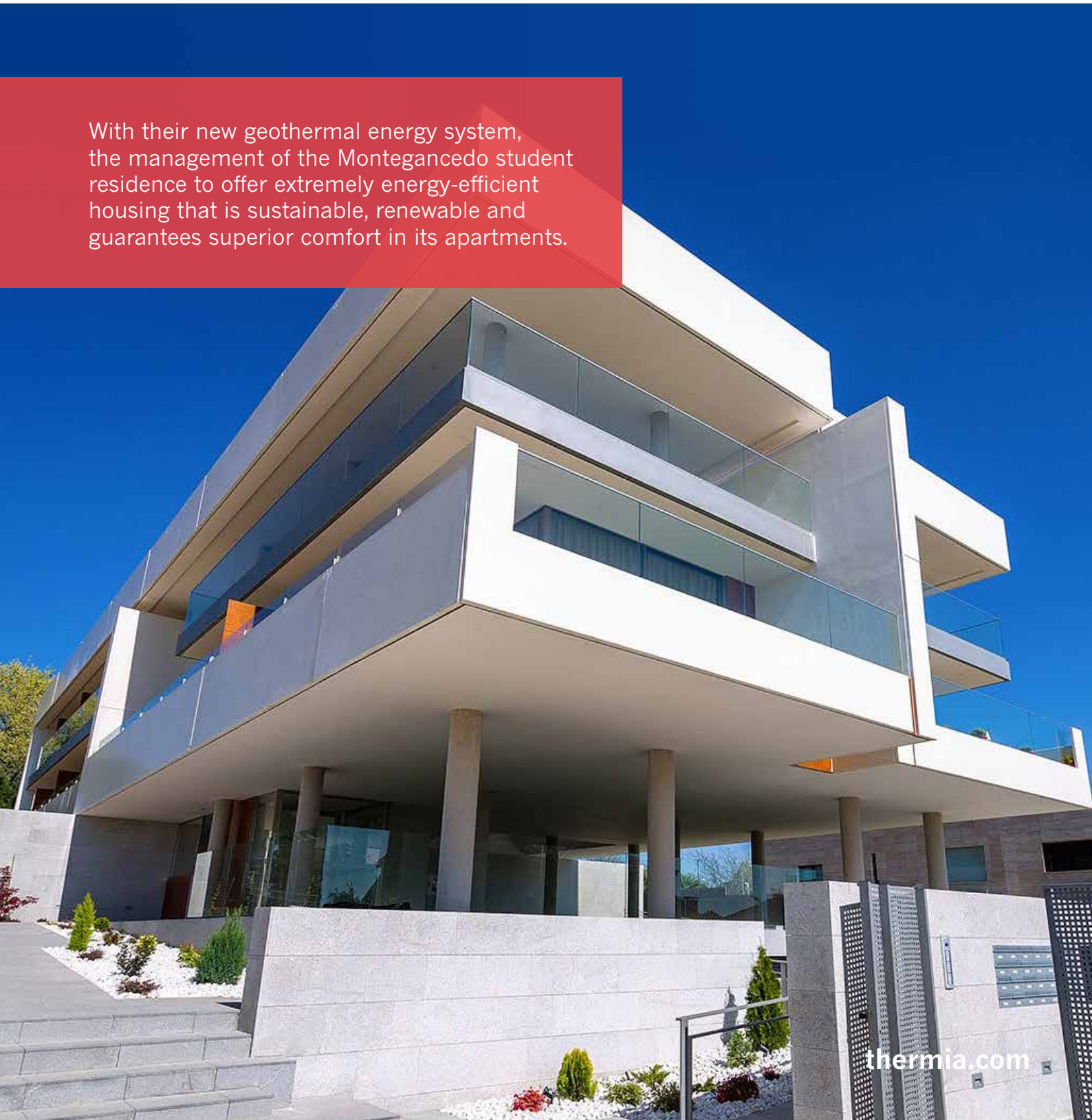
Spanish students benefit from a renewable heating and cooling solution from Thermia

With their new geothermal energy system, the management of the Montegancedo student residence to offer extremely energy-efficient housing that is sustainable, renewable and guarantees superior comfort in its apartments.



