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## 1 PostDoc position at University College Cork in LEG-DHC EU Project



**Project title:** ‘LEG-DHC’ - Large-scale climate neutral Energy Geostructures in District Heating & Cooling systems/networks

### **Project description:**

In the light of low-carbon sustainable city, underground structure, such as retaining wall, pile, tunnel etc., can be equipped with ground heat exchangers to harness thermal energy stored by the ground for heating and/or cooling buildings, leading to a friendly technology namely Energy Geostructures (EGS). Previous investigations over the decades have significantly advanced the technological readiness level (TRL) of some EGS (thermo-active piles) to a higher 4+ level with a number of pilot sites. Despite this well-known interest, there still remains some technical barriers on the route of the implementation and integration of EGS at a large scale as the below:

- The lack of visibility on positive thermal and mechanical feedback for the stakeholders
- The integration of EGS into a district heating system at the regional scale
- The collaborative operation and management of geothermal energy, solar and other local energy sources for a climate neutral regional community

To breakdown the aforementioned barriers, this project will aim to:

- Show the global feasibility in terms of thermal efficiency and mechanical impact on existing complex infrastructure. In particular, the energy production, carbon reduction and other existing data will be analysed to demonstrate the environmental protection over previous efforts.
- Provide a structured, easily accessible and clear database presenting feedback on thermomechanical behaviour, energy performance, overall efficiency, durability, etc.

### **Position Description:**

The Consortium includes 15 partners, with a balanced participation of Universities and public institutions (8 partners) and private companies (7 partners).

University College Cork, Ireland (1 Postdoc) Salary: €42,031 – €48,427 per annum

Geothermal distribution: integrating existing large-scale underground infrastructure into geothermal distribution aiming to significantly reduce construction costs and improve management efficiency

1 Postdoc position starts from Feb 2024 (or soon thereafter) to Feb 2026 (24 month)

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**Candidate Experience:** The candidate should have a PhD degree in Civil / Geotechnical / Geological / Energy Engineering. Experience in deep / shallow geothermal energy, district heating, energy management would be an advantage.