



# **ST-ESCOs Project**



**KAPE  
CRES**

The 3<sup>rd</sup> project meeting of ST-ESCOs partners was successfully held in Gratz (Austria) from the 29<sup>th</sup> to the 30<sup>th</sup> of June 2006.

Representatives from CRES (Hellas), EBHE (Hellas), POLIMI (Italy), ASSOLTERM (Italy), ARGEM (Murcia, Spain), AIGUASOL (Spain), GEA (Austria), NAHWARME (Austria) and AEE INTEC (Austria), as well as the IIEEA officer of ST-ESCOs project Feliz Mil-Homens participated in the meeting.

It was stressed from all the attendants that the project has entered its most important part where it began to be more extravert and the results of the work became meaningful. The work that's already done and is still carried out, is of particular importance, as all contacts and efforts are turning into feasibility studies and finally into contracts.



## AUSTRIA

### ST-ESCO contract signed for 408 m<sup>2</sup> project in Austria

In the heart of the Austrian alps, in the province of Styria, lies the small town of Oberzeiring, with approx. 1000 inhabitants.

In Oberzeiring the company Österreichische Fernwärmegesellschaft (ÖFWG) operates a district heating network which includes 2 wood chip fired biomass boilers and 2 smaller oil boilers. The biomass boilers have the task of covering the base load, whereas the oil boilers cover consumption peaks and the summer loads.



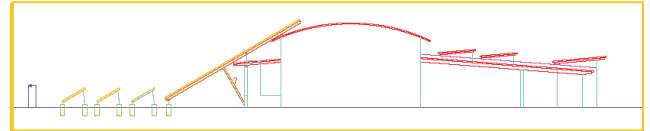
The idea of including a solar thermal plant into the existing system is the one of covering the summer loads entirely with solar energy; thus, the biomass and the oil boilers could be completely turned off in summer. The solar plant is made of different collector arrays totalling a gross collector area of 408 m<sup>2</sup>. One collector array is placed on the roof of the biomass storage room, another one in front of it, directly on the ground (see picture below).

The company solar.nahwaerme.at Energiecontracting GmbH builds the solar plant at its own cost and assumes the financing plan. The financing of the plant is done partly by public subsidies and partly by bank loans. Solar.nahwaerme.at expects a payback time of approx. 14 years for this plant. The company S.O.L.I.D. GmbH is commissioned by solar.nahwaerme.at with the construction and installation of the solar plant.

The main contractual partner of solar.nahwaerme.at Energiecontracting GmbH is the customer for the energy feed-in, the

Österreichische Fernwärmegesellschaft mbH. Both parties signed an agreement that all solar energy delivered by the plant can be supplied to the district heating net. Besides a low energy price for the solar energy – competitive with the existing energy prices for oil and biomass –, another advantage for the whole municipality of Oberzeiring is the fact that the oil boiler emissions will be clearly reduced by the solar plant; this is even more important as Oberzeiring is a climatic spa.

The construction of the plant is foreseen to start in autumn of 2006 and will be completed in the end of 2007.



## SPAIN

### 4 ST-ESCOs Draft Contract Models were released as a base point for discussions

The 4 Draft Contract Models have been developed during the last months in order to be used for the ST-ESCOs negotiations. A brief description of them is hereafter:

Draft Guaranteed Solar Results Contract (GSR). The guaranteed solar results (GSR) is a contract in which the tenderer commits himself to the client, and agrees to design, install, start-up and operate a solar system for supplying domestic hot water, during a specified period of time and guarantees that it produces an agreed minimum amount of energy each year during the period covered by the contract.

Draft Flat Rate Tariff Contract (FRT). This structure is likely to be more appropriate to smaller installation. The user pays a fixed amount each month, regardless of the amount of the heat used. The level of the monthly payments can be fixed with reference to the payback required by the project financiers and the price level that is acceptable to the targeted fraction of the market.

Draft Heat Unit Billing Contract (HUB). Appropriate for medium-large installation. The medium-large installation pays according to the amount of the heat used. The heat is metered and recorded by the billing company. The third financing party owns the equipment until the debt is repaid. Housing associations may well

have addressed some of these issues in their billing practice for other utilities. It would be useful to find out if this is the case.

