

Summary of professional activities executed by Duco Drenth in the area of Geothermal Energy

Duco Drenth graduated from both the faculty of Mining and Petroleum Engineering at Delft University of Technology (section 'Production Geology') and from the faculty of Law at Leiden University (section 'Administrative Law'). He is a qualified European Engineer (Eur. Eng, FEANI, Paris) and Chartered Engineer (CEng, MIMM, Engineering Council, London).

In total, Duco has 25+ years of working experience in the areas of law and technology to companies and public entities, in particular on business development, strategy, permitting, contracting, due diligence, assurance, risk management, regulatory affairs, compliance, Environment, Health and Safety, subsidy-trajectories, and (general) project management and support. Mostly within the energy sector (e.g. Oil&Gas, Electricity, CCS, Sustainable, CO₂/ETS, Unconventional gas, Geothermal).

Projects/ assignments executed in the area of **Geothermal Energy** include, a.o.:

- Coordination of geothermal exploration permit applications in The Netherlands, for municipalities, green-house owners and industrial parties.
- Provision of advice in the area of 'HSE'/ Health, Safety & Environment and Compliance to geothermal projects.
- Technical advisor to the Province of Utrecht regarding the feasibility and application of geothermal energy.
- Geo-technical advisor for a feasibility study for a geothermal project in China (incl. seismic).
- Coordination of a permit application for a 'Heat and Cold' underground Storage ('WKO'/ 'Warmte Koude Opslag')-installation/ project.
- Initiation, setting-up and implementation a 4-year sponsorplan to assign a part-time professor 'Geothermal Engineering' at the Delft University of Technology.
- Development of a course on '*Legislation for geothermal projects*' for DAGO, the '*Dutch Association of Geothermal Operators*'.
- Co-author of Industry Guidelines on '*Asset Integrity*' (NOGEPa 2013/2014) and on '*Well Clean-out*' and '*ESP-inspection & Change-out*' for geothermal wells (DAGO, 2016) and provision of an industry advise on well abandonment costs for geothermal wells (DAGO, 2016).
- Participation in geothermal excursions to Iceland and Italy.
- Drafting of a (onshore) Safety Case for a foreign geothermal drilling rig, suited to the Dutch Labour Act and IADC-specifications.
- Misc. HSE/ Health, Safety and Environment related risk assessments (Oil and Gas/ Industrial related).
- Chairman of a study for an 'UDG Risk Register' (on behalf by EBN), and co-author of resulting report (<https://scanaardwarmte.nl/results/udg-hazard-register-generieke-inventarisatie-van-mogelijke-dreigingen-bij-udg-boringen/>).
- Technical Expert for the '*Informatie en Consultatie Orgaan Aardwarmte*' ('ICO Aardwarmte') as facilitated by the Utrecht University Sustainability Institute - to inform, consult, advice and share objective knowledge on the potential application of Geothermal Energy in the Province of Utrecht.

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