

Geothermal Energy

Manual of Consenting Procedures



Geothermal Energy

Manual of Consenting Procedures

10 January 2024

Report prepared for SEAI by:
RPS Group
IE000527 10 January 2024



Disclaimer

The information contained in this report is for general information purposes only, and should not be construed as legal and/or professional advice on any matter and may not address the specific circumstances of a particular individual or organisation and is provided on an “as is” and “as available” basis” and without warranties express or implied.

While every effort has been made to ensure the accuracy of the contents of this report, SEAI accepts no responsibility or liability whatsoever to any party for any loss or damage claimed to arise from any interpretation or use of the information contained in this report, or reliance on, or action taken by any person or organisation, wherever they are based, as a result, direct or otherwise, of, information contained in, or accessed through, this report, whether such information is provided by SEAI or by a third party. Delivery of this report does not establish a client relationship between SEAI and the recipient of the report. The recipient uses this report strictly at its own risk and SEAI takes no responsibility for its contents and disclaims any responsibility to update the report.

Public disclosure authorised. This report may be reproduced in full or, if content is extracted, then it should be fully credited to SEAI and this disclaimer should be published on any such extracted content.

Sustainable Energy Authority of Ireland

SEAI is Ireland’s national energy authority investing in, and delivering, appropriate, effective and sustainable solutions to help Ireland’s transition to a clean energy future. We work with the public, businesses, communities and the Government to achieve this, through expertise, funding, educational programmes, policy advice, research and the development of new technologies.

SEAI is funded by the Government of Ireland through the Department of the Environment, Climate and Communications.

© Sustainable Energy Authority of Ireland

Table of Contents

1	Introduction	5
1.1	Purpose of Manual	5
1.2	An Introduction to Geothermal Energy	5
2	Design and Construction Stage	6
2.1	Feasibility and Design Phase	6
2.1.1	Enabling Tasks	6
2.1.2	Design	7
2.2	Planning Phase	7
2.2.1	Households and Self-Consumption Projects	7
2.2.2	Commercial and Large-Scale Projects	7
2.3	Pre-Construction	7
2.3.1	Pre-Construction Licencing	7
2.3.1.1	Road Opening / Closing Licence	7
2.3.1.2	Licence (Items on Public Roads)	8
2.3.1.3	Licence for the Construction, Replacement or Alteration of Bridges and Culverts	8
2.3.1.4	Fire Safety Certificate	9
2.3.1.5	Disability Access Certificate	9
2.3.1.6	Certificate of Registration	10
2.3.1.7	Waste Disposal Licence/Permit	10
2.3.1.8	Derogation Licence	10
2.3.1.9	Tree Felling Licence(s)	11
2.3.1.10	Licence To Interfere with or Destroy the Breeding Places of Any Wild Animals	12
2.3.1.11	Water Abstraction Registration	12
2.3.2	Commencement Notice / 7-Day Notice	13
2.4	Construction	14
2.4.1	Planning Permission Conditions	14
2.4.2	Commissioning	14
3	Operating and Maintenance Stage	16
3.1	Licences	16
3.1.1	Derogation Licence	16
3.1.3	Tree Felling Licence(s)	16
3.1.3	Licence To Interfere with or Destroy the Breeding Places of Any Wild Animals	16
3.1.4	Water Abstraction Licence	16
4	Project End Stage	17

4.1	Decommissioning.....	17
4.1.1	Planning.....	17
4.1.2	Licences.....	17
4.1.3	Other licence.....	17
4.2	Lifespan Extension	17
4.1.1	Planning.....	18
4.1.2	Licences.....	18
4.3	Re-Powering.....	18
4.3.1	Planning.....	18
4.3.2	Licences.....	18
	Back page	20

Tables

Table 1 Annex IV Species.....	10
Table 2: Breakdown of the current rates and fees for a 7-day Notice Application	14

1 Introduction

1.1 Purpose of Manual

This manual has been produced to accompany the *SEAI Single Point of Contract Renewable Energy* online tool. It provides a more detailed overview of specific technological, legislative, and regulatory information in relation to geothermal energy. This manual provides guidance and assists users in navigating which consents and licenses are required for the installation, operation, maintenance, and project end procedures of projects for geothermal energy.

At present Ireland “has no specific legislation or regulatory framework covering geothermal energy beyond the definition of “geothermal energy” as set out in the *Renewable Energy Regulations* (S.I. No. 147/2011)”.

