GEOENVI: Tackling the environmental concerns for deploying geothermal energy in Europe

The advantages of using geothermal for power production and H&C are not widely known. Recently, 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. 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.

This is among the reasons why environmental impact assessment is always a prerequisite to the authorization of geothermal plant. However, this sometimes results in biased perspective as the assessment is performed according to different methods and usually only considers partial life cycle stages. Thus the results are not comparable to other renewable energy sources. When there are several energy production options to produce energy in the area (with and without renewable energy), it is not always possible to objectively compare their environmental impacts and distinguish the one option that serves the best. The same challenge is also faced when policy makers need to frame a subsidy, incentive, or labelling strategies.

These challenges can be tackled with the concept of Life Cycle Assessment (LCA). GEOENVI aims at engaging with both decision-makers and geothermal market actors, to adopt recommendations on regulations and to see the LCA methodology implemented by geothermal stakeholders.

It aims at creating a robust strategy to answer environmental concerns (by environmental concerns we mean both environmental impacts and risks):

- by setting an adapted methodology for assessing environment impacts to the project developers,
- by assessing the environmental impacts and risks of geothermal projects operational or in development in Europe
- by proposing recommendations on environmental regulations to the decision-makers and finally
- by communicating properly on environmental concerns with the general public.

On behalf of the GEOENVI project consortium,

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