COUNTRY REPORT: Germany

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This short report includes a brief description of the most important elements in German regulations and certification/subsidy schemes related to solar thermal products. The description is valid for 09-2010[1].

Regulatory Framework

Building Regulation (general)

- There are no special rules/regulations for solar thermal systems/components in the building regulation. The general regulations for buildings and installations shall of course be followed. Some examples of these regulations are listed in the following:
  - Building aspects standardisation in DIN 1055 series (Einwirkungen auf Tragwerke)
  - Roof tightness (Regeln für Dacheindeckungen des deutschen Dachdeckerhandwerks)
  - Protection against lightning
  - regulations related to drinking water quality (e. g. DVGW-Arbeitsblätter)
  - regulations related to the protection of historical monuments
- Requirements related to the energy demand/use of the building are defined in the energy saving directive (Energieeinsparverordnung - EnEV). This directive covers all kinds of energy consumed by the building. This directive was revised in 2009 and contains the following most important changes:
  - definition of uniform calculation scheme and boundary conditions for a reference building
  - new buildings must at least meet the requirements for energy demand of the reference building of same size and geometry
- Since the 1st January 2009 there is an additional regulation for the heat demand of new buildings: the renewable energy heat statute (Erneuerbare Energien Wärmegesetz – EEWärmeG). It dictates that new buildings must cover a given part of the heat demand by using renewable energy technologies. In case of using thermal solar energy the following fraction is required:

[1] The original report was published in 2007 and was developed in the framework of the project Solar Keymark II with the support of the Intelligent Energy Europe programme.

- In houses with one or two living units 0.04 m² collector area must be installed per m² heated useable area.
- In houses with more than two living units 0.03 m² collector area must be installed per m² heated useable area.
- Non-residential buildings must cover at least 15% of the overall heat demand by thermal solar energy.
- Combinations of different renewable energy technologies are allowed. If a building covers only 10% of its heating demand by thermal solar energy (2/3 of the required amount) it may cover the rest of it for example by covering 17% of the required heat demand by wood pellets (1/3 of 50% overall heat demand).

Registration

- Registration of a solar thermal system is not necessary, if the builder is not interested in any subsidies or similar advantages. In case of using subsidies, sometimes a registration is required (depending on the subsidy scheme)

Safety control

- General rules related to this kind of products such as pressure directive, electrical safety etc.

Public Incentives (subsidies, ordinances or other)

Relevant incentives:

- The German subsidy scheme on national level is called “Marktanreiz-programm” (MAP) and is administrated by BAFA. This program was shortened during the year 2010 and provides now only incentives for solar thermal combi systems.
  - The system configuration must fulfil the following requirements:
    - minimum collector area of 9 m² for flat plate collectors (7 m² for vacuum tube collectors)
    - minimum store volume of 40 l per m² installed collector area for flat plate collectors (50 l per m² for vacuum tube collectors)
  - Program covers only systems installed in existing buildings (new buildings are forced to use renewable energy anyway (EEWärmeG))
  - The amount of money paid by the program depends mainly on the installed collector area.

- Additional smaller bonus payments for using efficient technology (efficient pumps and boilers, large buffer store, usage of bio mass or heat pumps, additional insulation of the building)

Requirements for support schemes:

- Requirements to collectors:
  - Solar Keymark
  - Calculated minimum energy yield of 525 kWh/m²
- System must be available on the market (no prototypes or self made systems)

Testing

- Five test institutes are accredited to perform EN testing (of solar thermal products). These institutions are ITW/TZS, ISFH, TÜV Rheinland, FhG-ISE, IZES

Certification

Product certification:

- The following certification schemes are available:
  - Solar Keymark
  - Blauer Engel (RAL UZ 73)

Installer certification:

- Labels from smaller installer organisations (such as SHK/IHK-Zert)
- To benefit from incentive programs the installation must be performed by qualified personal. An installer certificate eases the verification procedure for being qualified.

Insurance

- In most cases the solar collector is included in the insurance of the house
- The most damages caused by the solar thermal components (e.g. parts falling down from the roof) are covered by a liability insurance.
- There are different insurance policies for solar thermal systems not part of a living building or policies for damages not covered by the insurance of the house

Other relevant information

- The progress on energy labelling for buildings is quite good for new buildings and existing buildings which are not used by their owner. Since the lodger has the right to see the energy label of a living unit before signing the lease contract, landlords are forced to get the label.
- The energy labelling for existing buildings used by the owner is not very common.
- There is no required labelling for solar thermal components

Trade Barriers

- The most important trade barrier is the calculated energy yield of solar thermal collectors. The manufacturer is forced to retain the energy yield calculation from a German test lab, even if Solar Keymark testing was performed by a different European test laboratory.

Actions needed

- A uniform energy yield calculation for solar thermal collectors must be defined and standardised to enable all test labs to provide the results on energy yield. This will lower the main trade barrier to the German market.
- The renewable energy heat statute forces building owner to cover 15% of the heat demand by solar thermal. Since today's solar thermal technology makes it possible to cover much more than this, a discussion about this value should be started and a revision of this statute is needed.