

EAST-GSR

Solar Thermal applications in EASTern Europe with Guaranteed Solar Results



Work package 3

"Recommendations for the successful GSR Charter Implementation"

Romania

OVM - ICCPET



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RECOMMENDED ACTIONS FOR THE SUCCESSFULL IMPLEMENTATION OF GSR APPROACH IN ROMANIA

1. Correlate existing standards as a first step to harmonizing standards with the wider international market.

Since January 2007, Romania is member of the European Union (EU), and therefore many of the Romanian laws are harmonized with the EU legislation.

The main existing EU standards concerning the solar thermal components were adopted as Romanian standards. However, additional measures have to be taken in order to put these standards into practice. These measures have to be taken at governmental level by the Ministry of Economy and Finance.

It is recommended to set-up a professional Romanian Association for Solar thermal systems, which would be active in the enforcement of the standards.

2. Promote validated design and dimensioning methods for solar installations

In Romania, most of the solar collectors are imported but, since recently, several local companies producing collectors and solar thermal systems are present on the market. Each company has its own dimensioning method for solar collectors and installations.

The main disadvantage here is that during dimensioning (even if the best method is applied) the input data (e.g. radiation, collector position, cold water temperature etc) are not precise and can lead to miscalculations.

To get a higher precision of results in the design and dimensioning methods for solar installations, the following measures must be taken in Romania:

- Exchange of experience between local companies producing collectors and solar thermal systems and comparison of results from different methods of calculations;
- Creation of a country database with regional inputs, for the main parameters, which are used during the calculations for a solar thermal installation.

3. Use of certified measurement instruments for solar radiation, weather conditions (temperature, etc) and flow rate.

In Romania, in the past, the precision of input data of solar thermal systems had a reduced significance. At present, the multiplication of solar thermal installations has led to give a high importance to the quality of the solar systems and to a demand for guaranteed results. These aspects guide to the use of accurate and exact input data.

Certified measurement instruments contribute to obtain accurate data and the use of such certified measurement tools will extend simultaneously with the progress of the solar thermal systems applications and with the requirement for high quality solar systems with guaranteed solar results. Recently the Law for State Financial Aid for implementation of Renewable Energy Sources has been entered into force and subsequently new specific norms and regulations for its application are to be prepared.

The Regulations for the application of the Law for State Financial Aid for the implementation of Renewable Energy Sources, should contain quality requirements of input data, obtained only with certified measurement instruments.

4. Adapt and adopt international (European) standards.

Romania has adopted the European standards for solar thermal systems and components. The list for those is given below:

List of existing Romanian Standards for Solar thermal systems and components

SR EN 12975 – 1: 2006	Solar thermal systems and components – Solar collectors – Part 1: General Requirements
SR EN 12975 – 2: 2006	Solar thermal systems and components – Solar collectors – Part 2: Test methods
SR EN 12976 – 1: 2006	Solar thermal systems and components – Factory made systems – Part 1: General Requirements
SR EN 12976 – 2: 2006	Solar thermal systems and components – Factory made systems – Part 2: Test methods
SR EN 61725: 2004	Analytical expression for daily solar profiles (IEC 61725: 1997)
SR ENV 12977 – 1: 2002	Solar thermal systems and components – Custom built systems – Part 1: General Requirements
SR ENV 12977 – 2: 2002	Solar thermal systems and components – Custom built systems – Part 2: Test methods
SR ENV 12977 – 3: 2002	Solar thermal systems and components – Custom built systems – Part 3: Performance characterization of stores for solar heating systems

However, in order to put these into practice, an additional effort for exchange of information and experience must be made.

5. Develop local testing facilities having the authority of certification.

The production of solar systems in Romania has started since 1979. Despite that fact, up to the present moment, there are no authorized laboratories for quality control of the produced equipment and respectively the standards have not been applied.

At present there is no authorized laboratory in Romania for testing solar collectors. However, if they are tested in EU countries (the CE mark), they are perfectly legal in Romania too. No further quality tests are carried out in Romania for the imported collectors. There is no laboratory in Romania, entitled to producing certificates for solar collector testing.

In The Law for State Financial Aid for implementation of Renewable Energy Sources the following measures are foreseen:

- Encouraging the development and use of technologies for the production and consumption of energy generated by Renewable Energy Sources - RES;
- Creating national long-term and short-term programs for the implementation of RES, including solar energy.

In order to stimulate the development of a Romanian quality production of solar collectors, the national programs have to include the creation of local testing facilities having the authority of certification.

6. Develop and implement general requirement standards

The passing of the Law for State Financial Aid for implementation of Renewable Energy Sources GO 750/2008 (07.07.2008), together with the adoption of the European standards for solar thermal systems and components constitute the main preconditions for their development. However it will take a certain amount of time to enable their implementation and exploitation. During this time it will be determined whether they are suitable for the conditions in Romania. Additionally, the estimation of the experts in the implementation of solar thermal systems will be analyzed.

7. Promote general requirement standards

The promotion of general requirement standards is a government obligation. The Government, in its energy policy, chose RES exploitation as a main direction. For the correct development of the market for solar thermal systems, the main precondition is the

quality of the solar systems. This means enforcement of and compliance with the European Standards.

For their enforcement on governmental level “Regulations for implementation of solar systems” have to be created and adopted. These regulations have to include requirements as well as sanctions in case the standards are not met.

8. Adopt certification

The enforcement of the certification for solar thermal systems allows better transparency and control in the market.

The certification should include the main elements of a solar thermal system. A single certificate includes many technical and other requirements and helps the Government authorities to base incentives policies.

The respective EU standards were adopted in Romania. At the present moment, however, the required laboratories for the respective tests do not exist.

This means that certification becomes a long-term objective, and it should be included in one of the long-term national programs for RES exploitation.

9. Create a GSR pool of experts

Up to this moment, the “Guaranteed Solar Result”(GSR) procedure has not been put into practice in Romania. The GSR approach and the telemonitoring system for accounting results of the generated thermal energy, are implemented for the first time in Romania. The results of the implementation of the system, which guarantees the higher quality of the applied solar systems, are to be wide spread. The information campaign for the implementation of GSR should outline that, together with a higher quality level of the implemented solar systems, it also provides an opportunity for banking credits; possible acknowledgement of the origin of the energy generated from RES; opportunity for the application of ESCO system etc.

The creation of a GSR pool of experts include:

- An information system which would include the diffusion of the GSR application results in other European countries.
- The setting of training courses for GSR implementation, which is one of the main steps for a widespread implementation of the GSR procedure.

The creation of an informational system and training courses, will lead to the constitution of a GSR pool of experts.

10. Legislation, incentives in order to adopt GSR approach

The concept of a Guaranteed Solar Result is based upon a contract between the Consumer (the owner of the solar installation) and the Contractor, who is a technical pool in charge of the designing, construction and exploitation of the device. The suggested GSR contract for large solar systems includes all the necessary elements. Signing such a contract will guarantee the owner a worthwhile investment. An investment guarantee is an important stimulus for the installation of solar thermal systems.

The compulsory adoption of GSR during public auctions for the construction of large solar thermal systems in governmental and municipal buildings would guarantee high quality systems.

It is advisable that the government includes GSR implementation for large solar thermal systems in the “Regulations for implementation of large solar thermal systems”.