Although the Department of the Environment, Climate, and Communications (DECC) has recently published a draft policy statement¹ for geothermal energy focusing on the potential to developing geothermal energy in Ireland, it acknowledges that the provision of a regulatory framework will not be sufficient for full development of the geothermal energy sector at present.

1.2 An Introduction to Geothermal Energy

Geothermal energy refers to energy stored in the form of heat beneath the earth’s surface. This sub surface heat is extracted and used to heat buildings, electricity generation, and businesses such as Agriculture, food production and food and beverage processing.

As we drill deeper into the earth’s crust, the temperature increases. Heat energy is created inside the earth due to radioactive elements in different rock types, some of which are from when the planet was formed 4.5 billion years ago. Geothermal energy can be harnessed by a range of different technologies depending on the nature of the resource, the intended use and the amount of heat required. Some degree of drilling boreholes is usually required to access geothermal areas of suitable temperature.

Geothermal energy is usually divided into two categories, shallow and deep geothermal energy.

I. Deep geothermal energy

Deep geothermal energy involves drilling for thousands of metres to harness high temperatures deep underground. The naturally heated groundwater or steam harnessed from deep geothermal energy is pumped to the surface where the heat is extracted. Temperatures reached from deep geothermal energy can be used to generate electricity. This is more advanced in countries located in volcanic areas where the resource is easily accessible.

In countries such as Iceland where the crust cracks at tectonic plate boundaries natural hydrothermal systems occur where the hot groundwater flows to the surface of its own accord. These are referred to as hot springs and are used as bathing, cooking, and even tourist attractions.

II. Shallow geothermal energy

Shallow geothermal energy harnesses both solar energy (hitting the earth’s surface) as well as the heat from deep within the earth. Shallow geothermal energy is extracted using a heat pump to harness the temperature difference between the surface and the ground below to provide both heating and cooling. This uses a closed loop system where a fluid is circulated in a sealed pipe beneath the ground to collect the heat - and open loop, where natural groundwater is pumped to the surface and reinjected back under the ground. Ireland has excellent potential for shallow geothermal energy reserves with 94% of the land suitable for shallow geothermal applications that can be used to provide heating at very high efficiencies. Recent advances in technology have made the use of geothermal energy possible across a wider range of geological settings.

¹ Policy Statement on Geothermal Energy for a Circular Economy (DECC) <https://www.gov.ie/en/publication/9def7-policy-statement-on-geothermal-energy-for-a-circular-economy/>

2 Design and Construction Stage

Feasibility is very important to consider before pursuing a project. During this step you will need to identify the relevant professional advisory team to support you in designing your project. Together you will need to consider the proposed site of the project, the technology you are interested in using, and the scale of your project and determine if the project you are proposing is feasible in that context. It is then important to develop a project plan that maps out all the stages needed to realise your project.

2.1 Feasibility and Design Phase

Please note that at present there are no official guidelines or legislation in place in Ireland for the development of Geothermal energy site. The following points are potential guidelines only.

Once a potentially suitable site has been identified, appropriate feasibility studies should be undertaken. You will need to identify the relevant professional advisory team to support you in conducting feasibility studies. The following items should be considered when examining the feasibility of an identified site:

- Site area;
- Potential tidal stream(s) / waves / temperature difference;
- Existing and future grid infrastructure / onshore infrastructure;
- Community acceptance and buy-in;
- Available ports for equipment transport;
- Existing and planned geothermal energy projects in the area; and
- Proximity to sites sensitive to development (SPAs, SAC, etc.).

At present there are no official guidelines, however, in future Local Authorities may also have published information on the construction of geothermal energy developments in the area, which may impact planning decisions or serve as helpful guidance. Generally, a multi-disciplined team will be best placed to guide feasibility studies, across fields such as planning, engineering, financial consultants, developers, etc. It is then important to develop a project plan that maps out all the stages needed to realise your project moving toward design.

2.1.1 Enabling Tasks

After a potential project and site passes feasibility screening, enabling tasks must be undertaken to transition toward the planning and pre-construction phases. These tasks include:

- Land lease options / Purchasing;
- Options to access the site; and
- Community engagement.