Draft Energy Service Billing Contract (ESCO). The user enters into a contract with the service provider for the delivery of a certain amount of heat, and there is no transfer for ownership of equipment after a certain amount has been paid. A flat monthly fee is charged based on the amount of heat that a system has been designed to deliver. This means that the service provider is responsible for the operation, maintenance, repair and the performance of the equipment for the duration of the contract, rather than a fraction of the lifetime of the equipment. Once the equipment needs replacement, the service provider carries this out, and the user keeps paying for the heat service as usual.

## ITALY

### New solar thermal incentives

New local incentives for solar thermal applications have been recently launched. Soon, solar thermal incentives will be active in 9 out of 20 regions. Most of them are located in Northern Italy (Lombardia, Liguria, Trentino, Friuli, Piemonte and Valle d'Aosta). Other Italian regions supporting solar thermal are Tuscany, Sardinia and Campania (Naples municipality only). Moreover, national incentives are available for state owned companies and gas companies for a total of 5.7 million €.

Source: <http://www.fonti-rinnovabili.it>

### **Great exit for the first round of the Italian White Certificates market**

In Italy, the White Certificates have been sold on the market at very good average prices. Within the end of May 2006 the registered prices have been:

- about 77 €/toe (tons of oil equivalent saved) for gas savings
- about 94 €/toe for electricity savings

The maximum price for White Certificates, fixed by the Authority for Electricity and Gas, is 100 €/toe.

White Certificates coming from solar thermal plants regard both kinds of savings, since solar thermal heat could replace both electricity and gas.

## MORE NEWS....

### Solar Cities Congress

The 2<sup>nd</sup> International Solar Cities Congress was held in Oxford, England, between 3<sup>rd</sup>- 6<sup>th</sup> of April 2006. Delegates from the worlds of science, business and policy-making attended the meeting, along with representatives from 20 cities.

The conversation was focused to the development of common approaches of all the relevant stakeholders, as well as to the examination and development of policies for sustainable cities.

The idea behind the project is to increase the use of solar technologies in urban environments. If the energy generated from renewable sources is increased, the dependency of a city on externally generated supplies of energy is reduced, along with the carbon dioxide emissions. Therefore it is possible to achieve climate stabilization and climate change mitigation, resulting to a cleaner urban environment.

Source: <http://www.solarcities.org.uk/>

### European Solar Thermal Technology Platform launched

Solar thermal energy can be used in many ways, to replace conventional fuels such as coal, gas, oil and nuclear. Today it is used mainly to heat domestic water and to some extent for space heating. As solar thermal is still an evolving technology many more applications of this clean energy source become available in the market. In a few decades only, solar thermal will supply significant portions of the heating and cooling demand.

Reducing the use of conventional energy sources is crucial in order to achieve three important goals:

- Diminishing the disastrous implications of global warming
- Increasing the security of supply by reducing the dependence on fuel imports from politically unstable regions
- Reducing the negative economic effects of dramatically rising oil and gas prices

The establishment of ESTTP is a very important step in order to accelerate the development of solar thermal technology as a significant energy resource that can meet the heating and cooling demand in Europe.

Technology Platforms (TPs) are instruments

created by the European Commission in order to bring together stakeholders of a technology to strengthen Europe's leading position in certain technology areas. It is expected that the TPs will influence the European R&D politics decisively.

The idea of the ESTTP was announced on 21 June 2005 at the 2nd European Solar Thermal Energy Conference estec2005. Following a year of preparation ESTIF (European Solar Thermal Industry Federation) and EUREC Agency (European Renewable Energy Centers Agency) invite the European solar thermal community to the Official Launch of the European Solar Thermal Technology Platform (ESTTP) on 30 May 2006.

Source: <http://www.esttp.org/>

### **Solar Thermal at the European Parliament**

Solar panels with a surface area of 28.8 m<sup>2</sup> were placed on the European Parliament located in Brussels, on April 26<sup>th</sup> 2006.

The solar thermal system will supply energy at a percentage of 63% for hot sanitary water in the building's 54 shower cubicles. The delivered amount of energy is expected to reduce the EU parliament's CO<sub>2</sub> emissions by nearly 4.5 tons annually and the energy savings are expected to reach 22,300 kWh of electricity.

