

GEOENVI

GEOENVI VINNUSTOFA

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OS 30.9.2020

This workshop has the aim to:

- 1) Inform the participants about the project and strengthen their engagement in the process
- 2) To inform and investigate the interest in using the GEOENVI LCA tools

The target actors of the workshop are geothermal stakeholders and the LCA community.

After the workshop 2-3 interested parties will be asked to join a half-day training seminar and be committed in adopting the LCA guidelines and the protocol to generate the simplified LCA models and use such models made by GEOENVI partners on GEOENVI case studies on their own project/s

These participants will be asked to give feedback on the LCA tools in order of improvement.

○ Where the project comes from...

1. The advantages of using geothermal for power production and H&C are not widely known. Recently, deep geothermal energy production in some regions is confronted with a negative perception, and a special attention from some decision-makers, in terms of environmental performance, which could seriously hamper its market uptake.

2. Media reports focus more on disadvantages than advantages. As a result, decision makers and potential investors have concerns about possible environmental impacts and risks involved in implementing geothermal projects, and social resistance often results in practical obstacles - such as significant slowdowns - to the deployment of the deep geothermal resources.

○ Where the project comes from...

In November 2018, the **European Parliament**, adopted in plenary session the recast of the **directive on renewable energy sources**, with the following recital:

“(45) Geothermal energy is an important local renewable energy source which usually has considerably lower emissions than fossil fuels and certain types of geothermal plants produce near-zero emission.

However, depending on the geological characteristics of an area, geothermal energy production may release greenhouse gases and other substances from underground fluids and other subsoil geological formations, which are harmful for health and the environment.

Therefore, the European Commission should only facilitate the deployment of geothermal energy with low environmental impact and resulting in greenhouse gas saving compared to conventional sources”

○ Where the project comes from...

SET Plan - Declaration on Strategic Targets in the context of an Initiative for Global Leadership in Deep Geothermal Energy

Non-technical barriers/Enablers:

- A. Increasing awareness of local communities and involvement of stakeholders in sustainable geothermal solutions.
- B. Risk mitigation (financial/project)

Relation to the work programme



The work programme 2018-2020 part 10 on “Secure, clean and efficient energy” is aiming at “Accelerating Clean Energy Innovation” by notably making Europe the world leader in renewables. One crucial aspect for the future energy system is the extensive use of renewable such as deep geothermal technologies.

GEOENVI fully addresses the specific challenge and three scopes of the H2020-LC-SC3-RES-28-2018 topic “Market uptake support”.

The GEOENVI project answers three important market-uptake challenges :

- Recommendation for harmonization of regulations, life cycle assessment approaches, environmental impact methodologies of renewable energy solutions;
- Development of tools (methods and models) for environmental impact assessments of renewable energy projects;
- Development of tools or services using global earth observation data, (such as those available through COPERNICUS), to support development and deployment of renewable energy sources;

Consortium



Participant No*	Participant organisation name	Country
1 (Coordinator)	EGEC	BELGIUM
2	RETE GEOTERMICA	ITALY
3	ENEL GP	ITALY
4	COSVIG	ITALY
5	CSGI (Italian consortium of research group)	ITALY
6	CNR-IGG	ITALY
7	BRGM	FRANCE
8	ES-géothermie	FRANCE
9	Paris Minetech	FRANCE
10	MBFSZ	HUNGARY
11	ISOR	ICELAND
12	GEORG	ICELAND
13	Orkustofnun - OS	ICELAND
14	VITO	BELGIUM
15	JESDER	TURKEY
16	Dokuz Eylul Univ	TURKEY