Some of these may take place in conjunction with the planning phase also. It is important to consider the need for community engagement early in the process. New renewable energy developments, especially in proximity to residential dwellings, frequently encounter concerns from residents for several reasons, including concerns about impact on visual amenity, conservation, etc. There may be valid concerns from residents that can then be addressed early in the process, which can help to avoid negative community interaction later in the process, as well as fostering community buy-in, including the community in the process before any statutory requirements. This early engagement has been shown to improve the acceptance of renewable energy developments in the surrounding area. Identifying key public stakeholders and community leaders is an important task to undertake as early as practicable.

2.1.2 Design

Following the kick-off and feasibility steps, you may look toward the design of the project. Due to the relative scale of this project type, an Environmental Impact Assessment will be required which involves conducting a range of environmental studies in order to inform the design of the project in line with relevant environmental regulations. Prior to undertaking these studies, you may need to apply for certain licences and permits based on the specifics of your chosen site and the project you are proposing, such as environmental derogation licences, ecological consents or archaeological excavation licences if near a national monument. The project is then designed by your technical team, following relevant planning regulations, and other environmental regulations, and you can then review the financial viability of the project based on that design.

2.2 Planning Phase

2.2.1 Households and Self-Consumption Projects

Using the [SEAI Single Point of Contact Renewable Energy](#) online tool can help to inform you as to whether planning permission will be required based on some information about your proposed project. Your contractor will generally be aware of these design requirements, however, ultimately the responsibility for compliance with planning legislation remains with the applicant, as the applicant is liable for planning violations. Please note that for planning purposes, when considering area restrictions ("shall not exceed 25 square metres" for example), you must include any existing solar thermal collection installations on the site, as they are classed as the same technology.

2.2.2 Commercial and Large-Scale Projects

For commercial and larger scale projects, planning permission is required. Commercial projects include any and all projects including where the primary purpose is *not* for provision of electricity. Planning permission is sought from the relevant Local Authority ordinarily, however, if the project proposed will generate 300 MW or greater, it meets the criteria of a 'Strategic Infrastructure Development', which is applied for directly from An Bord Pleanála.

2.3 Pre-Construction

2.3.1 Pre-Construction Licencing

The following licences are suggested licences only. They will be updated in accordance with the approved guidance and legislation when it comes into force.

2.3.1.1 Road Opening / Closing Licence

At times, a temporary road closure is needed in conjunction with a road opening licence, or for other works. To comply with statutory requirements, **an application for a temporary road closure should be submitted 8 weeks in advance** to the relevant Local Authority.

You need a licence called a 'Road Opening Licence' for any works in a public area, to dig up a public road, footpath or grass verge, for works such as:

- Water/Sewer Connections;
- Lowering of footpaths;
- Footpath reconstruction; and
- Pipelaying.

Applications for Road Opening Licences can be applied through the [MRL website](#). You must register with Road Management Office; <http://www.rmo.ie/non-registered-users.html> online MRL System to apply for a Road Opening Licence.

Temporary Road Closures are on occasion required to facilitate road works. Completed **application forms must be submitted 5 weeks prior to the road closure** to the relevant Local Authority. Advertisement costs must be covered by the applicant.

In conjunction with the above licences the following licences should also be applied for where works take place on or near public roads or pathways: a Hoarding/Scaffolding Licence and a Signage licence. A hoarding/scaffolding licence is required to facilitate building works and to ensure safety for the public. Completed **application forms must be submitted 3 weeks prior to works commencing** to the relevant Local Authority. A Signage licence is also required to authorise the use of advertisement signs/structures on public roads, (also known as 'Directional Signs'). Completed application forms must be submitted for assessment.

It will be necessary to check with the relevant Local Authority what the current fees are for the different permit applications.

2.3.1.2 Licence (Items on Public Roads)

A Section 254 Licence applies to all appliances, cables, signs, street furniture or other items on public roads. You will need to apply to the relevant Local Planning Authority to place on, under, over or along a public road numerous items or equipment, including the following which may be relevant:

- A fence, scaffold or hoarding,
- A cable, wire or pipeline,
- Over ground electronic communications infrastructure and any associated physical infrastructure such as A telephone pole or cabinet, or
- Any other appliance, apparatus or structure specified in regulations made by the Minister for Housing, Planning and Local Government or by an Act of the Oireachtas that requires a licence.
- To apply for a Licence, you will need to complete the application form and submit that form to the Planning Authority along with:
 - A Site Location Map - 1:2,500 scale;
 - A Site Layout Plan showing location of proposed appliance(s)/apparatus(s)/structure(s);
 - Drawing(s) to scale of proposed appliance(s)/apparatus(s)/structure(s);
 - The appropriate licence fee;
 - Copy of Insurance Confirmation indemnifying the relevant County Council against claims arising out of any accidents to persons or property;
 - Written legal consent of the landowner; and
 - A copy of the site notice.