This is not the end of the project, as an additional solar thermal is planned to be installed in 2007, providing hot water to the parliament's restaurant.

The EU sets the good example after its official commitment to promote renewable energy in the heating sector.

Source: <http://www.estif.org/>

### **World Renewable Energy Congress Exhibition and Awards - 2006**

The World Renewable Energy Congress (WREC) Exhibition and Awards

is the largest worldwide event in the renewable energy field. More than 1.000 participants among suppliers, consumers, governments, industry, academia and financial institutions from all over the World will meet in Florence, Italy from 19<sup>th</sup> to 25<sup>th</sup> August 2006. The Congress will cover the following major topics:

- Fuel cells and Hydrogen Technology
- Biomass Conversion
- Low energy architecture
- Marine Energy technology
- Photovoltaic technology
- Solar Materials
- Solar Thermal Applications

- Wind Energy Applications
- Sustainable Transport
- Policy Issues

More information is available at the congress website: [www://www.wrec2006.com](http://www.wrec2006.com)

Source: <http://www.wrec2006.com>

## **Project Progress**

### **HELLAS**

In Hellas the project is at the pre-feasibility studies phase. Great interest for participation in the project followed the call of interest for end-users during previous quarter of 2006, which was published in the Hellenic technical magazines and press.

End-users from various sectors (hotels, textile industry, hospitals, sport centres) expressed their interest and the most promising cases are under examination. The basic aim of the project (at least one ST-ESCO agreement by the end of the project for each participating country) seems feasible.

A second call of interest, for ST-ESCO developers, has been published in technical magazines and press.

### **AUSTRIA**

In Austria pre-feasibility studies have already started.

Effort is made to stay close to the target group and intensify the contacts to get further pre-feasibility studies.

On 4<sup>th</sup> of May 2006 a large conference, at which solar heat was the main topic, took place in Graz/Austria especially for the ST-ESCO target group. Thermal solar systems have developed to an important element when it comes to the heat supply in residential housing. Especially in Styria important research activities as well as practical experiences lead to the high quality standard of solar supported plants up to date for the heat supply. Based on that fact, housing companies make use of this environmental friendly technology for heat provision of their multi storage buildings. The positive experiences of numerous projects inherit major arguments for the anchorage of solar systems as a new standard to the federal state subsidies for residential buildings. The ST-ESCO project was represented at the conference to emphasize the advantages of solar thermal energy services (e.g. comprehensive guarantees) and to overcome the prevailing



barriers with the goal to implement more solar plants.

Graz Energy Agency gave a presentation with the topic **"ST-ESCOs solar thermal installations – the secure way for a guaranteed yield."**

applications and the ever-increasing price of conventional energy is making solar thermal energy more and more attractive to energy investors.

**For further information : [www.stescos.org](http://www.stescos.org)**

## **SPAIN**

### **Insurance conditions**

The conditions for the installation insurance have been dealt and negotiated with the insurance company "CASER seguros" regarding the ST-ESCOs model. This company is owned by the main saving bank entities for citizens, "Cajas de Ahorros".

This insurance company is actually able to cover all the following warranties:

#### **a. Basic warranties:**

- Value €. is established to calculate the other ratios.
- Electrical damages covered with 8%

#### **b. Options warranties:**

- Theft and Pillaging (robo y expoliación): 100%
- Civil responsibility: (60%)
- Lost of benefits (Stopping production).

The insurance company has offered a first price in case of installation failure with a value of 480.000 €, even covering the lack of income for a maximum of 60 days and protected by protection service of the building. The price was calculated considering that the solar plant incorporates the use of an alarm and all the protection systems are covered by the protection service of the building.

The specific Insurance cost per square meter and year is about 1,5 €. That is the Insurance scheme for ST-ESCOs projects in Spain.

## **ITALY**

During the current project phase, a few feasibility studies have been carried out. The studies focused on medium size (150 m<sup>2</sup> collector field) applications in both the sanitary hot water (residential and sport facilities) and process heat sector (dairy and textile). The first economic results are in line with the expectations of ST-ESCOs prospective, especially in Southern Italy where climatic conditions are ideal for solar thermal