Student's residence

Montegancedo student residence
Located in the municipality of Pozuelo de Alarcón near Madrid, the brand new Montegancedo student residence has 1,200 m² of usable space and comprises three floors: basement, ground and first floor. The ground floor contains office space and a private residence. The ground floor has twelve apartments and the first floor ten. The building requires heating, cooling and hot water all year round and the distribution system uses fan coils. Architecturally, nothing impairs the building's exterior appearance as there are no solar panels, outdoor units, chimneys, etc.

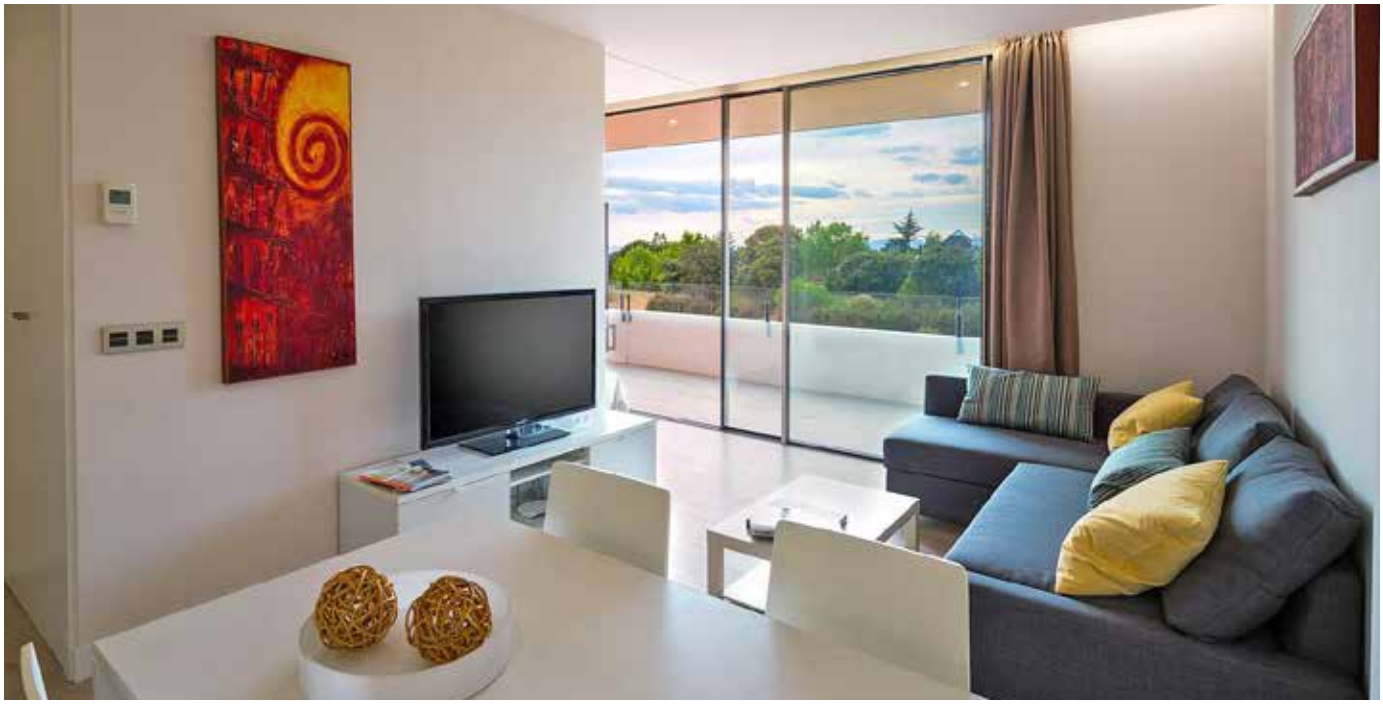
Thermia heat pumps – the most efficient solution for heating and cooling
The heating and cooling system is based on Thermia Mega L (14 – 59 kW), a new commercial ground-source heat pump with inverter-driven compressor. The main advantage of this heat pump is that it can continuously adjust heating or cooling output to current demand, which means that the heat pump can supply 100 per cent of the building's energy requirements. In addition, the Thermia Mega can also provide simultaneous heating and cooling. If the primary function is cooling, any heat surplus is used to produce hot water. The system is able to swap between the hot and cold tanks without using energy from the boreholes.