2.3.1.3 Licence for the Construction, Replacement or Alteration of Bridges and Culverts

A Section 50 Licence is required when applying for consent to replace or alter a bridge or culvert and is applied for through the Commissioners of Public works.

Section 50 of the Arterial Drainage Act, 1945 requires that:

"No Local Authority, no railway company, canal company or other similar body, and no industrial concern shall construct any new bridge or alter, reconstruct, or restore any existing bridge over any watercourse without the consent of the Commissioners or otherwise than in accordance with plans previously approved of by the Commissioners."

The Office of Public Works is responsible for the implementation of the regulations in the Arterial Drainage Act, 1945, including Section 50.

Please refer to the [Section 50 brochure](#) for further information on the requirements and considerations for making the application.

2.3.1.4 Fire Safety Certificate

A Fire Safety Certificate is required where the applicant proposes a new building, a new building extension, material alterations to an existing building or a change of use of an existing building. The application is made through the Building Control Authority (BCA) in the local City or County Council. If the building or works complies with the requirements of Part B of the Second Schedule of the Building Regulations 1997, the BCA will issue a Fire Safety Certificate.

A Fire Safety Certificate application should be made by a Fire Safety Consultant, Architect or Engineer who is familiar with the Building Regulations and the procedure for applying for a Fire Safety Certificate. The fees for the application vary based on the type of application required (normal, 7-day notice or regularisation application).

A valid Fire Safety Certificate application must include:

- A completed application form;
- Relevant fire safety drawings in duplicate;
- A fire safety report in duplicate;
- Site location maps in duplicate; and
- The appropriate fee.

Please refer to Part II of the [Building Control Regulations](#) for further information and exemptions.

2.3.1.5 Disability Access Certificate

To determine if your project requires a Disability Access Certificate, please refer to the [Building Control \(Amendment\) Regulations 2018](#) Article 20D, Part 4.

It is best practice to apply for your Disability Access Certificate at the same time you are applying for your Fire Safety Certificate. If both applications are prepared at the same time by the same person, the drawings can be co-ordinated prior to submission. A Disability Access Certificate application should be made by an appropriate consultant, architect or engineer who is familiar with the Building Regulations and the procedure for applying for a disability access certificate.

A valid Disability Access Certificate application must include:

- A completed application form;
- Relevant fire safety drawings in duplicate;
- A disability access report in duplicate;
- Site location maps in duplicate; and
- Providing the application is lodged at the same time as the Fire Safety Certificate application a €500 fee applies, otherwise it's currently €800 per building.

To determine if your project may be exempt from the necessity of obtaining a disability access certificate, please refer to the [Manual for the Reuse of Existing Buildings](#).

2.3.1.6 Certificate of Registration

A Certificate of Registration is granted by the relevant Local Authority in area the works will be carried out. The waste activities that require a Certificate of Registration are listed in Part II of the Third Schedule of the [Waste Management \(Facility Permit and Registration\) Regulations 2007](#), (S.I. No. 821 of 2007) as amended. To aid in rapid determination, if the project or development requires a Certificate of Registration, please refer to the following [Decision tree](#). Contact your Local Authority if you wish to apply for a Certificate of Registration.

2.3.1.7 Waste Disposal Licence/Permit

Waste disposal and recovery activities in Ireland require authorisation in accordance with [the Waste Management Act 1996 as amended](#). To determine if the activity that is being carried out requires a waste licence please refer to the [EPA services](#). A waste licence is a single licence which deals with emissions from an activity and the environmental management of the facility. Waste licences are issued through the EPA.

2.3.1.8 Derogation Licence

A derogation licence may be required when removing vegetation in preparation for tree felling/afforestation. Derogation licences are licences to disturb or interfere with protected plant and animal species. A number of plant and animal species are legally protected in Ireland. Some of these species are included in a system of Strict Protection pursuant to the requirements of Articles 12, 13 and 16 of the Habitats Directive (92/43/EEC) and are sometimes referred to as Annex IV species. The list of Annex IV species which occur in Ireland and its waters is set out **Table 1**. The European Commission Guidance document² on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC (October 2021) should also be consulted for further information.

