



Integrating renewables in a University hospital

Sofia, Bulgaria - 1.3 million inhabitants

Solar thermal energy - sustainable buildings – energy efficiency

In 2013 an Energy Resource Mapping was undertaken for the City of Sofia. Conclusion from the mapping highlighted the potential to use solar thermal energy in buildings with high consumption of domestic hot water such as hospitals.



Project in a Nutshell

The University Hospital “Tsaritsa Yoanna – ISUL” (ISUL) was identified as a potential beneficiary to pilot the installation of a solar thermal system for water heating. The Hospital is situated in the North Central Part of the Oborishte District of Sofia. It has 429 beds and 20 000 patients pass through its departments annually. The total staff number is 992 people. The gross floor area of all the buildings affected by energy savings is about 39 000 square meters out of which 32 000 are the total heated floor area. The installation took place over the period Dec 2013-September 2014 and it was covered by SACCATO (Sustainable technologies And Combined Community Approaches Take Off), a project under the CONCERTO initiative co-funded by the European Commission Sixth Framework Programme.

Impact & Next steps

The expected savings are more than 154 000 kWh of heat energy or 7000 EUR/y of cost savings. The CO₂ emissions savings are of 38,03 t/y.

Replicability: Challenges & Success Factors

The hospital consumes more than 750 MWh/y thermal energy for DHW supplied by the district heating utility company Toplofikacia Sofia AD. For a big energy consumer, it is feasible to install solar thermal system which will cover more than 50% of the annual needs for DHW. The cost of thermal energy for heating and providing hot water of ISUL for 2013 was almost 125 000 EUR VAT included. Annual electricity costs exceeded 250 000 EUR VAT.

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