	NL



## Work Flow Chart (June 2011 – November 2013)





#### Prospective for geothermal electricity in Europe

#### Resource assessment

- Methodology: Geoelec Resource Assessment Protocol
- Data compilation with 7 regional workshops (London, Valencia, Milano, Athens, Utrecht, Offenburg, Vilnius)
- An online web GIS on EGS potential in the EU-27

#### Electricity demand and grid infrastructures

- Technical conditions for grid access
- Match the demand: site selection

#### Forecasts and prospective

 A prospective study 2020/2030/2050 on the geothermal potential in Europe (January 2013)



#### Financing geothermal power projects

#### **Project financing & estimating of costs**

- A software to evaluate financial viability of geothermal projects
- LCOE

#### Risk insurance

Promote the creation of risk insurance schemes

#### **Drilling costs & rigs**

- A European databse on drilling costs & performance
- Best practice drilling handbook

#### Guide to boost investment in the geothermal sector

Practical reference tool for banks, developers and investors



## Regulatory, social and environmental conditions

#### **Regulatory barriers**

- Licensing procedures, legal conditions for grid access
- Geothermal reporting code review

**Environmental issues** 

**Public acceptance** 

**Potential CO2 emissions reduction** 



## **Education and employment in the geothermal sector**

**Employment survey** 

#### **Training activities**

3 Training courses in France, Italy and Germany (2012/2013)



#### Communication

Website: www.geoelec.eu

#### **Publication**

- Geoelec Final Report (5500 copies in total, 100 pages, several languages)
- Geoelec Factsheets (4000 copies, brochure 16 pages, several languages)
- Newsletter (First in October 2011, every 4 months)

#### **Events**

- 7 promotional workshops (FR,DE,EL,ES,IT,HU,NL) and 1 Final Conference
- Face-to-face meetings with decision makers, banks, investors etc.

#### Promote the creation of National Geothermal Committee

Official body providing recommendations for geothermal development



# Thank You!

Visit www.geoelec.eu