Table 1 Annex IV Species

Annex IV Species	
Animals	Plants
All bat species	Killarney Fern
Otter	Slender Naiad
Natterjack Toad	Marsh Saxifrage
Kerry Slug	
Dolphins, Whales, and Porpoises	
Marine Turtles	

² European Commission Guidance document. Available online at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en [accessed August 2023].

2.3.1.8.1 Derogation Licence to Disturb Bats or their Breeding or Resting Places

At present there are nine confirmed resident bat species in Ireland. All bats are listed on Annex IV of the EU Habitats Directive. Under the Irish law that implements this directive, both the bats themselves and their roosts are protected, as such it is an offence to disturb or interfere with them without an appropriate licence. If any bat species is suspected to inhabit structure (e.g., trees, bat boxes, buildings, stone bridges etc.) in any area proposed for development, a derogation licence to disturb bats, their breeding or resting places may be required by the granting authority³.

Even when planning permission is granted, the wildlife legislation applies. **Works which would capture or kill them, damage or destroy their roosts or disturb them at important parts of their life cycle cannot take place without obtaining a second derogation licence.** This licence is issued when planning permission is given under Regulation 54 of the Regulations, and strict criteria must be met before such a licence can be approved. 'Bat Mitigation Guidelines for Ireland'⁴ should also be referred to when carrying out works which may disturb them.

2.3.1.9 Tree Felling Licence(s)

If, as part of the project requirements, an individual or project developer determines that there is a need for the felling of trees for the purposes of (not limited to) site clearance, safe cable installation or maintenance purposes, a Felling Licence may be required. This is granted by the Minister for Agriculture; Food and the Marine and provides authority (under Section 7 of the Forestry Act 2014) to fell or otherwise remove a tree (singular) or trees (multiple) and to thin a forest. All those involved in tree felling must ensure that a felling licence has been issued before any felling is carried out, unless they are satisfied that the felling is exempted. It is the responsibility of the landowner and or the person felling the tree to ensure that an exemption applies. A tree felling licence once granted is valid for a period of ten years and can be extended up to five further years.

Exemptions apply to the following common scenarios:

- A tree in an urban area provided it is not under a protection order;
- A tree within 30 m of a building but excluding any building built after the trees were planted;
- A tree less than 5 years of age that came about through natural regeneration and removed from a field as part of the normal maintenance of agricultural land - but not where the tree is standing in a hedgerow;
- A tree uprooted in a nursery for transplantation;
- A tree of the willow or poplar species planted and maintained solely for fuel under a short rotation coppice;
- A tree outside a forest within 10 m of a public road and which, in the opinion of the owner is dangerous to persons using the public road because of its age or condition;
- A tree outside a forest of the hawthorn or blackthorn species;
- A tree outside a forest in a hedgerow and felled for the purposes of its trimming, provided that the tree does not exceed 20 cm in diameter when measured 1.3 m from the ground;
- A tree outside a forest the removal of which is specified in a grant of planning permission;
- A tree outside a forest on an agricultural holding removed by the owner for use on that holding, provided:
 - it does not form part of a decorative avenue or ring of trees;

³ National Parks and Wildlife Service (NPWS), under EC (Birds and Natural Habitats) Regulations 2011-2021.

⁴ NPWS Bat Mitigation Guidelines for Ireland. Available online at: <https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf>

- its volume does not exceed 3 m³;
- the removal of trees for use on the farm does not exceed 15 m³ in any period of 12 months.

It should be noted that the three above exemptions do not apply in all circumstance, for example when trees are more than 150 years old or are close to certain protected structures, monuments, archaeological sites, specific environmentally sensitive areas. If you live in an urban area, you may need to contact your Local Authority to see if there is a preservation order on the tree. For further detail on these exemptions please refer to: [Tree Felling Guidance Ireland](#).

