

## Case Study

### New Bungalow Self Build Project Cornwall, Norfolk



**Altherma provides an ideal energy efficient solution using renewable air to water heat pump technology for a new self build bungalow in Norfolk.**

*"When Mr and Mrs Cornwall decided to build a new bungalow for their retirement the incorporation of renewable technology to provide efficient and environmentally compatible solutions was high on their agenda."*

The Cornwall's already had solar water heating in their previous bungalow and used electric heating and hot water due to there being no gas supply available in their area. When they decided to build a new home they were keen to include the use of modern renewable heating and hot water solutions for maximum energy efficiency and to ensure that running costs were affordable for the future.

The new large bungalow was a major project comprising of three large bedrooms (master with ensuite), family bathroom including walk in shower, dinning room, kitchen, utility room, study and two other large reception rooms.

#### **Altherma, Sustainable Heating and Hot Water Solution**

Jack Elam Services Ltd, a local specialist heating Company, were asked to provide the best solution to supply heating and hot water for this development. Jack Elam's have many years experience in heat pump technology and now install Altherma from Daikin because they believe this solution to be the most cost effective long term heating and hot water system for their customers.

In addition to Altherma the whole bungalow development would have underfloor heating which together would provide a system with a CoP averaging over 4.0 through the whole year. Compared to oil and gas this would be 4 times more efficient and provide huge savings in the expected 20 year lifetime of the system.



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#### The main benefits of this solution were:

- The use of the Altherma heat pump would provide a system that was highly efficient with low energy costs compared to traditional fossil fuel systems.
- Altherma combined with underfloor heating provides an estimated average CoP (measure of efficiency) of between 3 and 5 which means that for every kW of energy used, the system provides between 3 and 5kW of energy for heating and hot water.
- Energy running costs would be 50% less compared to the installation of an electric or oil fired heating and hot water system.
- There was no need for a back up heating system as Altherma would be able to provide heating and hot water throughout the year, even on the coldest days.
- Lifetime savings (20 years) gained from reduced energy and maintenance costs compared to traditional oil systems would run into several thousand pounds, estimated at over £15,000 in today's costs.

- Because underfloor heating was used there were no need for radiators or other wall mounted heat emitters, meaning that all floor and wall areas in the individual rooms were available for design and use by the Cornwall's.

*"For us the use of renewable energy solutions was a key requirement for the new bungalow's heating and hot water system. After many years of using electric heating and now with the cost of energy escalating we decided that Altherma would be an ideal solution combined with underfloor heating.*

*We anticipate energy savings of well over 50% compared to the equivalent electric or oil fired system. Altherma has low maintenance requirements and is as operationally safe as any heating and hot water system could be."*  
*(Mr Cornwall)*

To find out more about Altherma contact Daikin UK today on 08456 419421 or visit [www.altherma.co.uk](http://www.altherma.co.uk)

