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## SOLARGE: 36 Months of Large Ambitions and Encouraging Results

In most European countries, only the market development for small solar thermal systems in the private buildings segment could be described as positive. Collective solar thermal systems (CSTS) are often still in a status of demonstration projects, despite an enormous potential and the fact that overall cost efficiency is generally increasing with the size of the system. The IEE project SOLARGE was created to overcome this imbalance and aimed at opening up the markets for large-scale solar thermal plants with the focus on installations from 30 square metres collector area upwards for domestic hot water supply as well as supplementary heating and cooling in multi-family houses, hotels, public and social buildings. The project was launched in January 2005 and came to an end in December 2007. Now it is time to analyse the progress made and share the results of the project.

SOLARGE offered information, training and communication measures, raising awareness and building up capacities for quality planning and installing. Project activities motivated potential private, commercial and public investors as well as suppliers and decision makers to acknowledge and utilise the potentials of large solar thermal installations. The targets and the work programme of SOLARGE were very ambitious; nevertheless, the project consortium achieved the objectives outlined.

The main results of the project are:

- Comprehensive reports providing detailed inventory of the CSTS markets and political frameworks of eight countries were prepared and published.
- Additionally, a common market report brochure comparing and analysing the national studies was compiled. The conclusions thus formed were an important basis for SOLARGE measures.
- Training courses for installers and planners as well as investors were developed and implemented in all partner countries. SOLARGE partners have realised about 30 training sessions with more than 1,100 participants.
- The training materials developed in Germany consisting of more than 200 slides and explanatory notes were translated into English. This master version of a



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training course was made available to all partners for national adaptation and translation.

- A very intense analysis and investigation of good practice examples was carried out in all partner countries and findings were fed into the SOLARGE good practice database. More than 100 case studies from various building and application types are available online and offer insights into technical and financial details as well as description of development and experiences.
- The SOLARGE consortium organised a European expert workshop on CSTS in order to present the project results to invited professionals from Austria, Denmark, France, Germany, Italy, the Netherlands, Slovenia and Spain. Around 30 experienced experts from various stakeholders met to discuss market development and perspectives as well as measures to expand CSTS markets in Europe.
- The SOLARGE project was presented at regional, national and international level in more than 130 events such as conferences, seminars, trade fairs and workshops in all partner countries for various stakeholders like installers, planning and housing companies, investors, experts and research institutions.
- A high-quality image brochure addressing the prejudices of potential investors and presenting arguments and advantages of CSTS was published in Danish, Dutch, English, German, Italian, Slovenian and Spanish.
- A European best practice catalogue on CSTS comprising guidelines and practical examples for apartment buildings, hotels and business was published in a print run of 3,600 copies (English, German and Spanish).
- In order to promote CSTS in the housing sector, exemplary solar assessments of building stocks and single buildings were performed. The methods and instruments researched and developed by the SOLARGE partners were made available to professionals via the project's website.
- Public administrations and other stakeholders have been addressed to get their support for local CSTS promotion campaigns. The SOLARGE partners succeeded not only in preparing such actions, but could convince the relevant actors

and accompany the implementation of promotion campaigns.

- After the analyses of CSTS obstacles, the SOLARGE partners have edited national position papers with targets and recommendations for market development in order to give high-level policy advice in the respective countries.
- On the basis of the national papers, a common European position paper was developed which contains the key messages to both, European and national policy makers.
- The SOLARGE consortium dedicated a seminar to discussing barriers, national markets and achievements with the target group of policy makers and industry as well as experts at EU level. The seminar in Brussels welcomed some 60 participants from Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Implementing the project in the last three years, SOLARGE has given a strong contribution for the cognition, importance and market implementation of CSTS in the participating countries. The project was successfully implemented and all intended objectives were achieved. The target GmbH as co-ordinator is convinced that SOLARGE has helped to open up and further develop the markets for large-scale solar thermal systems. The project has encountered high interest and thus has shown that it came at the right point in time. On the whole, SOLARGE results provide a sound basis for future activities in the area of CSTS.

Hannover, February 2008

*Andreas Steege*  
(Managing Director, target GmbH)



## Results Overview

<b>Market Research</b>	8 National market studies (CY, DE, DK, ES, FR, IT, NL, SL) 1 Common market report
<b>Good and Best Practice</b>	111 Good practice examples in database 3,600 copies of best practice catalogue in EN, DE, ES
<b>Capacity Building</b>	Checklists, tools and template training materials for CSTS 23 exemplary assessment reports More than 30 training courses with a total of 1,100 participants Over 30 information events for the demand side with more than 2,300 participants
<b>Policy Advice</b>	17 National workshops with a total of 300 participants 2 European workshops with a total of 90 participants 7 National position papers for policy makers 1 Common position paper
<b>Promotion</b>	Project website in 8 languages with a total of about 8,000 visitors and 25,000 page views per months 6,900 copies of CSTS image brochure in EN, DE, DK, ES, IT, NL and SL 6 Newsletters 4 Promotional campaigns 58 presentations at fairs and conferences ManagEnergy Case Study Official partner of the Sustainable Energy Europe 2005–2008 Campaign

