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Geology, the regulated discipline in Europe – a historical review and a vision

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The duties of geologists, and geological aspects are embedded into numerous sector-specific legislation of the European Union from the beginning. The founding treaties of its legal predecessors, the European Coal and Steel Community and Euratom, provide rules related to the extractive industry (stocking, state aid, technical safety). In the last decade of the twentieth century environmental concerns, water and waste management regulatory fields entered the Community's legislative domain. Most of these regulations and directives addressed geological issues according to Hámor [1] (e.g. Hydrocarbons Directive, Landfill Directive, Water Framework Directive). A series of mining accidents at the turn of the century changed this scene by extending the scope of environmental directives to the extractive industry (e.g. Seveso Directive, Mine Waste Directive, INSPIRE, REACH). The Community energy and climate policy, and the terror threat generated new tasks for geoscientists in the Renewables Directive, CCS Directive, and Critical Infrastructures Directive, respectively. The Flooding Directive, Groundwater Directive, Professional Qualifications Directive, the Offshore Safety Directive were also relevant pieces in this line.

The EU raw material policy was formulated in 2008 with implementing measures but it has not been manifested into legislation. However, it brought the attention to transformation of 2D land use planning into 3D spatial planning because present practices do not favour safeguarding access to mineral resources. The licensing of other innovative technologies, such as hydraulic fracturing, underground coal gasification, and CCS also faces difficulties due to legal gaps and collisions according to Hámor-Vidó [2], [3].

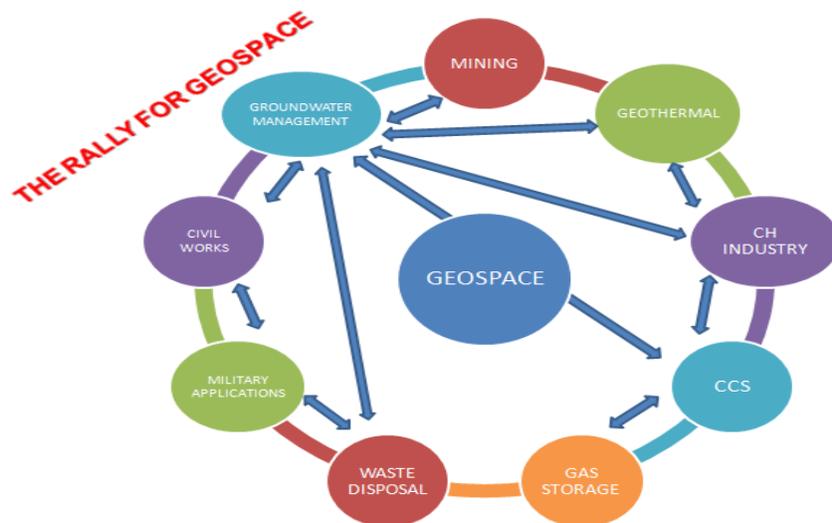


Figure: Utilization activities competing for the underground space, and potential conflict relations

It is predicted that in near future an increasing number of above conflicts during permitting will lead to legal disputes at courts of justice because traditional mining acts and 2D land use planning do not provide appropriate legal ground for jurisdiction. Instead, there will be a need for integrated underground space law and/or 3D spatial planning acts in order that the harmonised and sustainable utilization of this ultimate and finite natural resource and environmental compartment is ensured.

References:

- [1] Hámor T (2004) Environmental Management 33: 252-261
- [2] Hámor-Vidó M (2011) Geophysical Transactions 45(4): 207-215
- [3] Hámor-Vidó M and Püspöki Z (2012) Abstracts of 34th IGC 2683: 188

