



CROWD THERMAL Final Conference

***CROWD THERMAL project:
Main results obtained and goals for the
future***

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***First Geothermal District Heating and Cooling Day event:
“Bringing Geothermal heating and cooling networks closer to the people”
20th of October, EGC2022 side event, Berlin.***

This project has received funding from the European Union's Horizon 2020 research and innovation programme¹ under grant agreement No 857830.



Project facts



- Call: H2020-LC-SC3-2019-RES-IA-CSA
- Topic: Market Uptake support
- Focus area: Building a low-carbon, climate resilient future (LC)
- Project ID: 857830
- Duration: 36 months
- Budget: 2 305 801.25 €
- Partnership: 10 European organisations + 17 Linked Third Parties (LTPs)
- Coordinator: European Federation of Geologists, Brussels
- Start date: 01 September 2019

Consortium: Multidisciplinary Team



European Federation
of Geologists (EFG)



Institute for Futureenergy- and
Materialflow-systems (IZES)



University of Glasgow



GeoThermal Engineering
GmbH (GeoT)



LA PALMA
RESEARCH
CENTRE
La Palma Research
Centre (LPRC)



CrowdfundingHub



District Heating Company of
Szeged Ltd (SZETÁV)



Spanish Geothermal
Technology Platform



GEORG Geothermal
Research Cluster



EIMUR

Overall Objective

CROWDITHERMAL aims to empower the European public to directly participate in the development of geothermal projects with the help of alternative financing schemes (crowdfunding) and social engagement tools.



The European Green Deal

Climate neutrality

European Green Deal:

One of the main objectives of the EU's Green Deal is to become climate neutral by 2050

The EU's energy challenge for 2030 is to increase the use of renewable energy to 55%.



Fit for 55% Package:

EU directives will help reach the building and renovation goals set out in the European Green Deal

Renewable Energy Directive
Energy Efficiency Directive
Energy performance of buildings Directive



REPowerEU:

Affordable, secure and sustainable energy for Europe

Saving energy
Producing clean energy
Diversifying our energy supplies



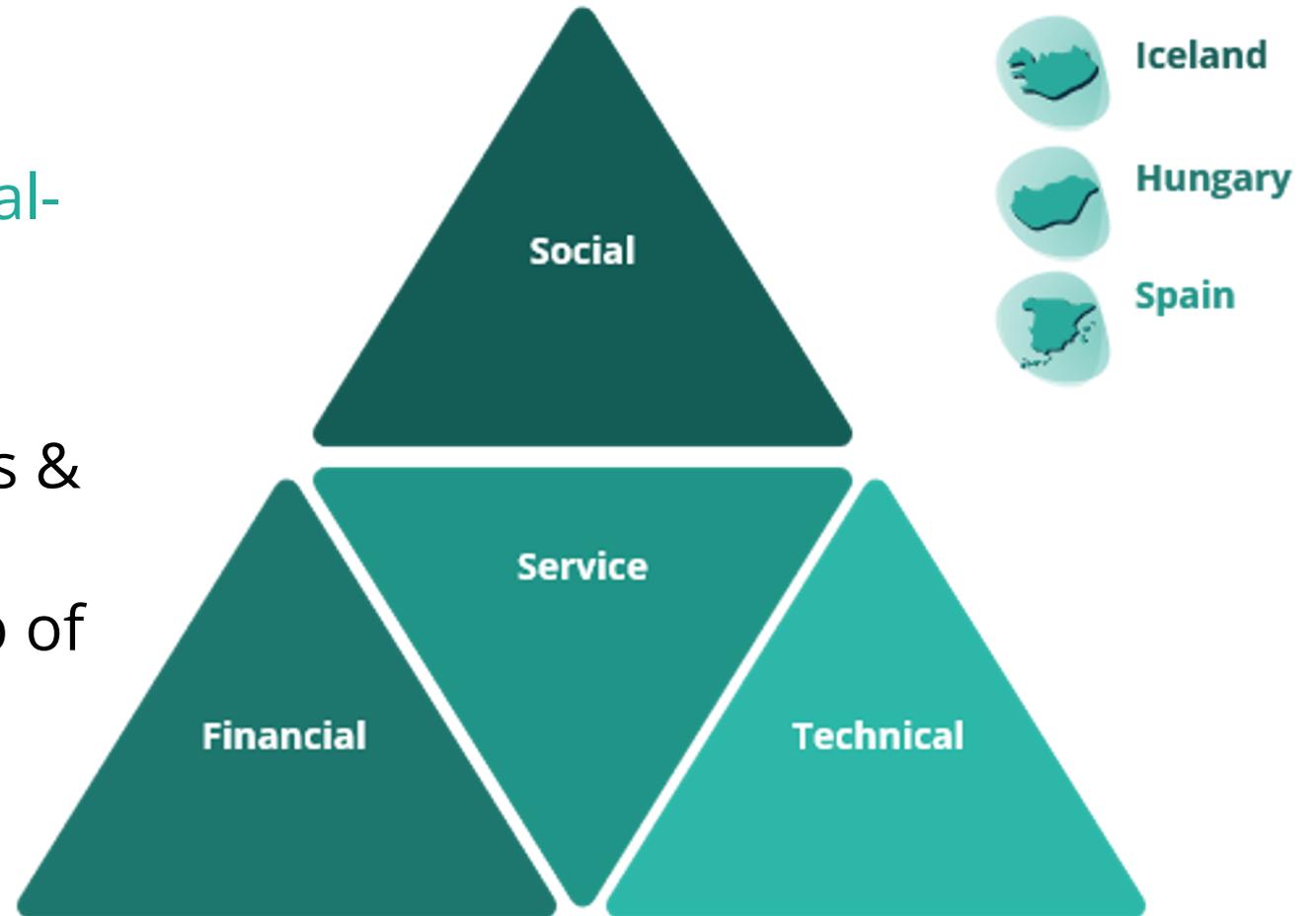
CROWD THERMAL:

a new form of public dialogue that allows the direct participation of citizens

Objective increase of geothermal energy in the gross final consumption

Concept

- Develop core services for social-media based promotion and alternative financing of geothermal projects, working closely with existing structures & conventional players.
- Validate findings with the help of three case studies in Iceland, Hungary and Spain.



Case studies



Hungary

District heating system of Szeged



Spain

Housing cooperatives in Madrid using shallow geothermal energy for heating and cooling

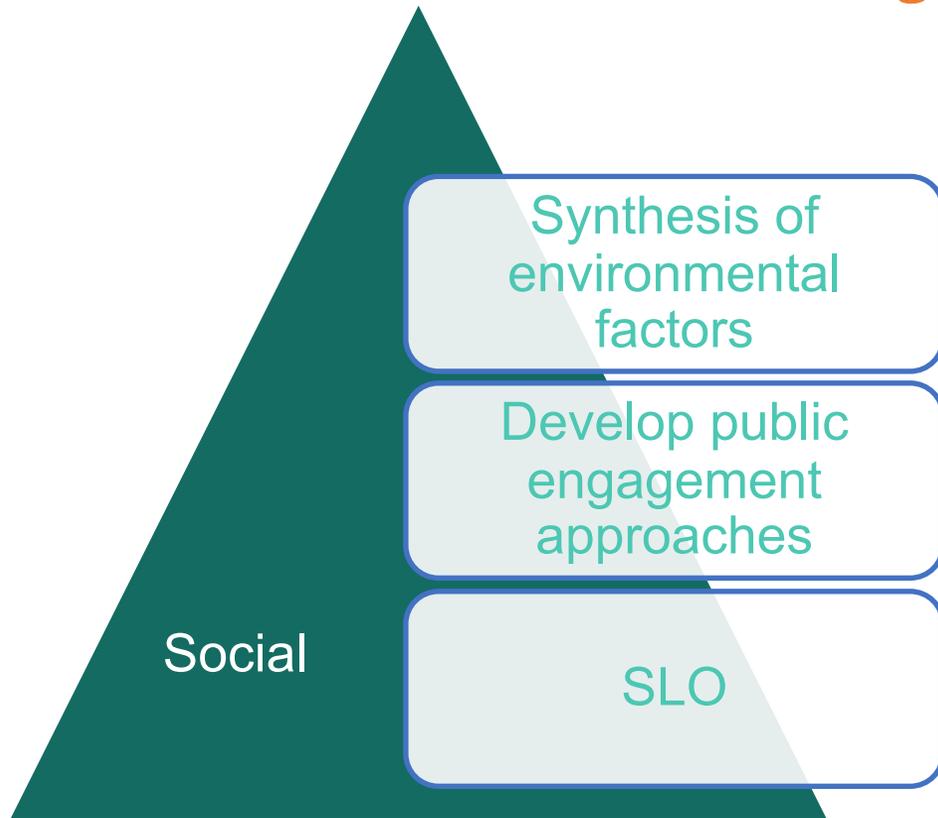


Iceland

Greenhouse heating for food production in the area of Lake Mývatn

Objectives

1. Understand the requirements for social licencing and develop a Social Licence to Operate (SLO) model for the different geothermal technologies and installations

