



GEOTRAINET Position paper

Review of the Renewable Energy Directive: Article 18 on Training and Information

GeoTrainet supports the establishment of training and certification programmes for geothermal heat pump designers (those who carry out feasibility and design studies, including geology) and drillers, accompanying the realisation of the great potential of this technology in providing renewable heating and cooling. The overarching goal of GeoTrainet is to help ensuring high quality installations for a sustainable geothermal heat pump market.

The Fit for 55% package will overhaul Europe's energy sector which will need to be structured with renewable energy sources at its core. The heating and cooling market is poised to be the one delivering much of the additional carbon emission reductions induced by this higher target, and many investments will be required. To deliver, robust provisions are needed to ensure the quality of installations and the availability of skilled professionals to install renewable systems.

Geothermal heating systems can also be part of a stable and efficient catalogue of renewable heating and cooling solutions. However, while it is a well-known technology in some European countries such as Sweden, Germany or Switzerland, market barriers remain too numerous, preventing a wider adoption of the technology. The lack of robust and consistent provisions to facilitate the training of workers to geothermal heat pump installing is one of the biggest barriers for market uptake and ensuring quality.

A better implementation of training provisions for a skilled workforce, ready for the energy transition

The Renewable Energy Directive Article 18 is a core provision to establish a renewable based energy system: it sets some key requirements to allow the renewable industry to rely on a well-trained workforce, and establish certification schemes that are needed to ensure the consistency and quality of installation, and advertise it. However, implementation of these measures is lacking and training initiatives are fragmented.

The European Commission has not adequately enforced the implementation of the Training and skills provisions of the Renewable Energy Directive (2009) at the national level. Yet, the lack of a well-trained workforce, and of a clear certification framework at the national level has been a fundamental barrier to the deployment

of renewables in the heating and cooling sector. For geothermal heat pumps, the lack of a sufficiently trained workforce is a barrier to the expansion of the sector and the achievement of its job creation potential. The absence of a trustworthy certification scheme for geothermal heat pump installers in many European countries led to a lack of trust from consumers and decision makers, resulting from botched projects undertaken by untrained professionals.

These barriers are easy to remove. GeoTrainet has experience in training shallow geothermal installers in 10 European countries. The education training programs were made with the exchange of experience and know-how, between countries with a mature market and new countries with very limited knowledge about this renewable energy.

Sweden has proven it is possible to prop up the achievement of renewable targets through geothermal deployment by having a suitable framework for training and certification. Other countries, notably Germany, Netherlands and France, have set up their own training and certification schemes. Spain, after its a “lost decade” for RES, is currently trying to implement Article 18 of the RES Directive, sending some very positive signals to geothermal heat pump developers. These different experiences must still be extended and harmonized across Europe: many countries have not started any attempt in this direction and some of the schemes are quite different in scope. Ensuring an harmonized and high quality SGE training environment across Europe is exactly the reason why GeoTrainet was established and is more needed than ever.

Learning from the best: replicating best practices to kick start developments

There are different ways to establish a training and certification scheme, and it is important that the implementation of the Article 18 of the RED allows Member States to learn from best practices at the European level. To facilitate this exchange of best practices, Members States must report or establish their training and certification framework for geothermal heat pump installers, for instance as part of their NECPs. In the spirit of promoting the internal market, Members States should also cooperate towards the mutual recognition of certification and training programmes. To that end, a set of standards for mutual recognition could be set at the European level via cooperation between public authorities and the geothermal heat pumps, for instance represented by structures such as GEOTRAINET.

For geothermal heat pumps, this lack of mutual recognition is a barrier in Central Europe, where drillers cannot develop borehole heat exchangers in neighboring countries for a lack of recognition of their certification. This prevents the smooth functioning of the internal market, as it is a barrier to economies of scales and cost decrease for geothermal heat pumps, preventing this technology to be as competitive as it can be against fossil fuel technologies.

These transitions show the need for an unparalleled shift in skill sets to reap their full potential. The Communication of the Commission on a new Skills agenda for the green and digital economy foresees in its Action 10 the development and deployment of micro-credentials, recognizing and validating re-skilling and up-skilling of workers. A stronger implementation of the RED Art 18 is crucial to enabling the success of this policy agenda. The experience of GEOTRAINET can contribute directly to the initiative of **micro-credentials, as a base for a European**

recognition of training and new skills acquired by Geothermal installers (designers and drillers) in shallow geothermal energy and geothermal heating pump.

Training beyond the workforce: decarbonizing energy system design

If an architect is not aware about geothermal heat pump technologies and the building design requirements of renewable heating and cooling technologies, an important option for the decarbonisation of the building sector objective of the EPBD is missing. Training is crucial to ensure the technical know-how of professionals of the renewable industry, certification is key to standardize quality and guarantee it. Beyond that, professionals of the building sector must be trained to the requirement of renewable technologies, in particular for heating and cooling, as they have an impact in the way buildings can be designed and operated.

Previous experiences in Sweden or Portugal have shown the effectiveness of training students from various professions of the building sector to the requirements of geothermal heat pump technologies. This must be a core requirement of the renewable energy directive: buildings must be designed by default around the integration of renewable heating and cooling technologies such as geothermal heat pumps. It is still too common for building to be conceived around the connection to a gas grid, locking out the efficiency and decarbonisation potential of a design around low temperature heating and cooling supplied by renewable energy.

Key takeaways:

To align the revision of the Renewable Energy Directive Article 18 with the requirements of a new 55% greenhouse gases emissions reduction target it is crucial that:

- We strictly ensure the implementation by Member States of the European provisions on “information and training”, which has not been effectively addressed until now.
- A European framework for certification of geothermal installers is established for the mutual recognition of schemes across Europe and smooth operation of the Internal Market
- Article 18 includes provisions for the training of workers in sectors other than the renewable industry dealing with the technical requirements and services provided by renewable technologies such as geothermal heat pumps, notably in the building, industry and agricultural sectors.

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