

GeoTrainet

Development of EU wide Ground Source Training

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Introduction

‘GEO TRAINET: Geo-Education for a sustainable geothermal heating and cooling market’

The project was conceived in anticipation of the implementation of Article 14 of the EU Directive (2009/28/CE) on the promotion of the use of energy from renewable sources; which obliges Member States to develop and mutually recognise accreditation and certification schemes for installers of small-scale renewable energy installations..... by December 2012

It took place between September 2008 and February 2011 and was supported by Intelligent Energy – Europe [IEE/07/581/SI2.499061]

Primary Legislation

EU Directive 2009/28/CE (Directive on the promotion of the use of energy from renewable sources) came into force on 25 June 2009.

It establishes a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport.

Particularly relevant to our industry are:

Article 2
Definitions

and

Article 14
Information and training

Article 2 - Definitions

For the purposes of this Directive, the definitions in Directive 2003/54/EC apply: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0054:EN:HTML>

The following definitions also apply:

(a) 'energy from renewable sources' means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases;

(b) 'aerothermal energy' means energy stored in the form of heat in the ambient air;

(c) 'geothermal energy' means energy stored in the form of heat beneath the surface of solid earth;

(d) 'hydrothermal energy' means energy stored in the form of heat in surface water;

Additional Definition

‘Geothermal energy’ means energy stored in the form of heat beneath the surface of solid earth;

Ground Source is an alternative name for Shallow Geothermal Energy

However the distinction between shallow and deep geothermal energy is not fixed. Historically a depth of 400m is used, which goes back to work in Switzerland in the 1980s. In general, shallow geothermal systems can be considered as those not pursuing the higher temperatures usually found only at greater depth, but applying technical solutions to make use of the relatively low temperatures (+2 to +20°C) offered in the upper strata of the Earth.

To use the constant, low temperatures of the ground, there are two options:

- **Increase or decrease the temperature of geothermal heat to a usable level using Ground Source Heat Pumps.**
- **Increase or decrease the temperature in the ground by storing heat or extracting heat Underground Thermal Energy Storage (UTES).**

Article 14 – Information and Training

3. Member States shall ensure that certification schemes or equivalent qualification schemes become or are available by 31 December 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps. Those schemes may take into account existing schemes and structures as appropriate, **and shall be based on the criteria laid down in Annex IV**. Each Member State shall recognise certification awarded by other Member States in accordance with those criteria.

4. Member States shall make available to the public information on certification schemes or equivalent qualification schemes as referred to in paragraph 3. Member States may also make available the list of installers who are qualified or certified in accordance with the provisions referred to in paragraph 3.

5. Member States shall ensure that guidance is made available to all relevant actors, notably for planners and architects so that they are able properly to consider the optimal combination of renewable energy sources, of high-efficiency technologies and of district heating and cooling when planning, designing, building and renovating industrial or residential areas.

Annex IV – Certification of Installers

(N.B. Installers i.e. The Man in the Van)

The certification schemes or equivalent qualification schemes referred to in Article 14(3) shall be based on the following criteria:

1. The certification or qualification process shall be transparent and clearly defined by the Member State or the administrative body they appoint.
2. Biomass, heat pump, shallow geothermal and solar photovoltaic and solar thermal installers shall be certified by an accredited training programme or training provider.
3. The accreditation of the training programme or provider shall be effected by Member States or administrative bodies they appoint. The accrediting body shall ensure that the training programme offered by the training provider has continuity and regional or national coverage.....
5. The training course shall end with an examination leading to a certificate or qualification.