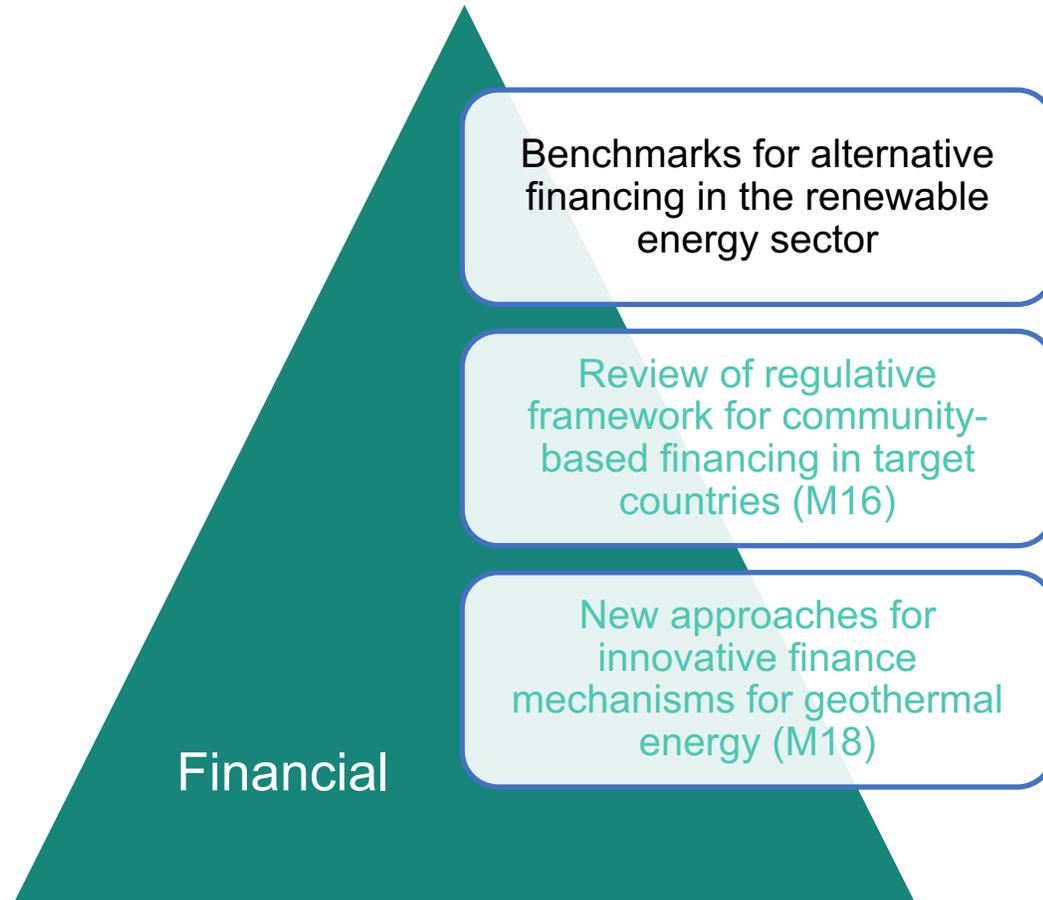


Key results on Social acceptance of geothermal energy

1. Some environmental issues are based on facts, whilst others are based on perceptions.
2. Environmental risk varies greatly depending on the technology used to exploit geothermal energy, but also the stage of the geothermal development.
3. Social factors and technical project characteristics are both a central factors for the success of geothermal energy projects.
4. Trust and social cohesion between stakeholders are crucial to achieve social acceptance.
5. SLO is a dynamic intangible concept, context-dependent and which should be started at a very early stage of a geothermal project and maintained throughout all stages of development.
6. Highest levels of SLO are positively correlated with a high social capital, high levels of social engagement, and achieving trust with stakeholders.