Certain bodies are exempted from the requirement for a felling licence, these include but are not limited to:

- Bord Gáis (Section 27, Gas Act, 1976);
- Aer Rianta (Section 46, Air Navigation and Transport (Amendment) Act, 1998);
- CIÉ or any other railway undertaking (Section 49, Transport (Railway Infrastructure) Act, 2001);
- CIÉ (Section 15, Transport (Dublin Light Rail) Act, 1996);
- Any telephone/mobile network operator (Section 58, Communications Regulation Act, 2002);
- The ESB (Section 45, Electricity Regulation Act, 1999);
- NPWS (Section 72, Wildlife (Amendment) Act, 2000);
- Minister for Defence (Section 7, Defence (Amendment) Act, 1987); and
- Inland Fisheries Act (Section 59, Inland Fisheries Act, 2010).
- Further information on tree felling can be found online at <https://www.agriculture.gov.ie>.
- At present, each tree felling licence application costs €20.

2.3.1.10 Licence to Interfere with or Destroy the Breeding Places of Any Wild Animals

If you are intending to develop in an area to be known for breeding places of any wild animals, a licence 'To Interfere with or Destroy the Breeding Places of Any Wild Animals' may be required to proceed. A licence may be required by the granting authority, National Parks and Wildlife Service (NPWS) (Section 23 (5) (d) of the Wildlife Act 1976 as amended), the legislation states that any person who wilfully interferes with or destroys the breeding place or resting place of any protected wild animal, shall be guilty of an offence.

See <https://www.npws.ie/licences-disturb-or-interfere-protected-plant-and-animal-species> for a further information.

2.3.1.11 Water Abstraction Registration

By law, if you abstract 25 m³ (25,000 litres) of water or more per day, you must register this abstraction with the Environmental Protection Authority (EPA) (e.g., used for dust suppression). Although not a licence (which is under development) failure to register can incur a Class A fine (a fine not exceeding €5,000). Requirements are set out in the [European Union \(Water Policy\) \(Abstractions Registration\) Regulations 2018 \(S.I. No. 261 of 2018\)](#).

The development of a register of water abstractions is a requirement of EU law under the Water Framework Directive (2000/60/EC). New abstractions must be registered within one month of the start of the abstraction. If you reported your water abstraction to a public authority (such as your Local Authority) in the past, you must also register your water abstraction with the EPA.

Temporary abstraction of 25 m³ (25,000 litres) of water or more per day must be registered, unless the abstraction is a one-off occurrence with a duration no more than 24 hours that is not going to be repeated at any regular or irregular interval. For all other temporary abstractions, a point of abstraction must be identified, and the maximum abstraction should be used when registering. When a one-off temporary

abstraction ceases, it should be de-registered. This will be required for water abstraction to feed an industrial process or to dewater a groundwater body to facilitate a deep excavation during construction.

If you have any queries regarding this licence, you can contact the EPA at edenabstractionsupport@epa.ie and licencing is administered by the EPA via the EDEN portal (<https://www.edenireland.ie/>).

2.3.1.12 Surface Water Discharge Licence

Securing a discharge of effluent to waters this licence allows for the discharge of trade effluent or sewage to a water body or groundwater after appropriate treatment. These licences are administered by Local Authorities and there are a number of exemptions which include the following:

- Discharges to tidal waters from vessels or marine structures;
- Discharges from a sewer owned by, vested in or controlled by a Water Services Authority;
- Discharges subject to Integrated Pollution Control (IPC) licensing by the Environmental Protection Authority (EPA).

Legal requirements are based on the Water Pollution Acts, 1977 and 1990. This requirement will only apply to industrial facilities with water or fluid discharge into the environment outside of the sewage system, as such this would only be applicable to geothermal systems, where waters are uncontaminated.

If the activity causing the discharge does not fall under the remit of the [First Schedule of the Environmental Protection Agency Act, 1992](#) (as amended by the Protection of the Environment Act, 2003) an application for a licence must be made to the Local Authority in whose functional area, the discharge is to occur.

Effluent discharges for which a discharge licence must be obtained are as follows:

- All trade effluent discharges to surface water;
- All trade effluent discharges to groundwater;
- All domestic wastewater discharges to surface water;
- All discharges of domestic wastewater greater than 5 m³ /day which is discharged to (groundwater) from a septic tank or other disposal unit by means of a percolation area, soakage pit or other method.

2.3.2 Commencement Notice / 7-Day Notice

In accordance with the Building Control Regulations, you are obliged to submit a *Commencement Notice* or a *7-Day Notice Application Form* with a *Seven Day Statutory Declaration* prior to commencement of the development to Building Control Section of the Local Planning Authority, giving notice of the intention to start work.

A Commencement Notice must be received by the Building Control Authority not less than 14 days and not more than 28 days before you wish to commence.

