



LEGISLATION AND REGULATION ANALYSIS COUNTRY BROCHURES

IRELAND

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This brochure presents the legislative and regulatory conditions applicable in Ireland for the real and virtual case study sites of the CHEAP-GSHPs project. It includes the real case study site at University College Dublin as well as the virtual case studies at Ballyroan Library in South Dublin and a residential house in Glencree Co. Wicklow.

GEOTHERMAL LEGISLATION

Geothermal Energy in Ireland is currently not defined in any specific legislation or statutory instrument.

LOCAL LEGISLATION

No legislation is applicable. Local authorities in the different counties implement the necessary regulations.

LICENSING & PERMITTING PROCEDURES

LICENSING AND PLANNING APPLICATION

There is currently no licensing and permitting procedure in place for closed loop ground source systems. Licensing is only applicable in the case of open loop systems under the implementation of Article 11(3)(e) of the Water Framework Directive (2000/60/EC). Discharge licenses are required in the case of open loop systems that discharge to surface or groundwaters. Typically for discharge to surface waters, temperature (but also pH and conductivity) standards are included in the regulations limiting the increase in water temperature below a discharge point to less than 1.5°C above the ambient water temperature for rivers, lakes, transitional and coastal waters. These apply to both abstraction, discharge and large scale use of heat pumps, using either ground source or surface water as the heat source.

DRILLING PERMITS

There are no drilling permit requirements in Ireland for completing GSHP boreholes.

EIA REQUIREMENTS

EIA and EIS requirements are limited to large scale open loop systems, with no requirements currently applicable for large scale closed loop projects.

MONITORING REQUIREMENTS

Monitoring requirements are applicable for large scale open loop projects. The main requirements are project specific, but the volumes of water abstracted, reinjected and the applicable temperatures are the main considerations.

GSHP SYSTEM REGULATIONS

There are no specific regulations relating to GSHP systems at the time of writing. Early consultation for the Geothermal Energy Development Bill conducted by the former Department of Communications Energy and Natural Resources suggested a depth of 400m above which systems would be considered as shallow.

ENVIRONMENTAL

A regulatory framework is implemented by the former Department of the Environment and Local Government for groundwater abstractions on a risk based licensing framework. Within this context, the proposed technical thresholds that apply to lower-risk abstraction scenarios for open loop schemes range between 10-1,000 m³/day, would require reduced levels of technical assessment and reporting than higher risk cases.

BUILDINGS

Part L of the Second Schedule to the Building Regulations 1997 (S.I. No. 497 of 1997) as amended by the Building Regulations (Part L Amendment) Regulations 2011 (S.I. No. 259 of 2011) apply. The overall objective of the regulations, is to achieve an increase of 60% efficiency in buildings by 2012 and decrease CO₂ emissions.

A contribution of 10 kWh/m²/annum for energy use for domestic hot water heating, space heating or cooling for new dwellings is required to be met by renewable technology including GSHP. Specifically in the case of heat pumps the regulations state that: 'electrically powered heat pumps, only energy in excess of 2.5 times the electrical energy directly consumed by the heat pump can be counted towards meeting the minimum level of energy provision from renewable technology'.

The regulations also state that 'the use of centralised renewable energy sources contributing to a heat distribution system serving all dwelling units in a development or part of a development, e.g. an apartment block, may prove to be more practicable than providing separate renewable energy for each dwelling individually'. No provision for specific regulations for existing dwellings are stated, but the implementation of control measures for reducing space heating and hot water consumption should be implemented. Less detail is provided in the technical guideline documentation for buildings other than dwellings.

No mandatory regulations for the integration of heating and cooling plant equipment including GSHP are in place other than the regulations provided above. Non-technical guidelines on the Energy Efficiency in traditional buildings from the former Department of Environment Heritage and Local Government along with the Conservation guidelines from the Royal Institute of Architects of Ireland and other published national standards are available.

HEATING & COOLING PLANTS

A number of regulatory instruments are applicable to heat pump technology in Ireland. The most relevant ones include the Part L of the Building regulations that set out the contributions for renewable technologies including of heat pumps and the transposition of the energy efficiency directive (S.I. No. 426 of 2014), the FGAS regulations and I.S. EN standards 14511 Parts 1 to 4 of 2004.

POLICY CONTEXT

A target contribution of renewable heat from heat pumps of 84 ktoe by 2020 has been set in the NREAP for Ireland with no specific targets relating to geothermal heat pumps. The recently published progress report in 2015 showed that the expected target for 2014 of 44 ktoe was not achieved with a total contribution of 38 ktoe reported. No specific targets beyond 2020 have been set.

STANDARDS & GUIDELINES

Equipment utilised as part of a GHSP installation is expected to be included in the SEAI Triple E register. This is mainly applicable to thermal installations and GSHPs. All GSHPs are required to comply with I.S. EN 14511-1: 2004 Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling Parts 1 to 4. Draft technical guidelines with respect to installation of GSHP systems and collectors are being developed by the Geological Survey of Ireland and the Geothermal Association of Ireland. UKGSHPA guidelines for vertical closed loop systems, IGI Water Well drilling guidelines, EPA Drinking Water Advice Note - Advice Note No. 14 on Borehole Construction and Wellhead Protection for borehole construction and the standard on the Geotechnical investigation and testing - Geothermal testing - Determination of thermal conductivity of soil and rock using a borehole heat exchanger (ISO 17628:2015) are applicable.

Additional guidelines include the GSI Home Owners guide to ground source heat pumps, SEAI Best Practice Guidance on Heat Pump Technology and Environmental Protection Agency Guide for Complying With Regulations Controlling Fluorinated Greenhouse Gases And Ozone Depleting Substances – a Guidance note for Contractors in the Refrigeration, Air-conditioning and Heat Pump Sector.

TRAINING & CERTIFICATION

No training and certification schemes are applicable for the design and GHE installation elements of GSHP systems. Training and certification for installers is operated by individual manufacturer representatives, as well as a non-mandatory national training scheme provided under FAS and be included as part of the SEAI Renewable Energy Installers Register.

OTHER INFORMATION

Information on the shallow geothermal potential and the possibility of collector deployment in different areas of Ireland have been mapped by the Geological Survey of Ireland as a screening tool for installing ground source systems. Additional information on ground source heat pump technology and its benefits are provided by the Geothermal Association of Ireland.

At the time of completing this assessment, there are no specific financial supports linked to the deployment of GSHP systems other than a small contribution from the Sustainable Energy Authority of Ireland Better Energy Homes scheme grant of €600 towards the improvement of building controls when a heat pump is installed in a residential building.