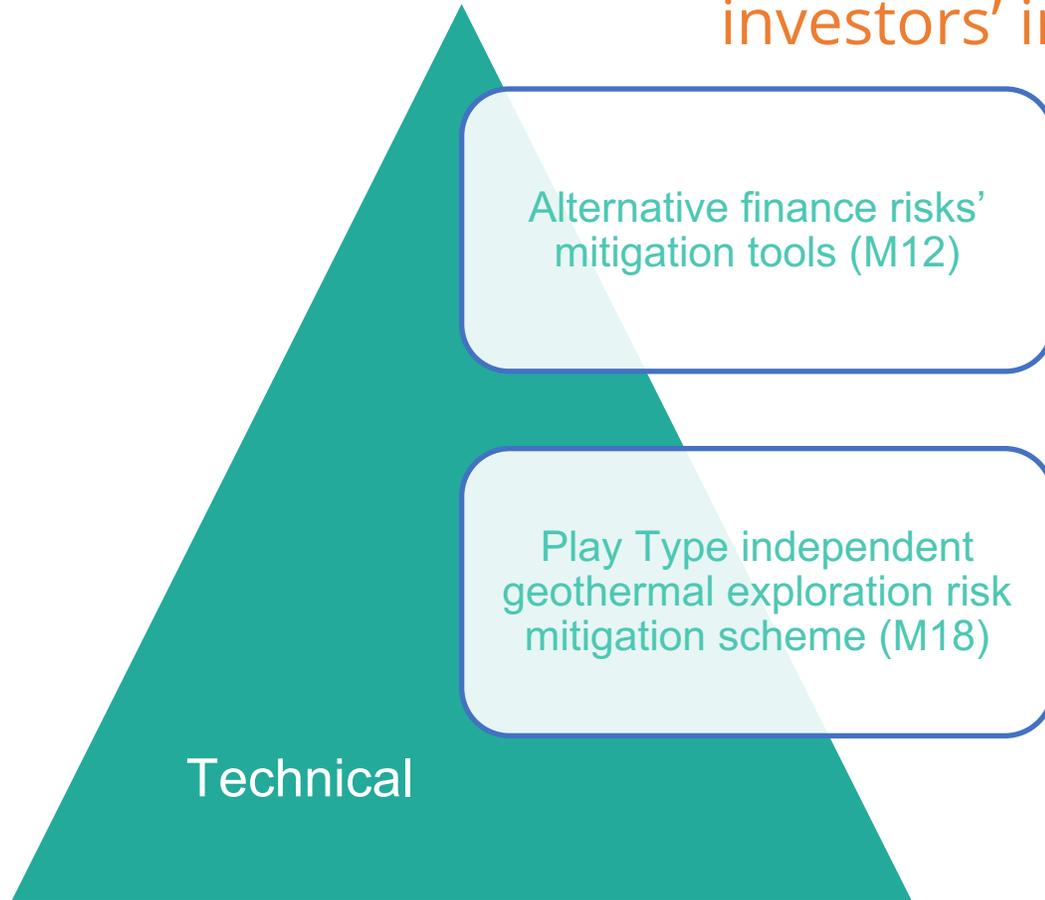
Objectives

2. Formulate new financial models for crowdsourcing on a national and trans-national basis, covering individual member states and Europe as a whole



Objectives

Develop recommendations for a novel risk mitigation scheme that will be complementing the alternative financing solutions while also protecting private investors' interest



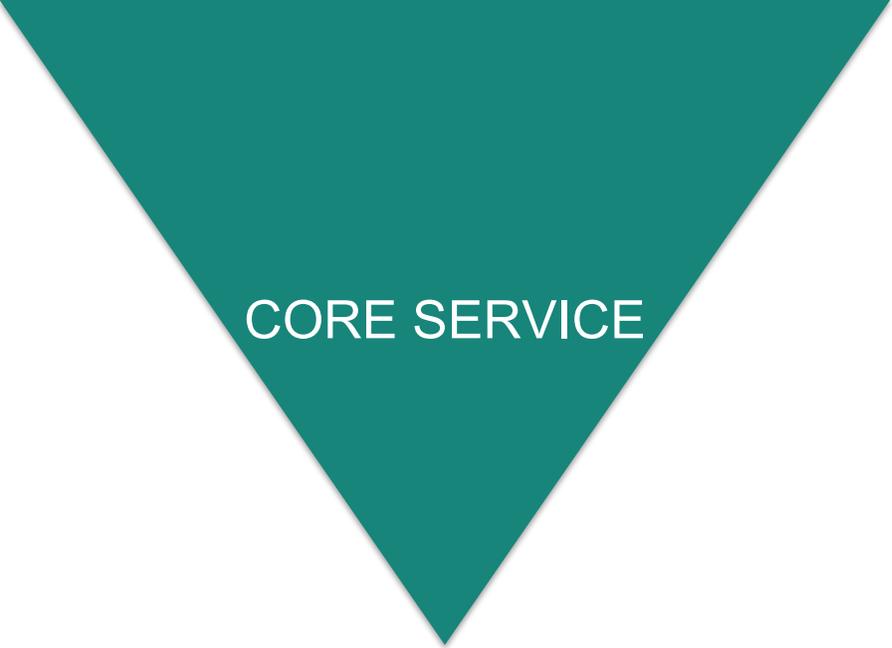
Key results on new finance schemes for geothermal energy

1. Alternative finance and especially community funding can successfully be used for different geothermal project and technology types as well as various investment sizes and can increase the involvement of the community in Geothermal projects.
2. Successful community funding needs to match the actual technical and financial characteristics of an individual geothermal project with the community investors' risk appetite and motivation for involvement.
3. The community finance method most suited for a certain project depends on a number of factors, which means it is a case to case evaluation which one should be chosen.
4. Regulation and government instruments can have a large influence on the usability and success of community finance instruments. Different countries could learn from each other to increase this success.
5. When applying community funding for deep geothermal projects, the resource/exploration risk needs to be mitigated by appropriate mechanisms. A risk mitigation instrument could improve this success significantly.



