

# SWEDEN

The situation in Sweden with respect to requirements in regulations and subsidy schemes is briefly described and then followed by a list of actions proposed to make “European co-ordination” of these requirements.

## ***Background/status***

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

A number of different national subsidy schemes are in operation in Sweden 2006 and are likely to remain in force beyond 2007. The schemes are covering different application areas e.g. one for single family houses and one for installations in public buildings, but a “roof” of about 30% of the total cost is common for most schemes. Requirements for subsidy are the performance, reliability and durability tests according to EN. It has also been agreed by the main drivers in Sweden (Solar association, Solar Research) to accept the European Solar Keymark as a sufficient requirement for subsidies and the additional durability requirements that were in force until 2005 have now been removed. The Swedish intention is therefore to work for somewhat extended requirements on durability in the Solar Keymark certification scheme.

## **Regulations**

### Building Regulation (general)

- Building regulations are national (BFS 1993:57 with changes to 2006:22). It is the responsibility of the provinces to see that they are followed.
- There are no special rules/regulations for solar thermal systems/components in the building regulation. But there is a Beneficial for the installation of solar thermal or PV Regarding energy requirements. A clause stating that energy generated by such equipment (being mounted on a building) may be deducted from the specific energy requirement for the building. The general regulations for installations shall of course be followed (concerning e.g.: freezing risks, roof tightness, etc.).
- The current building regulation does not include any calculations to assess savings by solar thermal.

### Safety and comfort

- The building regulations requires that all components in a fresh water installation shall withstand at least 10 bars
- Temperatures at the hot water tap exceeding 65 °C are not allowed, and the system must be able to deliver at least 50 °C at the tap.

### Registration

- A solar system shall be registered to the local authorities. This is sometimes connected to an administrative cost (appr. 100-200€)

### ***Type testing***

- Type testing of DHW tanks exists, but is not a requirement

### ***Taxation***

- Today's taxation rules does not punish solar installations in single family houses

### **Subsidies**

- There is a national subsidy scheme for installations in single and multifamily houses. In this scheme one can have a maximum subsidy of 800 € for a one family house. There is also a subsidy scheme for solar installations in public buildings where solar thermal can have 30% of its costs covered and PV can have 70% of the costs covered by the subsidy. There is also a similar scheme for solar thermal for commercial buildings.
- There are also a few regional subsidy programs, sometimes allowing a higher subsidy amount than in the national one, but these have a marginal impact on the national figures.
- There are no efficiency requirements for the different subsidy schemes but the national subsidy is performance related in a way that low cost/performance ratio is promoted. For the national scheme the requirements are (are going to be implemented on 2008-01-01) that the collector is tested an approved according to EN 12975 at an accredited laboratory. There are also requirements of a manual in Swedish and a calculation of the annual energy gain from the collector.

### **Testing**

- SP is the only test institute in Sweden accredited to perform tests according to EN 12975 and EN 12976

### **Certification**

- Product certification: A certification scheme for collectors, the P-marking is running since 1991. Certificates are issued by SP Certification. Requirements are basically EN 12975.
- SP Certification is empowered to certify collectors and factory made systems with the Solar keymark since beginning of 2004
- Installer certification: not applied in the solar business

### **Insurance**

- Leakages trough the roof is normally not covered by the insurance if it's a result of a poor collector mounting, but damages due to leaking pipes are covered.
- The solar collectors are included in the insurance of the house
- No particular rules for vacuum tubes

### ***Actions needed***

The actions needed for:

- implementing - with respect to solar thermal systems - the European directives on energy performance of buildings
- an increased use of solar thermal systems in new and existing buildings.

are listed below:

## **Regulation**

- A European standard procedure for calculation of the influence of solar thermal systems on the energy performance of buildings has been prepared by CEN (EN 15316-4-3). In Sweden a further promotion of this procedure is needed so that it actually will be used during the declarations of the buildings energy performance.
- Give examples of practical use of the building regulations on how solar thermal systems can deducted from the specific energy requirement for the building even though they are not mounted on the building directly.
- Registration rules: work for removal of extra costs (where such exists) connected to building application at local authorities.
- Work is now going on to establish a Swedish standard for classifications of energy performance in buildings. Here promotion is needed in order to make sure that solar thermal energy will be beneficial weighted within the total energy performance of the building.

## **Subsidies**

- Get inspirations from other countries concerning effective subsidy schemes.
- 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.

## **Testing**

- Work for an improved ageing test: The exposure could be refined and might also be supplemented by accelerated ageing tests. Suggestions are recommended to the CEN/TC 312 through the Solar Keymark II project.
- Extended requirements on durability testing in EN 12975.
- Promoting the use of EN testing to the Swedish manufacturers and to manufacturers in the neighbour countries. In particular, system testing according to EN 12976 should be encouraged.

## **Certification**

- In order to make the services of SP Certification more efficient it is proposed to promote the Solar Keymark by establishing agreements between Solar Keymark inspectors in some countries and SP Certification in order to avoid the need of having swedish inspectors travelling to forreign countries and again to ease the communication
- To move Swedish manufacturers one step further towards Solar Keymark certification of their products they needs assistance in the implementation of quality assurance system.

## **Others**

- Make national work shops, disseminating status and results of the Solar Keymark projects to the interested parties / target groups not already involved directly in the project.
- Participate in the work on the energy labelling scheme for (solar) hot water tanks according to Mandate 324
- Continue to promote Solar Keymark from the national solar thermal web portal and on the SP web portal.