The Project

‘GEOTRAINET: Geo-Education for a sustainable geothermal heating and cooling market’

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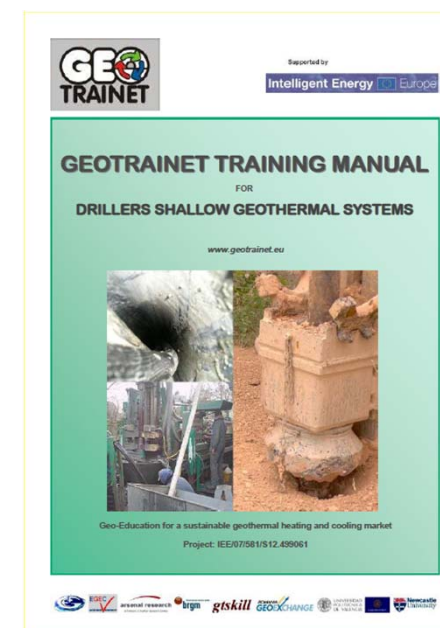
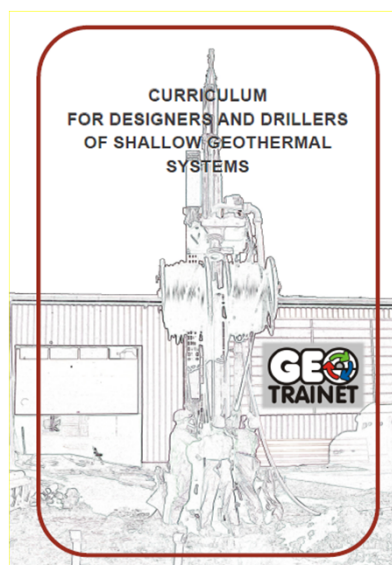
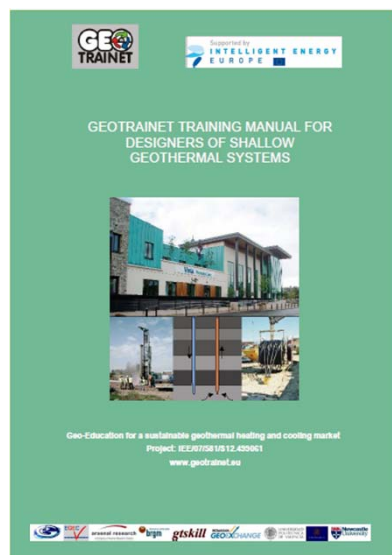
Preliminary Research

Market research identified that one of the barriers to a sustainable and growing geothermal market is the lack of appropriately skilled personnel and moreover, the quality of design and application were not always satisfactory.

The objective of the GeoTrainet project was to develop a professionally-oriented European education programme to support the geothermal heating and cooling market.

There are a number of different groups of professionals involved in any GSHP installation. The GEOTRAINET project focused on two of these groups:

- **Designers (those who carry out feasibility and design studies, including geology)**
- **Drillers (who make the boreholes and insert the pipework). – although this has now been widened to cover the construction of all types of Ground Heat Exchangers (GHE's)**



Project deliverables. See...

<http://www.geotrainet.eu>



Next Steps

Member States shall ensure that certification schemes or equivalent qualification schemes become or are available by 31 December 2012 for installers of... , shallow geothermal systems and heat pumps.

Those schemes... shall be based on the criteria laid down in Annex IV.

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European Education Committee