Objectives

Develop core services for social-media based promotion and alternative financing of geothermal projects, working closely with existing structures and conventional players.



CORE SERVICE

CORE SERVICE to:

- Communities
- Project developers
- Local authorities

Main results

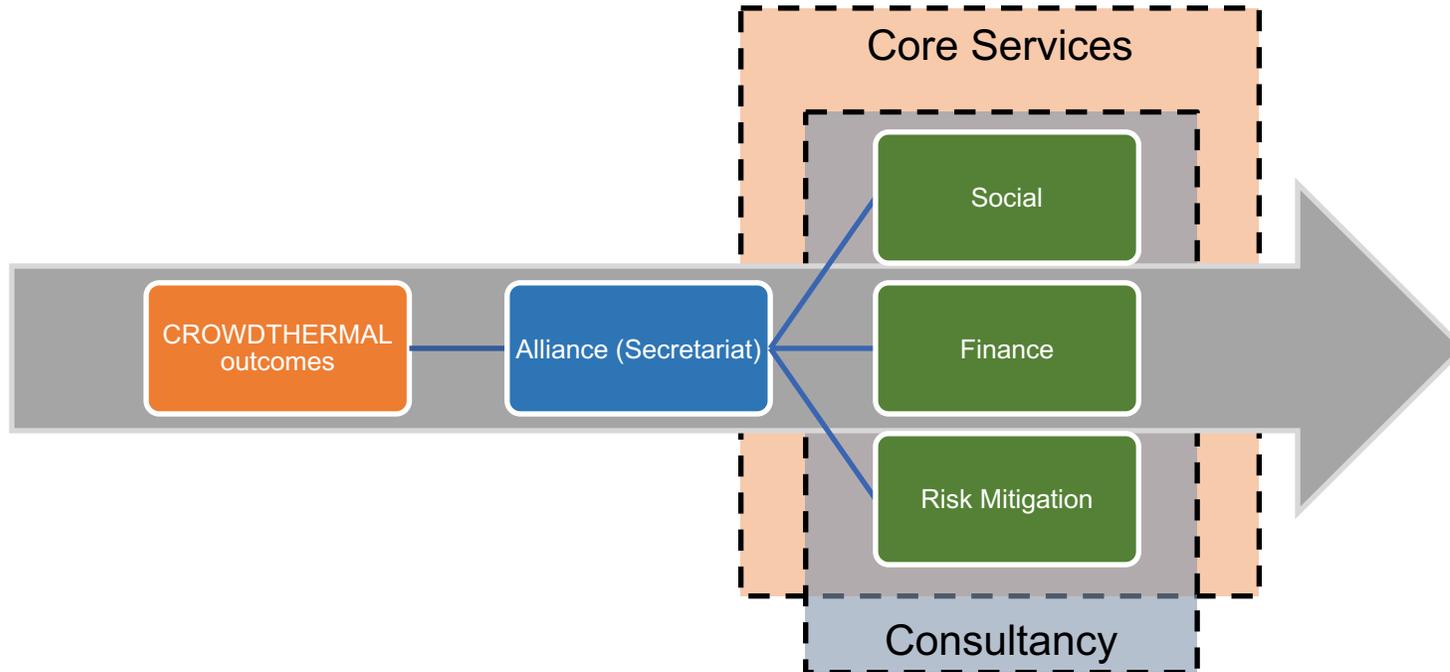
Core Services



Goals for the future

- The test-labs in the three case studies refine this analysis by introducing diversity of geographical locations, cultural dynamics and technical characteristics of geo-thermal solutions/installations.
- As project limitation, due to limited case studies, we have not explicitly differentiated between deep or shallow geothermal sources.
- More studies are needed to better compare their social implications and perception, and formulate more detailed SLO & social engagement strategies for shallow and deep geothermal project.

Goals for the future : CROWDTHERMAL Alliance concept



CROWDTHERMAL Core services: marketing instrument

Clients: Project developers
Local authorities
Communities

Services: Secretariat (coordinator)
Financial expertise
Social expertise
Geothermal expertise

Thank you for your attention!

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