

# Solar Results Purchasing



## Acknowledgements

The project team gratefully acknowledge the support of the European Commission for the preparation of this publication. Front page photographs courtesy of IT Power and BESEL S.A.

# Introduction

**Solar Results Purchasing**, an innovative way to pay for solar hot water, has been developed by an international team of Renewable Energy experts as part of a study funded by the European Commission (Thermie contract number str-1973-98). The project has produced a Guideline document to enable bodies in other regions begin the process of developing an SRP programme for themselves. A full report will be available in late 2000. The Guideline explains the background to Solar Thermal heating, the principles of SRP financing and ways to assess the market for SRP in a region. We also list possible sources of help in taking this idea further.

In the past, if you wanted solar power, you had to buy a set of solar panels, pay to get them installed and make sure you kept them in good running order. With SRP you pay someone else to do all of this for you - they design your system, provide the panels, install them and make sure they operate effectively to supply a guaranteed amount of hot water. Best of all, you get money back if they don't meet their guarantee!

For further information on this, contact : **DULAS LTD**  
**DYFI ECO PARC**  
**MACHYNLLETH**  
**POWYS**  
**WALES**  
**TEL : 01654 705 000**

## WHAT IS SRP?

### An Easier Way to Pay for Solar Hot Water

SRP is a break-through in the field of solar hot water. It offers two enormous advantages to the user of solar thermal energy.

1. It allows the user of the hot water to pay for the energy they use by unit rather than having to buy an expensive solar thermal installation up-front.
2. It has a built-in guarantee of good performance, so the user can be confident that their move to solar heating will definitely be cost-effective.

The guidelines outlined in the full report take you through the main points that define SRP and offer some helpful hints for those who wish to take these ideas into practice. We start with a basic description of how solar thermal heating actually works.

### Technical Requirements

To set up an SRP programme, you must also ensure that the necessary technical skills are available in the region you are considering.

#### Technical skills are needed for :

- Scheme sizing and Design;
- Installation;
- Commissioning, including monitoring;
- Maintenance and evaluation.

**As well as Technical Requirements, the full report also considers:**

- Financing and Financial Support
- Legal Regulations
- Model Contracts

## Three SRP Contract Types

Extensive research demonstrated that there are three billing and contract arrangements for SRP which we believe are the most appropriate types to use for SRP.

#### Flat Rate Tariff

In this pricing arrangement, the user pays a fixed amount each month, regardless of the amount of heat used. This is rather like a Hire-Purchase agreement and is suitable for smaller installations where the cost of metering the heat delivered may be high and demand may fluctuate.

#### Heat Unit Tariff

In this price structure, a larger installation (such as at a housing association or an industrial unit) is paid for according to the amount of heat used. The heat is metered and recorded by the billing company. The cost of a unit of heat is set so that it covers the price of the system etc in a time that suits both the seller and the buyer.

#### Energy Service Contract

In this arrangement, the user enters into a contract with the service provider for the delivery of a certain amount of heat, and there is no transfer of ownership of equipment, even after the price of this system has been covered.

The service provider is responsible for maintenance, repair and the performance of the equipment for the duration of the contract, and is also responsible for replacing equipment once its lifetime expires.

# THIRD PARTY FINANCING



Renewable Energy schemes such as Solar Hot Water systems typically have high initial capital cost but low running costs. High initial capital costs are often cited as one of the main barriers to adoption of Renewable Energy technologies. Third Party Financing (TPF) is a technique which aims to remove this barrier.

In TPF, the high capital costs of Renewable Energy schemes can be met by someone other than the user (or seller) of the energy (i.e. a 'third party'), and the user pays for each unit of energy delivered, rather than for the equipment that delivers it.

The cost of the delivered energy to the user is usually set using a combination of factors including:

- The cost of energy delivered by other methods (in this case, alternative fuels for heating water).
- The payment required to pay off the investment by the third party (and provide them with some profit).
- The estimated cost of maintenance and repairs over the lifetime of the contract.

# GUARANTEED SOLAR RESULTS

Solar panels are quite expensive, and, like double glazing, only pay for themselves in savings on fuel bills over several years. This high initial cost is off-putting to many potential users. In addition to this, there is a widespread perception that solar thermal technology is not well-established and that equipment may be prone to breakdown or inefficient operation.

In order to overcome this lack of confidence, the concept of Guaranteed Solar Results (GSR) was developed in France in the 1980s.

GSR removes all uncertainty that a client may have that a solar water heating system will not perform well by guaranteeing that, over an agreed period, they will receive a given amount of heated water from their installation. If the installation does not perform to the standard set out in the guarantee, the client is compensated financially for the failure.

