Olympic swimming pool Haro, La Rioja

One of the largest roof integrated thermal solar systems in Europe has been realized in Haro, La Rioja – Spain. Its 1.500 m² surface area of Solar Roof AS bring a huge nominal so-lar power of 1.4 MW. The solar thermal energy is used both for swimming pool heating and hot water production of the complete sports centre. The fa-cilities of this sports centre include 2 indoor swimming pools of 25 x 16 m respectively 16 x 9 m, a fitness centre, and multi sports hall. Around 1000 people per day visit this sportscentre. The solar yield of this system is around 500 kWh/m².year. The Solar Roof AS turns the whole roof into an efficient solar collector. It is an attractive al-ternative to more conventional discrete solar panels. It integrates renewable energy into the architecture of a building – aversting between 300 and 700 Wh/m² of thermal energy per year. On the sports centre of Haro was designed a smoothly curved Solar Roof AS. It has fully succeeded to reconcile the functionality of a thermal solar system with aesthetical ap-pealing architecture. The fully modular solar panels are perfectly integrated in the building.

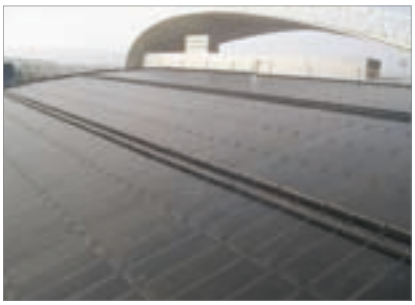
Installation
Energie Solaire S.A.
www.energie-solaire.com

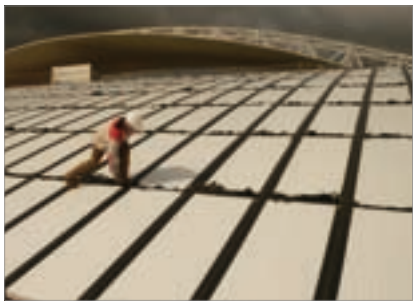
Planning and design

Operator

Swimming Pool and Solar System

Year of installation	2006–2008
Pool surface area and volume	400 m², water depth 1.5 m–2.0 m 144 m², water depth 1.5 m–2.0 m
Tube absorber surface area	- m²
Flat absorber surface area	1.500 m²
Absorber type	Selective coated unglazed solar absorber w. full irrigation type SOLAR ROOF AS
Auxiliary heating system	n.a. kW
Specific yield	500 kWh/(m²·a)
Energy savings	ca. 750.000 kWh gas per year
Environmental gain	ca. ??? t CO_2 pro year
Investment costs including the heat pump	n.a. EUR
System costs	n.a. EUR/m²
Operation costs savings	ca. n.a. EUR per year





DGS

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**SOLPOOL – Solar energy use in outdoor swimming pools.
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CZREA, Czech Republic; ALE, France and LECCE, Italy. SOLPOOL is
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Intelligent Energy Europe