

**Project:** Toyota Showroom Mountcharles

**Location:** Mountcharles, Co. Donegal, Ireland.



**Area:** 566m<sup>2</sup> of heating and cooling floor space

**System:** Eurotech "A" rated heating and cooling system  
EuroFast floor heating and cooling  
EuroSmart heat management system  
Ochsner Geothermal heating and cooling heat pump  
Passive cooling integrated  
Condensation control for full visibility  
Ochsner solar hot water

**The Brief:** to create comfortable showroom conditions in summer and winter with the lowest possible running costs and minimum carbon footprint.

**How we did it:**

An intricate network of EuroFast floor heating pipework encased in a solid concrete screed transports heating or cooling fluid into the floor at calculated flow temperatures demanded by the intelligent EuroSmart heating control system. Cooling is dumped in a ground reservoir using vertical u-tubes and reused in winter to provide heating by the Ochsner HK heat pump. Excessive solar gain is captured by the Ochsner solar boiler to provide all of the hot water requirements.

**Cooling cost August 2009**

Total Kilowatts consumed	Kw: 1,531.0	Cost in Euros: € 115.00	Energy output
Kw:	14,679.0		

**Heating cost January 2010**

Total Kilowatts consumed	Kw: 6,038.0	Cost in Euros: € 639.00	Energy output
Kw:	25,148.0		