You can find all information and publications of the project on [www.solarge.org](http://www.solarge.org)

## Partners Say



**Henrik Steffensen**  
**Engineer, District heating systems, Rambøll Danmark A/S**  
**Denmark**

Large collective solar thermal systems are not a novelty in the Danish context and Rambøll's core services within CSTS are development, design, planning, optimisation and economic assessment. In Denmark the 200 largest solar plants covers 68,000 m<sup>2</sup> and produce 30 GWh per year. Nevertheless, there is still a great potential in both expanding the national market and transferring our expertise to other European settings. Taking the background in existing project results in the participating countries one of the great achievements of SOLARGE has been a systematic and international comparison of projects and dissemination of results for the first time. To overcome the barriers and at the same time to reach the EU objectives 2020 it is of great importance to focus on bringing down the price per yield ratio. CSTS in connection with district heating is seen as the answer in Denmark. This should also include household appliances like washing and dishwashing machines and the replacement of electrical by absorption cooling.



**Bruno Gagnepain**  
**ADEME Department Renewable Energy, France**

In the case of France we clearly saw a need for quality standards and monitoring for those CSTS plants that were initiated by subsidy schemes such as the Plan Soleil, which were implemented by ADEME. Within the course of SOLARGE the experiences and insights from the other partners supported the development of a better quality and subsidy management for CSTS. At present, we are on a good way to establish a Solar Thermal Observatory, which will enable to provide data about effective solar production and backup energy savings for a wide part of CSTS newly installed. Furthermore, this would contribute to make owners be completely aware of their CSTS functioning and global performance. Finally, it will help to guarantee that large solar thermal systems in France are running smoothly and efficiently during all lifetime of plants.



**Richard Loyen**  
**ENERPLAN Association Professionnelle de l'Énergie Solaire**  
**France**

Like almost everywhere in Europe, the market for solar thermal systems has also been growing in France. But for ENERPLAN as a professional association not only market figures matter. We want to make the transgression to a real skilled and sophisticated industry with more than 9,000 qualified installers in France. We started the initiative Qualisol in cooperation with ADEME in 2006 to attend to the general training needs. The work within SOLARGE provided us with enough tools, exchange and best practices to include the issue of CSTS within this qualification initiative.



**Gerhard Stryi-Hipp**  
**Managing Director, Bundesverband Solarwirtschaft (BSW), Germany**

50 % of all heating demand in Europe occurs in multi-family housing and if the policy objectives of 20 % of renewables by 2020 are to be taken seriously this can only imply that the CSTS markets have to be targeted. As the largest professional association for solar industry in Germany we know that the CSTS markets are very complex and include a lot of barriers. The work within the SOLARGE project has enabled us to see much more clearly how the land lies – here in Germany in and in other relevant countries. And we have been able to foster capacity building within the course of the project, which offers a good position to carry on what is inevitable in our view: improving the conditions for the use of solar energy in buildings with more than 3 dwellings.



**Susanne Berger**  
**Consultant, Berliner Energieagentur GmbH, Germany**

For public-private-partnership with the key aim of offering energy consulting services for public authorities, industry, business and housing companies in a large urban area, the issue of CSTS has to be a top priority. Within the SOLARGE project we especially made progress in the area of promotion and campaigning. We were able to develop a best practice marketing approach in cooperation with a gas utility which included “solar detectives” and proved to be very effective. A further real asset is also the SOLARGE best practice catalogue, which is also available in German and was already widely disseminated by us.



**Uwe Trenkner**  
**Secretary General, European Solar Thermal Industry Federation (ESTIF)**

There is no way of getting around CSTS! SOLARGE has laid the basis for not only a better understanding of the current technological issues, but has also focused on the non-technological barriers that are so much at the heart of market underperformance. And SOLARGE has spelled out recommendations on how the CSTS field should be supported by policies. It is clear that strong and coherent policies are needed. Good policies really have the power to ignite a positive growth cycle in the CSTS segments. With the publication of a proposal for an EU Renewables Directive at the beginning of 2008 a new milestone has been reached. SOLARGE was addressing the issue of CSTS before this new impulse. The project has created knowledge and tools, which will be used in putting the future Renewables Directive into action.



**Marco Calderoni**  
**Researcher, Ambiente Italia srl, Italy**

In Italy we face barriers such as subsidy stop-and-go, bureaucratic procedures for granting permissions or tax reductions. But we have witnessed changes for the better here within the course of the SOLARGE project. While collecting good practice examples of realised systems, however, it was quite obvious that the market for CSTS is rapidly increasing in Italy. Especially encouraging was the improvement of collaboration between housing associations or other house owners that we were able to make thanks to efforts made within the SOLARGE project.



**Sašo Medved**  
**Faculty of Mechanical Engineering, University of Ljubljana**  
**Slovenia**

There is a long tradition in renewable energy sources use in Slovenia, especially in wood biomass and hydro energy. Solar energy and especially the use of CSTS are underdeveloped. And this cannot only be blamed on the lack of financial support, which was at times very attractive for CSTS. We clearly experienced lack in the promotion of CSTS and capacity building for installers, planner and engineers. Here the SOLARGE project was truly helpful. Also the networking with CSTS stakeholder from public authorities, professional associations and research were improved within the course of SOLARGE.



