



A low carbon solution for a sunny home in the Spanish mountains



Beautiful villa situated in the mountain hills on the outskirts of Madrid with 100 % renewable energy

You may think of Madrid as always being a place of warmth and sunny skies, however you might be surprised, that Madrid is surrounded by snow filled mountains, where you can ski most of the winter. In this mountain forest is situated a newly renovated 1 200m² villa.

The traditional option for heating these kinds of properties has always been fossil fuels, oil if not traditional chimneys. When the retrofit was considered, the owners looked for a modern environmental friendly solution and found a Thermia geothermal heat pump to be the best solution. With no external impact and low maintenance, they also achieve a very low carbon footprint. They is no need to fill

oil deposits or wait for deliveries of pellets/wood to have the energy needed all year around. They have installed a Thermia Mega XL that provides 100 % of heating and cooling needs, in addition to the TWC Thermia water tank of instant hot water production, all hot water needs are met, up to 5 200 liters per hour.

All this with an SCOP of more than 5. That means that for every 1 kWh that is used, Thermia Mega produces 5 kWh, giving a very impressive energy saving of 80 %. The climate conditions in Madrid are very extreme, in the winter the temperatures can reach -10° C and in the summer, they can surpass 40° C.



With the Thermia Mega and underfloor heating and cooling, the property can keep a stable and comfortable temperature independently of the outside temperature, at very low operating cost. The property is used not only as a second retreat but also for conferences and weddings where the need for comfort is paramount for the success of using the property for commercial purposes.

Today, the demanding customer not only expects comfort but also that the property they rent for their events is environmentally friendly so they can identify their big day with their personal or corporate values of sustainability.

The Thermia Mega solution not only serves as a solution for such high demand, but also as an asset value added to the property that has been renovated with the highest standards of construction and design. The savings, the value added to the property and the increased comfort will therefore result in a quick return on investment, compared with any other alternative.

'Thanks to Thermia Mega's modern and efficient geothermal energy system, house owners can enjoy comfort all year round with a low carbon footprint and real money savings.' says Miguel Madero Wage, General Director at Girod Geotermia

Fact Box

Characteristics of the building

- Heating demand 143 326 kWh
- Cooling demand 35 831 kWh
- Functions: heating, hot water and cooling

Applied renewable solution:

- Thermia Mega XL (21-88 kW) ground source heat pump
- 750 TW-C water heater from domestic hot water

Heating / Cooling distribution system:

- Underfloor heating
- Underfloor cooling

Completion date: October 2016



Girod Geotermia - experienced partner in renewable energy on the Spanish peninsula

Girod Geotermia is the distributor of Thermia in Spain with more than 600 installations since 2007 made in all types of climates on the Spanish peninsula. The highly qualified technical support and network of local installers guarantee the correct functionality of your Thermia installation.

Girod Geotermia will design the best solution for your house or commercial property using the vast range of heat pumps offered by Thermia. Ground source vertical or horizontal as well as air-to-water solutions delivering heat, cooling and hot water in the most efficient way.

Girod Geotermia with the network of certified installers and drillers have successfully installed geothermal installations from 6 kW for small houses to office buildings with more than 350 kW. You can read more about Thermia projects in Spain and awards received for best installation in Spain at www.girodgeotermia.com

Girod Geotermia, Calle Campoamor 14, 28004 Madrid, Tel: +34 91 702 63 56, E-mail: info@girodgeotermia.com, www.girodgeotermia.com

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Pioneering heat pumps

For the last 50 years, we have dedicated all our resources and knowledge to developing and endlessly refining one product: the heat pump. Our focus on geothermal energy has given us world-leading knowledge in heat pump technology.



Engineered with passion

Developing truly sustainable renewable energy solutions can only be achieved with passionate, dedicated and uncompromising experts. Some of Europe's most highly qualified engineers can be found in our own R&D center.



Born in Sweden

All our products are designed, manufactured and tested in Sweden using the latest technology and the highest quality components. We are proud to count world-leading industry specialist, Danfoss, among our technology partners.