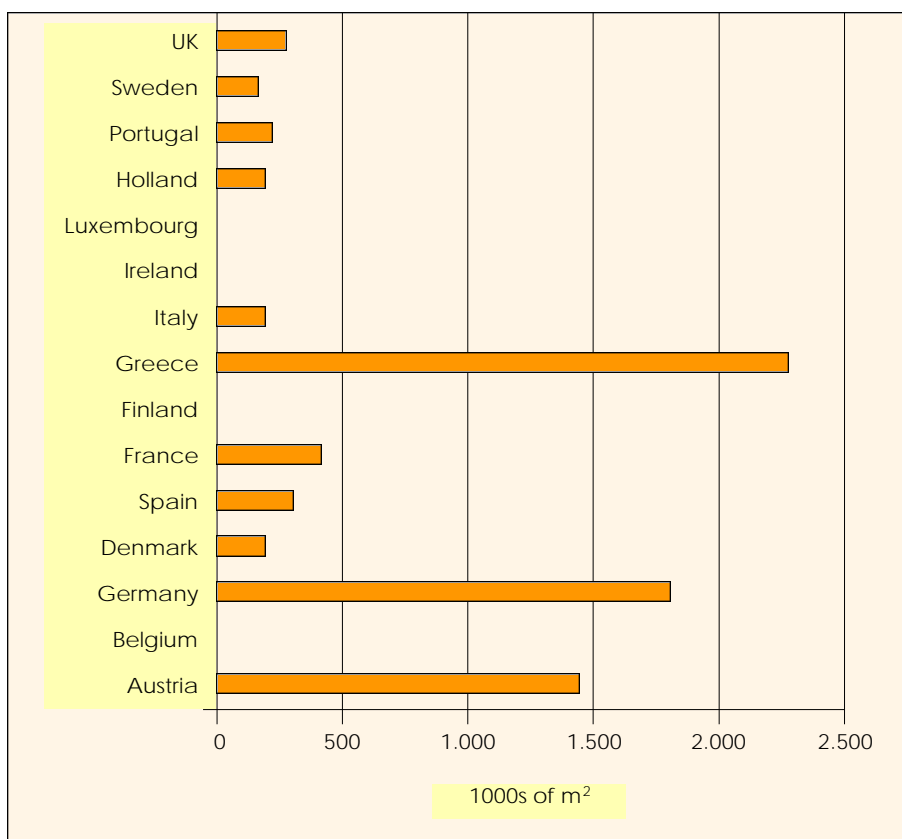
This enables the client to calculate and organise financing for their scheme, as they can estimate with confidence the reduction they will see in their bills for other fuels for heating.

A GSR contract also removes any anxiety about system maintenance and repair as the contract provider must maintain the system so that it will perform to the agreed standard.

The success of GSR depends on :

- **A clear and unambiguous contract** between the system client and a partnership of project developers, managers, equipment installers, and financiers.
- **Accurate predictions** of system performance.
- **Accurate estimation of hot water demand profile.**

**Metering** and data logging systems which can be interrogated by telemetry



Installed area of solar thermal collectors in the EU (Source: Eurostat)

## Solar Powered Business

Businesses can also use solar thermal heating, and in fact some of the most successful solar thermal schemes are large-scale and are installed in hotels, health centres and sports centres. Solar thermal heating is also used in dairies, camp sites, breweries, ski resorts, wineries and other industries that use process heat.

## Solar Power Popularity

Solar thermal panels are used throughout the EU, although some countries have a greater number of installations than others. You can see from the chart below, for instance, that Greece has more square metres of solar panels installed than any other EU Member State.

## Solar Thermal Industry

The solar thermal industry has grown in recent years and production of solar thermal panels is now significant in Germany, Austria, Greece and Denmark. The pie chart below shows the proportions produced in each country.

## Solar Results Purchasing

Solar Result Purchasing combines Guaranteed Solar Results (GSR) with Third Party Financing (TPF) i.e.

$$\text{SRP} = \text{GSR} + \text{TPF}$$

This means that the user of solar hot water:

1. can be sure that their solar system will perform well and
2. does not have to make a high initial payment for the installation of the system.

# Sources of Help

## SRP Experts

The organisations below are EU experts in SRP and have participated in the preparation of this document.

| The UK                                                                                                      | Spain                                                                                                                                                | France                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| DULAS LTD<br>DYFI ECO PARC<br>MACHYNLLETH<br>POWYS<br>WALES<br>TEL : 01654 705 000<br>Contact : Jan Sanders | BESEL S.A.<br>GENERAL MARTINEZ CAMPOS 11, 1*<br>28010 MADRID. SPAIN.<br>TEL: +34 91 444 59 01<br>FAX: +34 91 447 75 27<br>Contact : Silvia Kawashima | CLER (COMITÉ DE LIAISON DES<br>ENERGIES RENOUVELABLES)<br>2 B, RUE JULES FERRY<br>93 100 MONTREUIL<br>Tel : 01.55.86.80.00 |

## OPETS

Your local OPET (Organisation for Promotion of Energy Technology) will have information about renewable energy in general and also about solar thermal energy in particular. The OPET network is a good source of information about funding possibilities for RE in your region and across the EU.

To contact your local **OPET** Ring: 00-32-22-96 7836 or Fax: 00-32-22-96 6016

## Websites

The websites below provide information on solar thermal energy and renewable energy. Some of the website also give contact details for solar thermal experts in specific EU Member States.

| Organisation                                                         | Website                                                      |
|----------------------------------------------------------------------|--------------------------------------------------------------|
| ISES<br>International Solar Energy Society                           | <a href="http://www.ises.org">www.ises.org</a>               |
| Eurosolar<br>EU solar energy association                             | <a href="http://www.eurosolar.org">www.eurosolar.org</a>     |
| ESIF<br>European Solar Thermal Association                           | <a href="http://www.erg.ucd.ie/esif">www.erg.ucd.ie/esif</a> |
| Solar Energy Industries Association                                  | <a href="http://www.seia.org">www.seia.org</a>               |
| AGORES<br>EU website with up-to-date information on RE across the EU | <a href="http://www.agores.org">www.agores.org</a>           |