Additional documentation may be required to be submitted with the completed Commencement Notice; and this should be completed on-line on the [National BCMS \(Building Control Management System\)](#). An online system (BCMS) for lodging commencement notices and 7 Day Notices and complying with the various new requirements is available at www.localgov.ie.

The fees relating to a 7-day notice are set out in **Table 2**.

Table 2: Breakdown of the current rates and fees for a 7-day Notice Application

Submission of a 7 Day Notice in Respect of:	
a) Work in connection with the construction or extension of a building	€250, or €5.80 for each square metre of floor area being provided, whichever is the greater
(b) Work in connection with -	
(i) the material alteration of the interior of a building	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(ii) the material alteration of the external surfaces of a building	€250
(iii) a combination of (i) and (ii) above	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(c) A building in which a material change of use takes place	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(d) Works or a building, where the building concerned will be used as an agricultural building	€130, or €1.60 for each square metre in excess of 300 square metres of -
	(i) gross floor area being provided,
	Or
	(ii) relevant floor area
	Whichever is the greater

2.4 Construction

The exact guidelines for the construction of Geothermal energy plants have yet to be published. The following conditions are general guidelines.

2.4.1 Planning Permission Conditions

Upon a grant of planning permission, there will almost certainly be planning conditions imposed by the Local Authority, which may cover a range of matters. There will likely be conditions that will cover matters during construction, such as working hours, which specifies the acceptable window of time when construction may take place, or other conditions in relation to noise from construction, dust generated, wheel washing, etc. These conditions must be strictly adhered to, as if a project is found to be in breach of conditions, a Local Authority may initiate enforcement proceedings.

The Local Authority may deploy Site Inspectors to ensure compliance with planning conditions, and other site matters under which the Local Authority has jurisdiction.

2.4.2 Commissioning

Following the construction of a Geothermal energy plant, it must then be commissioned. This takes place on all installations regardless of size, however, for large and commercial projects, this is generally a more formal process.

Commissioning involves a series of electrical testing, mechanical testing, performance evaluations and corrections reporting. The purpose is to ensure the equipment has been correctly installed and will operate safely and efficiently.

Provided a project passes the commissioning stage, it will then enter its operational stage, and begin to harvest heat for consumption or sale.

3 Operating and Maintenance Stage

Some licences and consents may not have a duration that covers the entire lifespan of a Geothermal project, and so may require further attention from the owner/operator. This may be because of the legislative basis for the consents, or as a change of legal circumstance, or an environmental change over time. It is the responsibility of the operator to maintain licences up to date.

3.1 Licences

3.1.1 Derogation Licence

Over the course of operation, there may be a need to interfere with a protected species, if they happen to be interrupting safe and efficient operation of the geothermal installation. As such, a Derogation Licence would be required.

For further information on derogation licences please refer to **Section 0**.

3.1.3 Tree Felling Licence(s)

During operation, it may become necessary to engage in tree felling activity on the site of a shallow geothermal energy area as trees mature and potentially encroach or obstruct the pipework used.

For further information on derogation licences please refer to **Section 0**.

3.1.3 Licence To Interfere with or Destroy the Breeding Places of Any Wild Animals

Similar to the case of Derogation Licences, during operation of a geothermal installation, if tree felling/vegetation removal is required it is likely that there would be some degree of interference with, the possible breeding place of wild animals, thus requiring an associated licence.

For further information on derogation licences please refer to **Section 0**.

3.1.4 Water Abstraction Licence

In the cases where a one-off water abstraction licence was applied for and deregistered but is required to be used again the licence must be re-applied for.

For further information on water abstraction licences please refer to **Section 0**.

4 Project End Stage

4.1 Decommissioning

Decommissioning refers to the cessation of energy production and the dismantling and removal of associated equipment and infrastructure.

4.1.1 Planning

Typically projects that have been constructed following the procurement of a planning consent, from either the Local Authority or An Bord Pleanála, will deal with decommissioning by condition. This means that within the conditions attached to the planning permission, it will directly set out how to carry out decommissioning and restoration of the site to its original condition. This is typically ordered after a set period of operation, and thus the decommissioning of the installation does not require consent, as it has been provided for under the original application. If, however you wish to conduct works not specified within the condition, planning consent will be required for those works.