○ Key actors

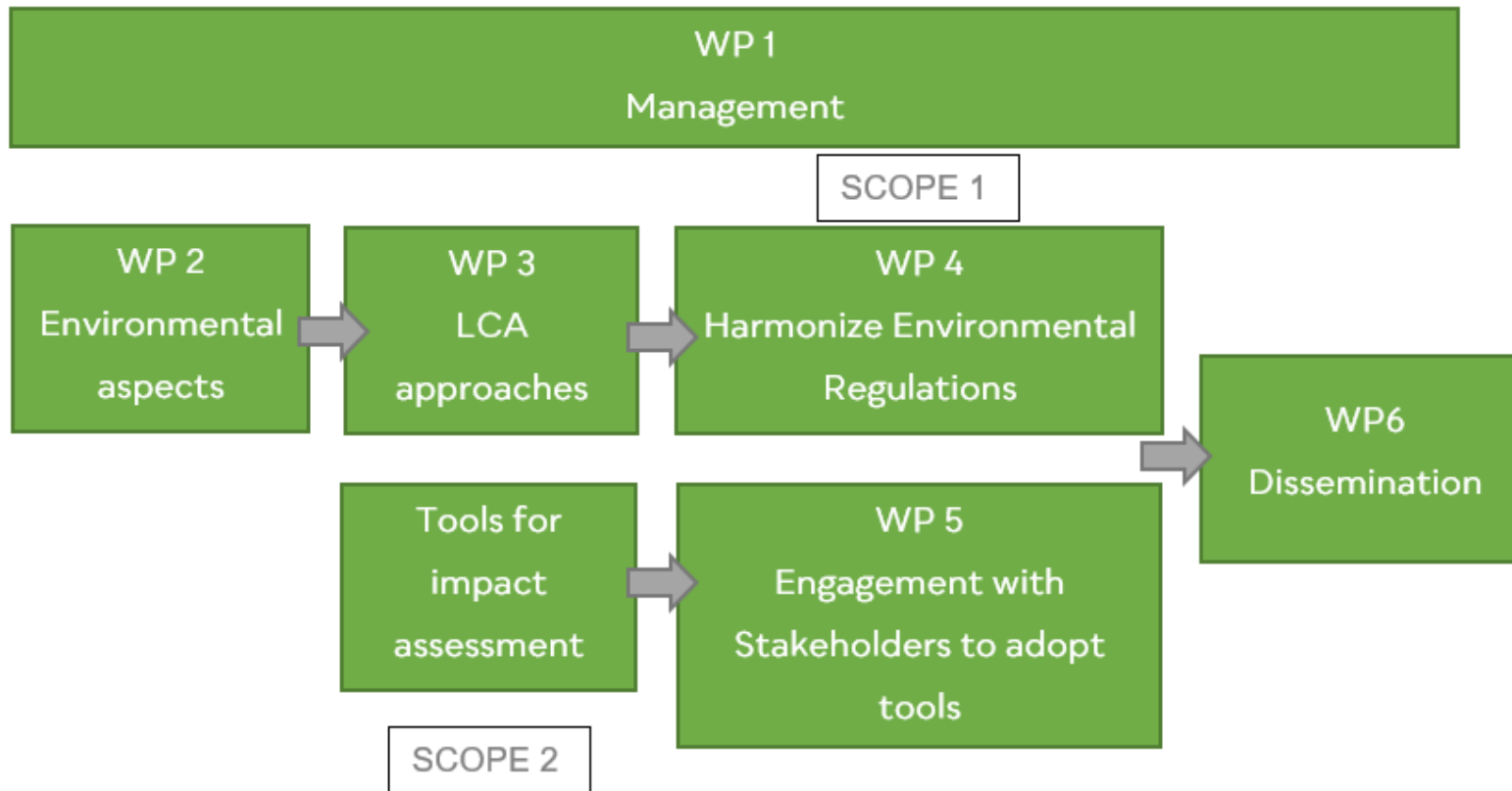
- Public environmental institutions and regulatory authorities > implement and/or make the environmental regulations: they will exchange on best practices, tend to adopt the GEOENVI recommendations and methodologies, and envisage the harmonisation of their environmental regulations
- Industry & project developers > develop geothermal projects: they will be consulted on environmental impact and LCA, and be asked to implement methodologies and tools. GEOENVI aims especially at representing a variety of power and DH project developers in Europe. These geothermal project developers and operators (more than 70 companies) are represented directly and indirectly by geothermal associations in GEOENVI
- Scientific experts > guarantee sustainability: they will support drafting of environmental regulations for the legislators and design methodologies and tools on environmental impact and LCA for industry.

○ Target areas

GEOENVI is then targeting six countries in a first phase: **Iceland, France, Belgium, Italy, Hungary and Turkey**. During the project result dissemination phase, the objective is to cover the rest of Europe.



○ Work Packages





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Dagskrá: 09:30-09:50 Kynning á GEOENVI verkefninu- *Dr. Guðni A. Jóhannesson (Orkumálastjóri)*

09:50-10:10 LCA harmonized guidelines based on LCA and non LCA impact indicators- *Hafþór Ægir Sigurjónsson*

10:10-10:30 Examples of guidelines implementations: first preliminary results of environmental assessments on GEOENVI case studies- *Sylvía Rakel Guðjónsdóttir*

10:30-10:50 Kaffipása

10:50-11:10 Simplified models for LCA for geothermal, for non LCA experts- *Hafþór Ægir Sigurjónsson*

11:10-11:30 Next steps: commitment of selected stakeholder in adopting guidelines and the protocol-*Sylvía Rakel Guðjónsdóttir*

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