

CASE STUDY: GROUND SOURCE HEAT PUMP & FLOOR HEATING IN 17TH CENTURY BARN CONVERSION



In 2010 Janet Birkmyre and her husband David Jack embarked on a barn conversion on Janet's parents' farm which in her own words was "just begging to be converted!" The property was a 17th century threshing barn in rural Worcestershire which has benefitted from an Ice Energy ground source heat pump which provides all the heat and water Janet and David need. Read on to learn more about their experiences.



What prompted you to investigate heat pumps?

"Carbon reduction was the number one driver; we really wanted our barn conversion to be as green as possible with the funds available and with that in mind would still like to get solar panels in the future.

"Fuel prices were on our mind of course and the grant schemes were seen as a bonus. I was not counting on anything by way of a grant until we actually had confirmation from the government of the Renewable Heat Incentive which although reduced from 20 years to 7, the amount we are due to receive represents a significant sum and more than recoups the initial investment in the system.

"Our payment schedule states that we will receive £1,182.96 per quarter so the total amount of RHI payments we'll receive is £33,122.88 which is a very healthy return on our investment!"

"The ground source heat pump was one of the biggest single cost items in our build but we never questioned it. Our builder on the other hand took some convincing!"



How did you find the installation process?

"The challenge was getting the more conventional plumber to understand the heat pump work. He eventually brought in a renewables expert and at that point it all seemed very straight forward.

"Then there was the sheer size of the building and the fact that we have not put a first floor in across the whole space. This means the kitchen dining area has ceilings that are 9 metres at the top of the roof pitch."

What has it been like living with heat pumps?

"Honestly, it took us some getting used to but that is because we did not use the system properly in the first place. We set it up as a traditional heating system with the heating coming on in the morning then off until the evening. As a result we were cold all the time.

"We have since been briefed by an Ice Energy engineer and leave it on 24 / 7 / 365. This felt like an act of faith but

now we are much more comfortable and love the underfloor heating.”

What impact has the heat pump had on your running costs?

“As this was a barn conversion it’s impossible to measure any cost savings but our energy bills compare very favourably with my parents’ house which uses storage heaters and has an oil fired Aga.”

What would you say are the benefits of heat pumps?

“Hopefully there is the cost saving. I look at my parents’ property nearby and their oil costs are huge in a smaller property. There is no gas out here in the sticks and oil prices are crazy.”

Why did you choose Ice Energy as your ground source heat pump provider?

“My husband researched our options and felt like Ice Energy were the best for us.”

What has the service been like from Ice Energy?

“There has been an ongoing process of exploring all avenues to get to the root of low pressure warnings we’ve experienced so we have probably had more support contact with Ice Energy than most, although as our system is still under warranty, this has provided some relief. We have however been managing quite well even with the low pressure warnings which are more of an inconvenience than anything else.

“The service though has been good and we have been well supported.”



To find out how heat pumps and underfloor heating can benefit you, call us free on **0808 145 2340** or visit our website **www.iceenergy.co.uk**

KEY FACTS

Property type:

Conversion of 17th century threshing barn in rural Worcestershire

Installation date:

October 2010

Previous heating system:

N/A but no gas in the area

Product installed:

IVT Greenline HT+ E14 ground source heat pump with ground loop buried in 6 x 42 metre trenches

Distribution system:

Underfloor heating

RHI benefit:

£33,122.88 over 7 years which will more than recoup the install costs