

Renewable heating for carbon positive Cambridge farm

A farmer in Huntingdon, Cambridgeshire, is enjoying the benefits of renewable heating with a ground source heat pump system powered by his own green electricity.

Finn Geotherm installed the ground source heat pump for Hugh Whittome at his farmhouse. The property was previously heated by an oil-fired boiler, which was timed to go on and off in the morning/evening but it was cold during the day. Built in 1860s with single skin walls and Georgian sash windows, the farmhouse has an Energy Performance Certificate (EPC) rating of E making it a challenge to keep warm.

Hugh said: "I decided to make our farm carbon neutral so I installed a wind turbine in 2010. This enable us to generate our own electricity and then Feed in Tariffs were introduced which provided an added bonus to sell back the power we didn't use. With our electricity carbon neutral, the farmhouse heating and hot water was the obvious next step. We wanted to replace the boiler with a system we could run using our own green electricity. Having researched alternatives, a ground source heat pump was the ideal option – particularly as the Renewable Heat Incentive (RHI) was available and would enable us to recoup our investment in a short period of time."

Finn Geotherm specified and installed a Lämpöässä Emi 28 ground source heat pump with 700 litre thermal store. The 1400 metre ground loop array was installed in a field next to the house and an existing outbuilding used as a plant room. While the farmhouse has a low EPC rating, the heat pump works efficiently to keep its owners warm by utilising the thermal mass of the property.

The installation was completed in Autumn 2015 and several winters on, Hugh is still enjoying the benefits of his ground source heat pump.

Hugh said: "It's a common myth that you can only use a ground source heat pump with underfloor heating but our installation proves otherwise. We have radiators throughout and the house has never been warmer, day and night. The heat pump has taken away the hassle of heating and hot water – we just leave it to run and don't have to order oil deliveries. I am very proud our farm is now carbon positive and the heat pump, which is a noncombustion based system (it doesn't burn any fuel), runs entirely on our green electricity."

Key benefits

- Entire house is now always warm
- Ideal for property with low EPC rating
- Qualifies for domestic RHI
- Runs on green electricity

