

The current legal framework for the use of shallow geothermal energy in district heating and cooling grids: comparison between EU Countries

Jessica Maria Chicco¹, Giuseppe Mandrone¹, Rao Martand Singh², Gregor Goetzl³, Martin Bloemendal^{4,5}, Jakob Kulich³

¹ Interuniversity Department of Regional, Urban Studies, and Planning, University of Turin (jessica.chicco@unito.it; giuseppe.mandrone@unito.it)

² Department of Civil & Environmental Norwegian University of Science & Technology (rao.m.singh@ntnu.no)

³ Geological Survey of Austria (gregor.goetzl@geologie.ac.at, jakob.kulich@geologie.ac.at)

⁴ Department of water management, Delft university of Technology (j.m.bloemendal@tudelft.nl)

⁵ KWR Water Research Institute

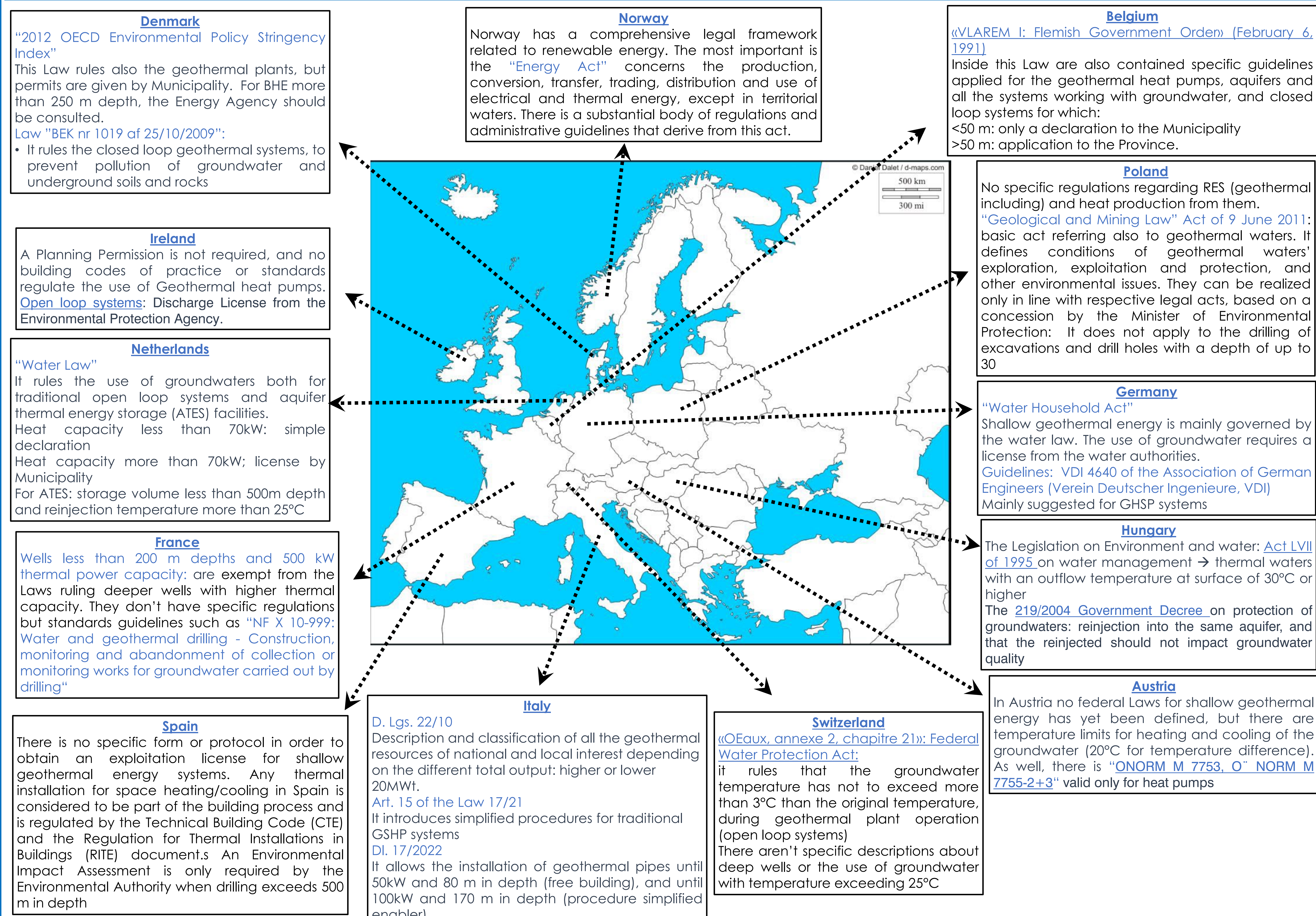
1. Introduction

Europe is aiming the decarbonization of the energy sector through some specific policies such as the «Clean Energy for all European» and the «European Green Deal». Direct delivery of heating/cooling to consumers via district heating and cooling (DHC) grids, is seen as an important option to allow the decarbonization of heating/cooling systems (Chicco et al., 2022). It is expected to gain acceptance and market uptake as it will provide a solution to partially replace the use of fossil fuels and to reduce the costs of heating and cooling. As reported by IRENA (2022), the energy transition has become even more urgent in the last months, due to the continuous volatility of the energy prices. Recent events have testified that high fossil fuel prices, in the absence of alternatives, result in energy poverty. Thus, the important work of policy makers in this field plays an important role and can be also linked to funding R&D and demonstrations, in order to prove the system benefits as well as to promote media campaigns encouraging consumer uptakes. Currently, a huge diversity exists on the regulatory framework amongst European countries, and this acts as a big barrier for the development of the ground source heat pumps (GSHP) market in DHC networks; It needs of a common approach at European level (Tsagarakis et al., 2020). Therefore, the legal framework has to serve the following main purposes:

- protection of underground drinking water resources;
- regulating competing uses and securing sustainable use of geothermal energy;
- improving the administration and permitting procedures;
- overhauling the plans, policies, fiscal regimes and energy sector structures that impede progress.

2. The current legal framework across Europe: comparison between some European Countries

Most of the current European Laws regulating the use of geothermal energy, refer to two specific categories consisting on “water”(shallow geothermal), “mining” (deep). Here below, a focus on shallow geothermal resources is presented.



3. Conclusions

Governmental policies to support geothermal development are focusing so far on power generation only, not on the thermal energy production. Serious efforts are needed to harmonize legislation and to simplify procedures as well as to establish and implement strong policies to boost geothermal heating and cooling.

4. References

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