**Training
Board**

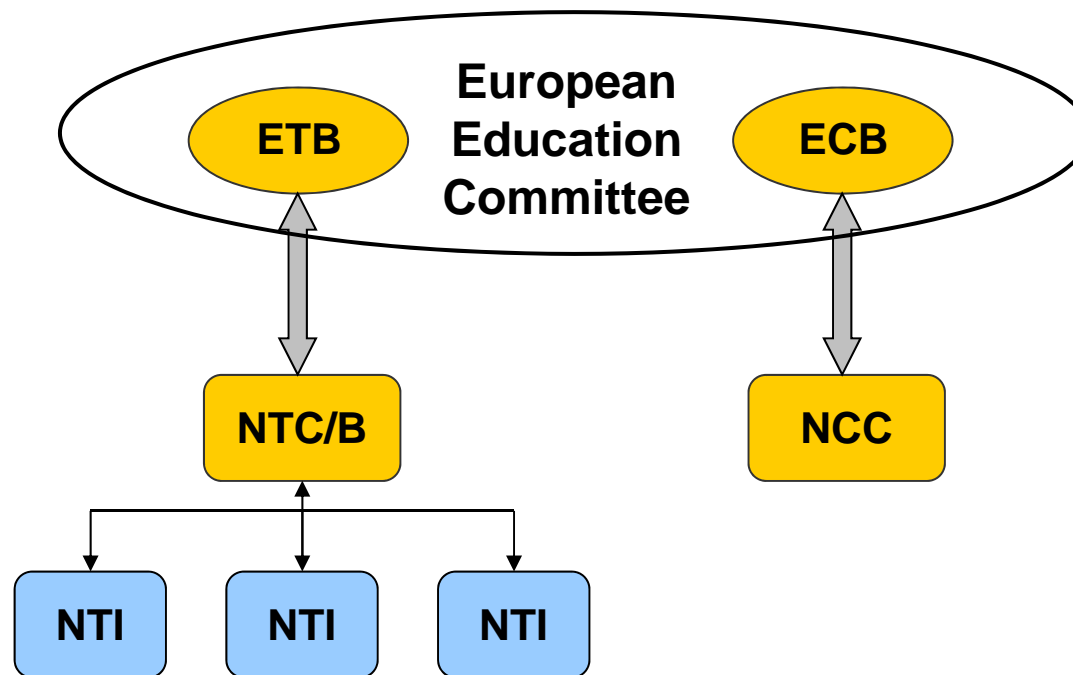
**Certification
Board**



Geo-Education
for a sustainable geothermal
heating and cooling market



European Education Committee

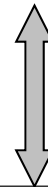


Structure of Training Board

Is a subcommittee of the Education Committee



European Training Board

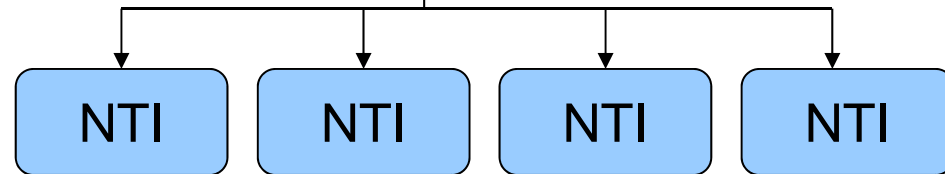


National Coordinator of the GEOTRAINET training program



National Training Coordinator/Board

Various:
National Training Institutions



NTI

NTI

NTI

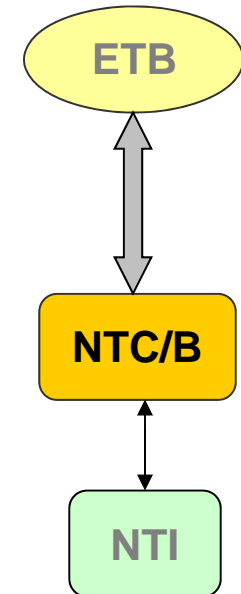
NTI



National Training Coordinator/Board

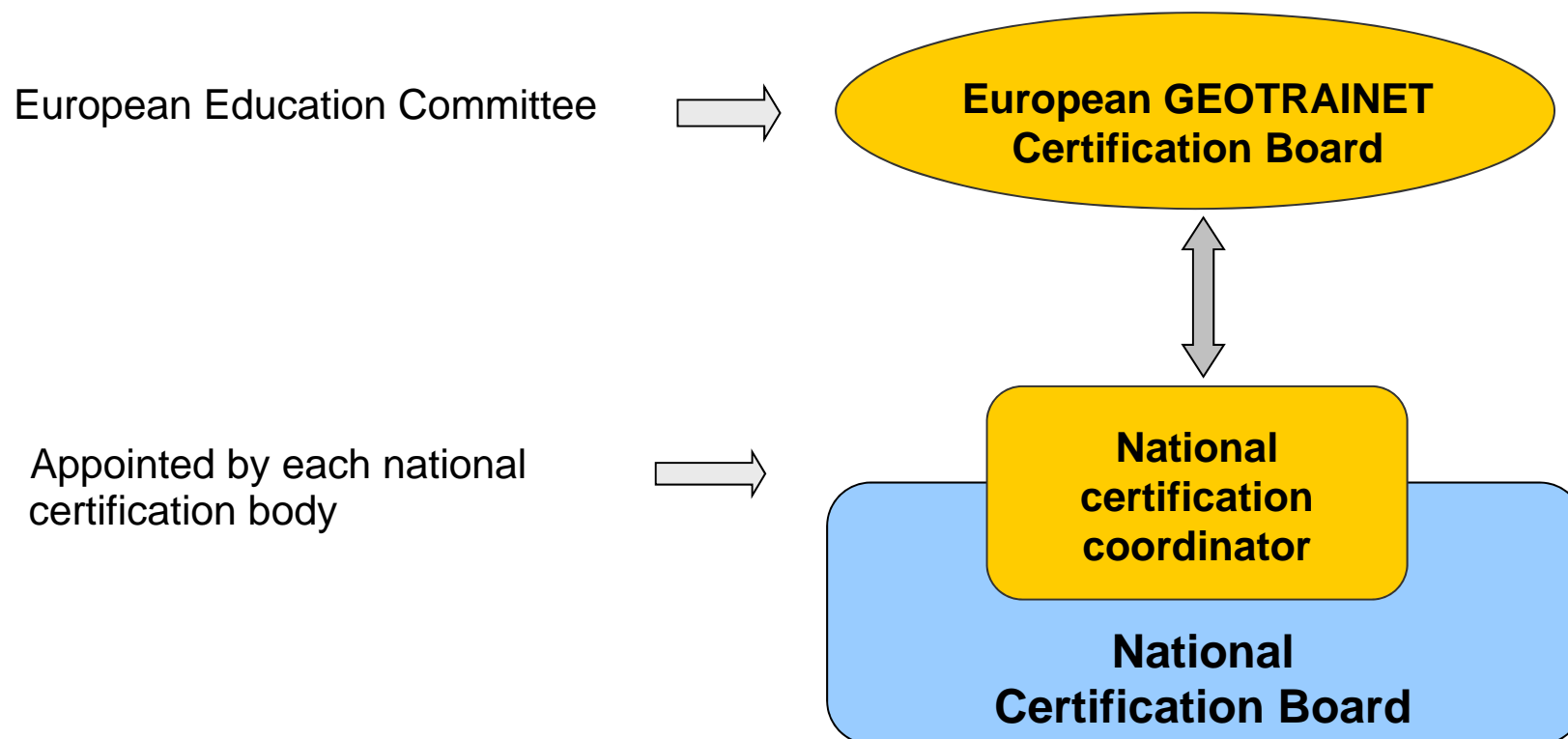
BDA / GSHPA jointly signed a Letter of Intent on 10th February and are now working closely with Geotrinet to act as National Coordinator and to host the National Training Board for the United Kingdom

- Main Tasks
 - Ensure Curriculum & content are mapped as appropriate to QCF's (Qualifications and Credit Framework) & NQF's (National Qualifications Framework)
 - Implementation of the international training standard and ... definition of specific adaptations needed at national scale
 - Report to international education committee considering required amendments and adaptations of training standard
 - Notification of any changes of training system to national training institutes

