GEOTHERMAL ENERGY: Status and Future in the Peri - Adriatic Area



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The GROUND-MED Project - Advanced GROUND source heat pump systems for heating and cooling in MEDiterranean climate

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Ground-Med project (2009-2014), supported by the European Commission through the FP7 programme, developed a new generation of ground source heat pump systems providing heating, cooling and sanitary hot water, characterised by improved energy efficiency.

These systems have been installed and are being monitored in 8 buildings of South Europe.

The project proved that the technological advantage of high efficiency heat pumps can be utilized in its full potential by adequate borehole heat exchangers, internal system design and advanced operation control synchronizing pumps and fans with the compressor and optimising the heating/cooling water temperature.

Monitoring results indicate system seasonal performance factors SPF2 (considering electricity consumption at the compressors and external pump) up to 5.91 for heating, 6.76 for active cooling and 39.93 for free cooling directly from the borehole heat exchanger, well above the project objective of 5.0 and the average ground source heat pump performance of 3.5.

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Figure 1: D. MENDRINOS

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