

Initial country report: GERMANY

The situation in Germany with respect to requirements in regulations and subsidy schemes is briefly described and then followed by a list of actions proposed to coordinate these requirements on an European level.

Background/status

During the project details on the requirements in German regulations and subsidy schemes related to solar thermal products will be elaborated. In order to give an overview, a brief description of the most important elements is given below.

Regulations

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 house: There is the Energieeinsparverordnung (EnEV) (Energy Saving Directive). This directive covers all kinds of energy consumed by the building. Benefits from solar thermal are taken into account as well. The standard used for the calculation of the energy efficiency of heating and ventilation systems in buildings is the DIN 4701. This standard will soon be replaced by the standard series DIN 18599 which is dealing with the energetic assessment of buildings in a much more detailed way.
- With regard to water quality the requirements are given in the “Trinkwasserrichtlinie”

Registration

- Registration of a solar thermal systems 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. (there is a ongoing discussion if the pressure directive has also be applied to the collector)

Subsidies

- There are different subsidy schemes, as well as on national level and on the level of the different federal states. The most attractive subsidy schemes is the payment of a certain amount of money

per squaremeter collector area that are paid by the BAFA. (An institution of the German Government).

The amount that is paid per squaremeter collector area depends on the application and requires a certain collector efficiency. At present (spring 2006) for domestic hot water systems 84,- EURO are paid per squaremeter collector area and for solar combisystems 104,- €/m².

- The requirement for the payment by BAFA (see above) is an annual solar energy yield of at least 525 kWh/m². Furthermore it is necessary, that the requirements according to the “Blauer Engel” (RAL-UZ 73) have to be fulfilled (Note: It is not required that the collector is marked with the “Blauer Engel”)

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: Several certification schemes for collectors (from DIN CERTCO):
 - 1. Sonnenkollektoren “DIN-geprüft”
 - 2. DIN/Keymark
 - 3. Blauer Engel (RAL UZ 73)
 - 4. Labels from smaller organisations, such as from installers organisation (such as SHK/IHK-Zert)
- Installer certification: not common

Insurance

- In most cases the solar collector is included in the insurance of the house
- Special insurances against breakage of glass for vacuum tubular collectors (e. g. offered by Paradigma)

Others

- Recommendation/guidelines for installation of solar thermal systems are given in several guidelines published by different associations.
- Large (solar) heating plants have the possibility to sell CO₂ emission allowances
- No national energy labelling scheme for hot water tanks up to now. But a “Blauer Engel” certification scheme for solar hot water stores will be available in the near future.

Actions needed

The Actions needed for:

- co-ordinating the German requirements in regulations and subsidy schemes with European standards and Solar Keymark certification
- implementing - with respect to solar thermal systems - the European directives on energy performance of buildings and energy labelling of hot water tanks are listed below:

Regulation

- Implementation of the coming European standard¹ for calculation the influence of solar thermal systems on the energy performance of buildings in the procedures used for calculating the energy performance of buildings in on the way. This in mainly the reason why DIN 4701 is replaced by DNI 18599.
- The requirements in the future German certification scheme should be co-ordinated with the EN's for solar thermal systems and tanks. The goal is that a future certification scheme will be based on European Standards

Subsidies

- Get inspiration from other countries concerning effective subsidy schemes.
- For standardised system concepts future subsidies should be based on the energy savings of the system. For advanced applications such as solar cooling and solar process heat subsidies might be based on the solar energy yield of the collector
- Investigate possibilities for implementing a “green heat certificate” scheme allowing also small solar heating systems to sell CO2 emission allowances. This certification should make use of the European standards and the Solar Keymark.
- Subsidies should not be coupled to the “Blauer Engel” as this will be the case starting from 01/06/2004
- Solar Keymark should be basic element in the subsidy schemes
- Subsidies should not be based on the public household. Therefore a tax reduction or similar approaches are preferable. There should be a strategic plan describing the subsidy scheme for the next decade(s) and maybe leading to zero subsidies in the end.

Testing

- Promoting the use of EN testing to the German manufacturers by offering assistance in the communication process with test labs from other countries
- Mutual acceptance of test results from accredited labs e. g. for certification or subsidies. This is especially important with regard to France and Spain.
- Getting the Solar Keymark should be less expensive due to a reduction of the effort required for (re)testing and auditing

Certification

- Only **one** national certification scheme based on European Standards and on the Solar Keymark for solar collectors, solar stores and solar thermal systems.
- Getting the Solar Keymark should be less expensive due to a reduction of the effort required for (re)testing and auditing
- It should be avoided to include the work carried out by installers into the product certification process

Insurance

- Make agreement with insurance company association: Certified solar systems (installed by certified installers) should not affect insurance fees.

¹ A European standard procedure for calculation of the influence of solar thermal systems on the energy performance of buildings is being prepared by CEN. It is intended to implement this procedure in Germany.

R&D

- Establish attractive R&D-program for the further development of solar thermal. Further development of the technology, especially with regard to advanced storage technology such as phase change materials or sorption and advanced controllers.
Further enlargement of the field of applications e. g. with regard to solar cooling and solar process heat
- Make agreement with insurance company association: Certified solar systems (installed by certified installers) should not affect insurance fees.

Others

- Implement the European procedure for calculation of solar thermal systems in a future German labelling scheme for houses.
- Participate more actively in the work on the energy labelling scheme for (solar) hot water tanks according to Mandate 324
- Make national work shops, disseminating status and results of the project to the interested parties / target groups not already involved directly in the project.
- Promoting Solar Keymark from the national solar thermal web portal.
- Performance indicators of collectors and systems are required by industry and also with regard to subsidy schemes. For collectors this could be the annual solar energy yield calculated on the basis of the so-called "ITW-boundary conditions".
- It might be worth thinking about the aspect of taking the primary energy that is saved by the system during its lifetime into account with regard to subsidies. Such an approach would require methods for the determination of the energy that is embodied in the system as well as for the expected lifetime of the system.