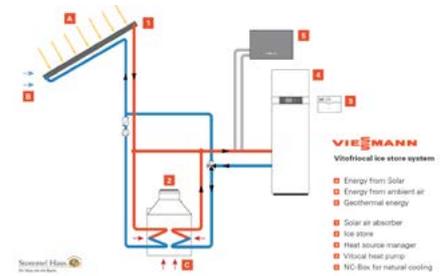


First House In Scotland Fitted With Groundbreaking "Heating With Ice" Technology



Stommel Haus, premium manufacturer of offsite manufactured homes in Germany, equips a private dwelling in Aberdeenshire with groundbreaking "Heating with Ice" technology by Viessmann.

The innovative ice store system is installed in a very energy efficient eco timber house from Stommel Haus becoming the first of its kind in Scotland. This ground breaking technology recovers energy from only renewable sources, such as the sun, the ambient heat and the soil, to heat and cool a building and provides hot water for the house.

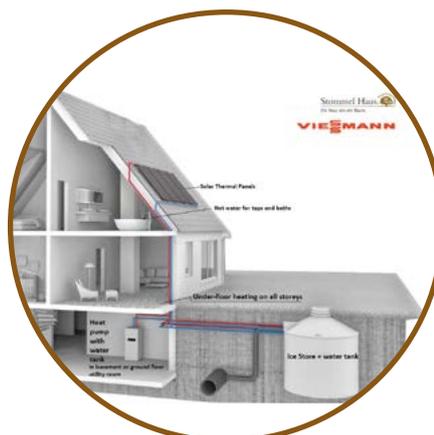
Drawing energy from ice to heat or cool a house sounds a little bit like science fiction, but over the past 4 years Stommel Haus already installed many such systems in their eco houses in Germany. The ice storage system which consists of an underground water tank, solar thermal panels and a state of the art heat pump supplies energy to the heat pump which generates the hot water and the heat for the under-floor heating on all storeys of the house. It also cools the house in summer!

The heat pump extracts energy from the water stored in the ice storage tank which is installed under ground. The energy used to provide the heat slowly turns the water in the underground tank to ice.

Additional energy is obtained from the freezing process of the water - therefore the term "ice store".

Freezing is an exothermic process, i.e. as liquid water changes to solid ice, crystallisation energy (latent heat) is released. This latent heat is retained in the ice store system.

A heat source management system integrated in the heat pump draws energy from either the ice store or solar thermal panels on the roof. The ice store also draws energy from the surrounding ground to regenerate heat. In summer the ice store can be used to provide natural cooling: At the end of the heating season, the water in the store is turned to ice.



The ambient summer heat around the store, the solar thermal energy and heat which is drawn from the system via an extraction heat exchanger melt the ice in the ice store and cools the heating circuit of the house.

Benefits of the Solar Ice technology

- Combined utilisation of ambient air, the sun and the ground as heat source
- No drilling – no environmental risk, no permits required
- Low operating costs thanks to the high COP (Coefficient Of Performance) of 5.0. of the heat pumps, i.e. for 1 KW electric energy, the heat pump produces up to 5 KW thermal energy.
- Particularly high efficiency thanks to intelligent heat source management and heat pump with RCD (Refrigerant Cycle Diagnostic) system with electronic expansion valve (EEV)
- Easy-to-use control unit integrated in the heat pump

www.stommel-haus.co.uk