**Frank Zegers**  
**Project Manager, Ecofys Netherlands BV, The Netherlands**

I would like to point out two milestones we achieve in the area of policy support and promotion in Holland within SOLARGE. With support of the SOLARGE partner Ecofys, the Dutch industry federation Holland Solar published a Solar Thermal Roadmap in March 2007 describing a clear vision and strategy for a market transition for more solar thermal systems in Holland including the need to get active in the field of larger systems. Secondly we were able to involve and address a large number of stakeholders from the housing industry and building sector with workshops, dissemination of information and excursions on the topic of CSTS.



**Roland Voskens**  
**Managing Director, Ecofys S.L., Spain**

Due to the solar obligation in place in Spain and the positive implications on the development on the demand side of CSTS we seemed to be the odd one out within the SOLARGE project consortium. However, we still see how important it is to have the right flanking measures in place such as effective control, state-of-the-art training and awareness raising for a successful implementation. So we made the experience that a project like SOLARGE which addresses capacity building within these flanking areas was and still is more than needed in the booming Spanish market. The aim should not only be the maximisation of the solar thermal market but even more important, applying simple and solid system configurations to get satisfied consumers and thus creating a positive image.

# SOLARGE: Sharing Results

The SOLARGE consortium wants to invite you to use the findings of the project and its publications and products, if you happen so share the “big is beautiful” vision of getting more as well as larger solar thermal systems on the roofs of European multi-family houses, office buildings and hotels.



## Basic Information

Leaflets with the most frequently asked questions (FAQs) on large solar thermal are available in Danish, Dutch, German, Italian, Spanish and Slovenian. An image brochure in various languages also offers technical information in a nutshell for investors, policy makers or other interest groups. All publications can be found at [www.solarge.org](http://www.solarge.org) in PDF format.



## Market Research

The market reports on CSTS from Cyprus, Denmark, France, Germany, Italy, the Netherlands, Spain and Slovenia can be downloaded for free from [www.solarge.org](http://www.solarge.org).



## Good and Best Practice

The good practice database is unprecedented in scope and size and represents a major result of SOLARGE. The database is accessible to the public at [www.solarge.org](http://www.solarge.org). The best practice catalogue presents selected 21 case studies from all countries and are available in English, German and Spanish. You can download PDF from [www.solarge.org](http://www.solarge.org) or order a hardcopy from [brennig@bsw-solar.de](mailto:brennig@bsw-solar.de)



## Capacity Building

A master version of the training concept and slides is available in English. PDF slide overviews can be downloaded at [www.solarge.org](http://www.solarge.org). You can contact Andreas Steege at [steege@targetgmbh.de](mailto:steege@targetgmbh.de) if wish to get more information on using the developed materials.

## Policy Advice

The national positions papers for Denmark, France, Germany, Italy, the Netherlands, Slovenia and Spain as well as a common paper can be downloaded from [www.solarge.org](http://www.solarge.org).

## Promotion

The details of the campaigns as well as all promotional materials such as leaflets, posters, slides can be found at [www.solarge.org](http://www.solarge.org).

## Project Consortium

Belgium / Brussels

**ESTIF**

[www.estif.org](http://www.estif.org)

Denmark

**Rambøll Danmark A/S**

[www.ramboll.dk](http://www.ramboll.dk)

France

**ADEME**

[www.ademe.fr](http://www.ademe.fr)

**ENERPLAN**

[www.enerplan.asso.fr](http://www.enerplan.asso.fr)

Germany

**Berliner Energieagentur GmbH**

[www.berliner-e-agentur.de](http://www.berliner-e-agentur.de)

**Bundesverband Solarwirtschaft e. V. (BSW)**

[www.solarwirtschaft.de](http://www.solarwirtschaft.de)

**target GmbH** (coordination)

[www.targetgmbh.de](http://www.targetgmbh.de)

Italy

**Ambiente Italia srl**

[www.ambienteitalia.it](http://www.ambienteitalia.it)

The Netherlands

**Ecofys Netherlands BV**

[www.ecofys.nl](http://www.ecofys.nl)

Slovenia

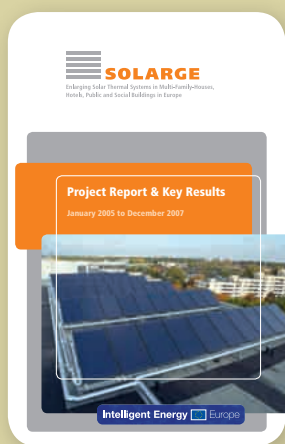
**University of Ljubljana**

[www.fs.uni-lj.si](http://www.fs.uni-lj.si)

Spain

**Ecofys S. L.**

[www.ecofys.es](http://www.ecofys.es)



## Want to know more?

You are welcome to order a copy of the published project report from [grimmig@targetgmbh.de](mailto:grimmig@targetgmbh.de). The report is available in English and presents the outcomes and key results of the project in more detail.

## Disclaimer

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