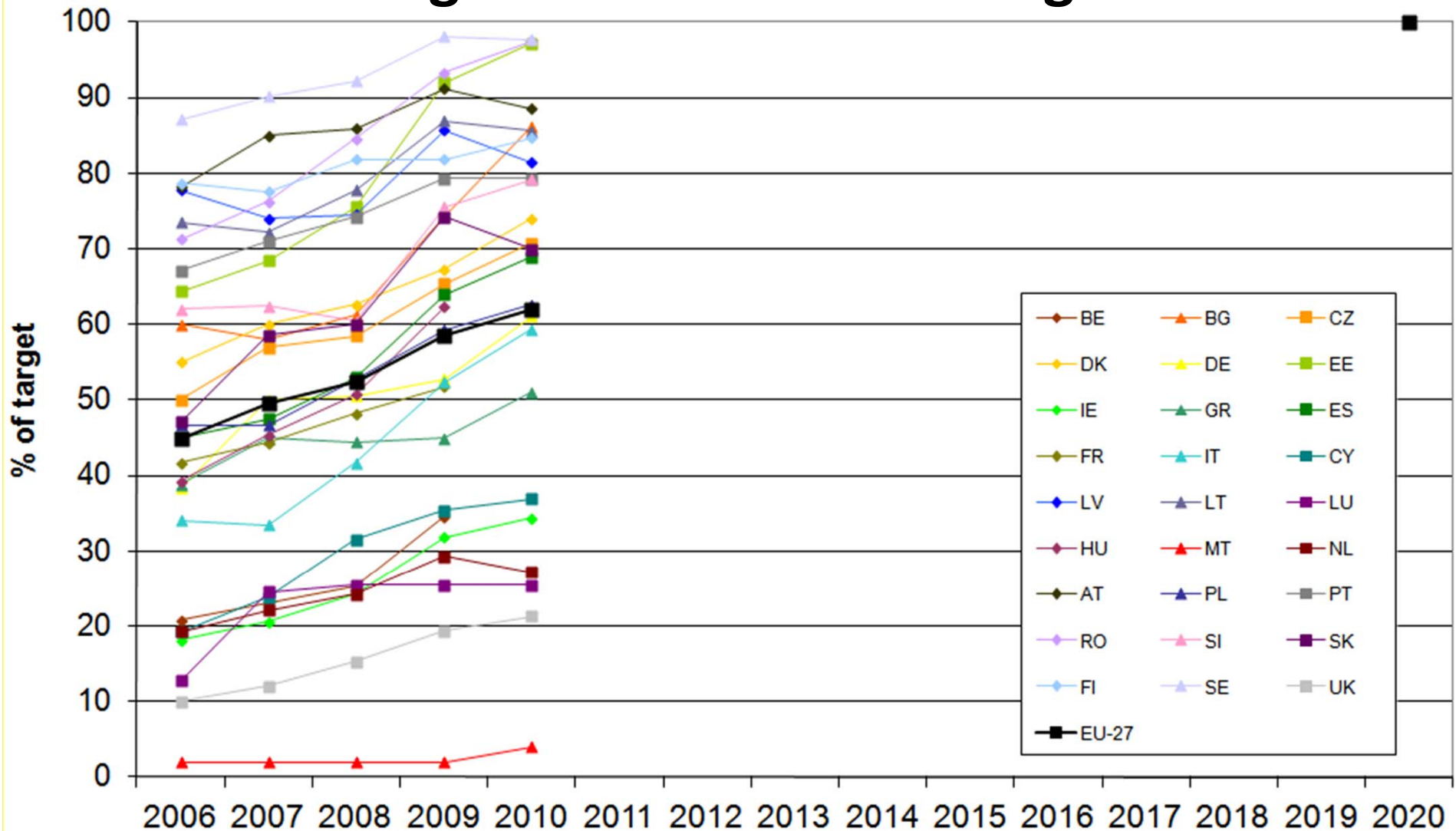


Keeping the quality standards at national level

Structure of Certification Board



Progress towards 2020 target



Conclusion

Concern has been expressed that there is no training available for our industry however as you have seen considerable work has already been completed and a roadmap is in place to deliver properly accredited and certificated courses which will be internationally recognised.

That said there is still work to be done and an opportunity for all interested parties and stakeholders to influence and/or contribute.

A meeting is planned to launch the UK NTB “soon”
All interested should contact me or the GSHPA Secretariat.

Thank you for listening...

<http://www.geotrainet.eu>

...Any questions?

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