The domestic hot water cylinder is a Thermia WT-C 750. With 1.5 litres/s -5.4 m³/h performance, this is easily able to meet the building's requirements while eliminating potential legionella-related problems. Hot gas technology provides a high volume of hot water and makes hot water production extremely cost-effective.

A 1000-litre capacity cold water storage tank provides the cooling function in summer. There is no buffer tank for heating, as this has been replaced by a controller function. This means that the temperature of the heating supply is constantly adapted to the building's requirements and outdoor conditions, which in turn reduces installation costs and the space needed for the system.

'I believe that thanks to Thermia's modern and efficient geothermal energy system, students can study in comfort and the management of student residence will be able to offer low energy-consumption housing that is sustainable and saving money.'

says architect Javier Ruiz Chércoles



Student's room

Energy efficiency and environmental footprint awareness

The new energy solution has enabled the management of the Montegancedo student residence to offer extremely energy-efficient housing that is sustainable, renewable and guarantees superior comfort in its apartments. If the system's energy and carbon values are compared to a conventional installation using a gas boiler, typical air-conditioning unit and solar panels, the energy saving and CO_2 emissions for primary energy are 85,679 kWh/year (63%) and 20,777 kg CO_2 emissions (56%).

Girod Geotermia, the contractor that designed and installed the new system, won the eighth edition of the best geothermal installation award in the residential sector in the Community of Madrid. The jury praised the Montegancedo student residence for its contributions to energy saving, energy efficiency and environmental impact.

Thermia Mega - inverter-driven ground source heat pumps

Fact Box

Type of building:
Student residence hall

Location: Pozuelo de Alarcón, near Madrid, Spain

Characteristics of the building
- Heated and cooled area: 1200 m_2
- Heating: 74,854 kWh/year
- Cooling: 40,306 kWh/year
- Hot water: 14,500 kWh/year

Applied solution:
Geothermal heating
- Thermia Mega L (14 – 59 kW),
- 7 boreholes, each 140 meters deep
- Tank WT-C 750

Air conditioning and hot water consumption:
25,424 kWh/year

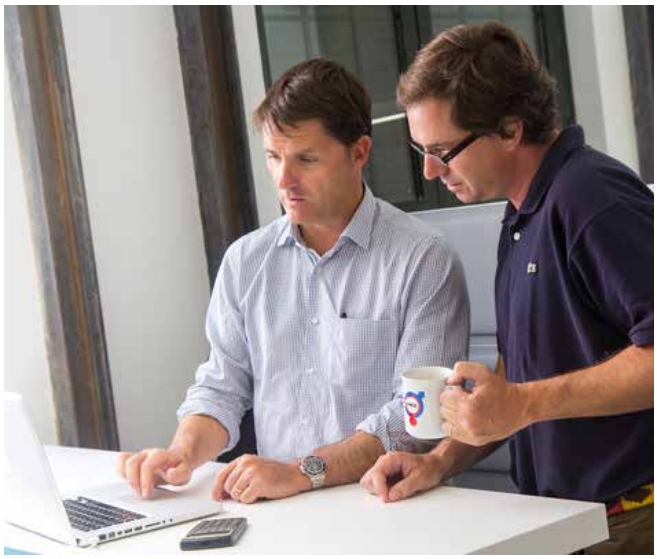
Energy saving:
85,679 kWh/year (63%)

CO_2 savings:
20,777 kg CO2 (56%)

Completion date:
20 November 2016

GIROD GEOTERMIA - EXPERIENCED PARTNER IN RENEWABLE ENERGY ON THE SPANISH PENINSULA

Girod Geotermia is the distributor of Thermia in Spain with more than 700 installations since 2007 made in all types of climates and terrains 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

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THERMIA

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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.