4.1.2 Licences

4.1.2.1 Afforestation Licence (Technical Approval)

An Afforestation Licence *"provides the permission to plant all or part of the areas specified, and the areas planted meet scheme requirements"*¹. This is necessary for all afforestation projects where the area involved is greater than 0.1 hectare (approx. 0.25 acres). Afforestation is defined in the Forestry Act 2014 as, *"the conversion of land to a forest with a minimum area of 0.1 hectares and tree crown cover of more than 20 per cent of the total area, or the potential to achieve this cover at maturity"*. Forest land is defined as land under trees with a minimum area of 0.1 hectare and tree crown cover of more than 20% of the total area (or the potential to achieve this cover at maturity).

This permit is necessary when a developer seeks to replant trees which were felled during a site development. For the proposed afforestation of alternative lands, approval must be obtained before the associated felling licence can be granted. Proposed alternative land should be submitted for afforestation approval as early as possible, ideally at the same time as the felling licence application is submitted. Afforestation approval must be applied for using the Afforestation Pre-Approval Form.

All afforestation projects (whether availing of a grant or not) must obtain prior written approval from the Department of Agriculture, Food and the Marine (DAFM) termed 'Technical Approval'. A technical approval confirms that the proposed forest detailed in the application complies with the silvicultural (control of the growth, quality and needs of the forest, of particular importance for timber production) and environmental requirements. This approval provides permission to plant all, or part of the areas specified in the application. For grant aided projects a supplementary 'Financial approval' in conjunction with technical approval is required, this financial approval must be obtained before work can commence.

Further information on tree felling can be found online at <https://www.agriculture.gov.ie>.

4.1.3 Other licence

In addition to the above licence other licences may apply such as abnormal load or road closures if the site is to be fully decommissioned – these licences will be subject to the conditions laid out under planning.

4.2 Lifespan Extension

Generally, manufacturers of shallow and deep geothermal equipment will specify an operational lifespan of the equipment. This means the period after which the manufacturer recommends it be decommissioned or replaced. Sometimes the lifespan of an installation may be set by another body, such as the consenting Local Authority, which may specify through planning permission, a lifespan of an installation. Unless specified by a statutory body, it is up to the owner to determine the lifespan of the installation ultimately, however it is

recommended to have due regard to the manufacturer's instructions.

4.1.1 Planning

For larger scale projects such as deep geothermal lifespan extension will be dealt with by condition, meaning that within the conditions attached to the original planning permission, it will directly set out how to carry out a lifespan extension. Typically, this will specify that further planning consent is required. If there is no specific condition, you may not require planning permission.

If you have any doubts whether planning permission is required, you may contact you're the relevant planning authority for clarification, in which it will be determined if your works are exempt from planning permission or not.

4.1.2 Licences

For further information on project extension licences please refer to operation and maintenance stage ([link](#)).

4.3 Re-Powering

Re-powering means retrofitting and upgrading existing renewable energy installations with better equipment and technology, to improve the efficiency of the installation, while also allowing for an extended lifespan (given the newer infrastructure installed). This may also necessitate the upgrading of associated ancillary equipment such as transformers or inverters, cables and or substations.

4.3.1 Planning

From a planning perspective, it is best to approach re-powering a shallow and deep geothermal energy project considering it like a new project, and so it would be useful to utilise the *SEAI Single Point of Contact Renewable Energy* online tool for guidance, in addition to complying with the regulations.

For projects that previously required planning permission, including larger scale installations, planning permission may be required.

The original planning permission may contain a condition specifying that any further works on the site requires further planning permission to be obtained. If there is no such condition, you may still require further planning permission, as the works required may be substantial. It is recommended that you consult with the planning authority regarding re-powering, and seeking advice regarding whether permission is required. It is likely that permission will be required, as re-powering may be classed as 'use intensification'.

4.3.2 Licences

It is recommended that you consult with the various licence granting authorities regarding re-powering of your project and seek advice as to whether renewal/reapplication is required.

5 Other Useful Resources

Geological Survey Ireland: <https://www.gsi.ie/en-ie/geoscience-topics/energy/Pages/Geothermal-Energy.aspx#:~:text=Page%20Content,from%20inside%20the%20Earth%20itself.>

Back page



Rialtas na hÉireann
Government of Ireland

Sustainable Energy Authority of Ireland

Three Park Place
Hatch Street
Upper Dublin 2
Ireland
D02 FX65

w: www.seai.ie

e: info@seai.ie

t: 01 8082100

