

**SUBMISSION BY**  
**South Dublin Chamber**  
*to*  
**Geothermal Consultation, Exploration & Mining Division**  
*on*  
**Geothermal Energy in Ireland**

**Q1** *Which of the following basis would most appropriate differentiate between the various categories of geothermal energy resources in Ireland*

**A1** Depth

**Q2** *What are the most likely types and scale of any commercial exploitation of such resources that you consider are reasonably possible in Ireland? Please outline your reasoning.*

**A2** We believe there is potential for deep geothermal heat energy and that there is the potential for deep heat geothermal to be located throughout Ireland.

**Q3** *What are the current barriers to the development of geothermal energy resources?*

**A3** The main barriers to the development of geothermal energy resources are a combination of the following four factors:

1. Lack of geological knowledge
2. Security for investors
3. Incentives for research/development
4. Lack of regulation

**Q4** *How can barriers be overcome?*

**A4** The key to addressing barriers is the introduction of an effective licensing system. This could be based on the current mining system.

**Q5** *How adequate do you consider the current geothermal knowledge base to be?*

**A5** I consider there are weaknesses in our geographical knowledge pertaining to geographical knowledge. In particular, knowledge of deep geothermal geology is quite limited.

**Q6** *What needs to be done to strengthen the knowledge base? By Whom?*

**A6** The private sector could be incentivised to engage in research development. This, coupled with a close working relationship with third level educational institutes, would create a very positive dynamic in furthering our knowledge.

**Q7** *Which of the following legislative regimes would provide the most suitable form of regulation for the exploration for and development of geothermal energy?*

**A7** A mixture would be necessary to provide the most suitable form of regulation.

**Q8** *What permitting regime is required for exploration for geothermal resources?*

**A8** A regime similar to the current mineral licensing system.

**Q9** *What permitting regime is required for the development of geothermal resources?*

**A9** A regime similar to the current mineral licensing system.

**Q10** **How could a permitting regime provide security to private investors seeking to develop geothermal energy? For example should ‘Zones of Influence’ be considered?**

**A10** A permitting regime could provide security to private investors seeking to develop geothermal energy by providing security of tenure in a very speculative sector in specific areas throughout Ireland. In addition this regime would allow for clearly defined geographical areas and as a result would eliminate third party conflict and would prevent the positioning of geothermal plants too close together.

**Q11** *What ancillary rights are required in order to provide for the orderly development of geothermal resources?*

**A11** Ancillary rights required in order to provide for the orderly development of geothermal resources include the following:

1. The right to develop a commercial production plant or plants and energy centre exclusively in the given exploration licence area.
2. The right to exemption from planning permission for exploratory works pursuant to Class 45 of the Planning & Development Regulations 2001.
3. The right to explore exclusively in an exploration licence area for a given period of time.
4. The right to drill and explore under third party land pursuant to public notice.
5. Recognition that energy plants will need to be constructed in built-up urban areas.
6. Support in planning and roll-out of heat deployment and district heating infrastructure.

**Q12** *Is there a need to protect existing (and future) groundwater abstractions from interference by geothermal resource developments? If so, how could this be achieved?*

**A12** There is a need to protect existing (and future) groundwater abstractions from interference by geothermal resource developments. This can be done by the Department appointing a body of experts to establish a detailed code of ethics, a best practice model and guidelines to be employed by geothermal energy exploration companies including

- that potable ground water aquifers should never be interfered with and should be protected at all times.
- that any fluids from deep aquifers must be re-injected to maintain pressure balance and to ensure a continuous future supply of geothermal energy.
- by following EPA guidelines on the non-contamination of ground water.

**Q13 *How might geothermal developments impact on groundwater-dependent surface water/ ecosystems?***

**A13** During production there should be no impact on groundwater-dependent surface water / ecosystems. During construction there is potential for geothermal developments to impact on groundwater-dependent surface water / ecosystems. Through the adoption of the current EPA guidelines and in addition, by implementing a best practice model and guidelines such as the “Guidelines for Good Environmental Practice in Mineral Exploration”, deep geothermal water should not interfere with surface or shallow groundwater ecosystems. High priority should be placed on the establishment of the best practice model, guidelines and the code of ethics.

**Q14 *How can the impacts be prevented or mitigated?***

**A14** In addition to the EPA guidelines, best practice model and guidelines, and code of ethics as detailed above, an Environmental Impact Statement should be prepared during the development phase that will detail how groundwater, dependent surface water and ecosystems will be protected.

**Q15 *What are the implications for Local Authorities in the development of geothermal resources?***

**A15** Geothermal Energy is very positive for local authorities in addressing a key social/community/business issue, namely energy. The local authority should:

1. Give special consideration to geothermal projects as a form of renewable energy;
2. Promote the benefits of geothermal energy in the local community as per Local Authority’s strategy to promote alternative renewable energy sources;
3. Take into consideration the availability of geothermal resources in the preparation of future development plans in their area.

The implications for Local Authorities in the development of geothermal resources should be minimal if the following procedures are followed:

1. Incorporated in the production licence issued by the Minister is the permission to drill production boreholes at the location previously explored; and
2. The Local Authorities to give permission for the construction of any surface works for the processing and deployment of geothermal energy.

**Q16** *Which of the following do you consider would be the most appropriate regulatory agency for geothermal energy?*

**A16** Department of Communications, Energy and Natural Resources

**Q17** *Are there any other comments you wish to make?*

**A17** The establishment of an exploration and production licensing regime in Ireland should be recognised as a high priority by the Government as it will assist Ireland in achieving a reduction in greenhouse gas emissions under the Kyoto Protocol.

**Q18** *To which of the following categories do you belong*

**A18** Business Representative Body

**Peter Byrne**

**Chief Executive Officer**

**7<sup>th</sup> August, 2008**