

## CYPRUS

### LARGE-SCALE UTILISATION OF SOLAR ENERGY

*The island of Cyprus, in the eastern Mediterranean, has a population of 663,300 inhabitants. Cyprus does not have any indigenous fossil-fuel resources and is almost totally dependent on imported energy products, mainly crude oil and refined products. With the island's dry Mediterranean climate and abundant sunlight, solar energy is one of the few locally available sources of energy.*

For this reason, Cyprus has invested in a policy of future energy use centred on renewable energy sources, and solar energy in particular. The result is that today 92% of all island dwellings are fitted with solar water heating systems, the estimated current area of solar collection in Cyprus is 600,000 square meters - or 0.86 m<sup>2</sup> of solar collector per capita - and the annual solar thermal energy production is 336,000 MWh/year. All in all, the contribution of solar energy to the energy balance of the country is about 4% and, due to the extensive use of solar heaters, CO<sub>2</sub> emissions on the island have been reduced by 10% by avoiding the use of fossil fuels.

Solar water heaters were first fabricated and installed in Cyprus in the 1960s. Since then a remarkable expansion in their use has taken place, placing the country among the world leaders in solar water heaters use per person. Progress was slow during the first years, on account of defects in design, which led to low efficiency, high cost and operational difficulties such as leakage. However, with engineering developments and rationalisation of production, defects were eliminated and the cost kept at constant level, leading to an impressive increase in production. Today, there are about ten major and twenty smaller manufacturers of solar water heaters in Cyprus, producing about 35,000 m<sup>2</sup> of solar collectors annually.

A key reason for the success with which solar energy has taken off in Cyprus is the fact that it represents a cheap alternative to householders. The cost of installing solar energy harvesting equipment is low - it only costs about 700 Euros to install a solar water heating system on a house and the typical time to recover this cost by cutting household electricity bills is estimated to be about four years.

The consumer demand for solar energy has also been backed up by an active private sector, which has been key in promoting the wide scale use of solar energy in Cyprus and has invested

in the improvement of technologies. In addition solar energy has received government support, through the Applied Energy Centre (part of the Ministry of Commerce, Industry and Tourism), which has helped to promote solar energy by providing technical support, through testing of collectors and setting of standards, as well as providing advice to industry for improvement of products and to consumers for efficient utilisation. This provision of technical support to industry proved to be critical at the initial stages, and remains important today, as most local solar water heater firms are too small to support research activities independently.

An important factor in promoting solar energy has been its institutionalisation through supporting procedures by government. Tax incentives were given to manufacturers by making the materials used for fabrication of solar water heaters duty-free, and regulations were set for the building industry which made the installation of solar water heaters compulsory on state-built housing. Furthermore, in addition to promoting household use of solar energy, the Electricity Authority of Cyprus is committed to purchasing electricity produced from renewable energy sources at relatively high prices from private suppliers in order to boost the development of these sources.

The promotion of solar energy in Cyprus, therefore, shows that alternative energy sources can be economically viable and affordable substitutes for fossil fuels. It also highlights the important role that both government and the private sector can make in promoting the use of renewable energy sources by households.



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