

## Case Study: Retrofitting ThermaSkirt with a Heat Pump in Norway

**Description:** Renovation of 3 Bed House in Eidsvoll, Norway with Samsung Heat Pump

**ThermaSkirt Profile:** Deco PR, Cricket White

**Client:** Mr & Mrs Trond Hoel, Heating Engineer



ThermaSkirt provides the heating and skirting in one – even with an air source heat pump

### The Challenge:

When Mr & Mrs Hoel from Eidsvoll (50km North of Oslo) in Norway decided to renovate their home using an Air Source Heat Pump, one of their main concerns was to preserve their beautiful timber floors, already installed in their home for the last 50 years.

Switching from an oil boiler meant also improving the insulation on the external walls to 0.25u and windows to 1.9u in order for a Heat Pump to work in the harsh Norwegian winter, with outside temperatures sometimes as low as -25°C. Trond has a 4 year master's degree in Plumbing & Heating from Oslo Technical College, so certainly understood the practical implications of installing renewable energy sources into an existing building.

Trond explains; "I did not want to fit very big radiators in my home as they take up much of the wall, and also the heat is not evenly spread at low (flow) temperatures. I cannot take up the floors to fit floor heating as the mess and cost is too high. I had heard about ThermaSkirt from when visiting Germany, and I thought it could work for me"

### The Solution:

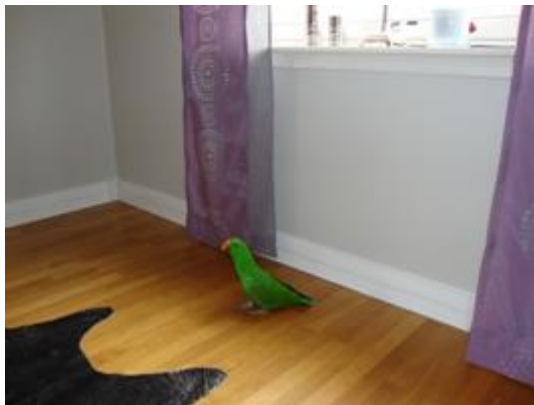
As Seen on Dragons Den, ThermaSkirt has been installed as a radiant panel skirting board, providing a gentle and energy efficient heat, distributed evenly all around the room

The skirting is connected to a Samsung EHS Mono Air to water air pump, which has a capacity of 9 Kw. The Samsung Heat Pump has a back up electric immersion to provide additional heating capacity when the outside temperature drops below -12°C.

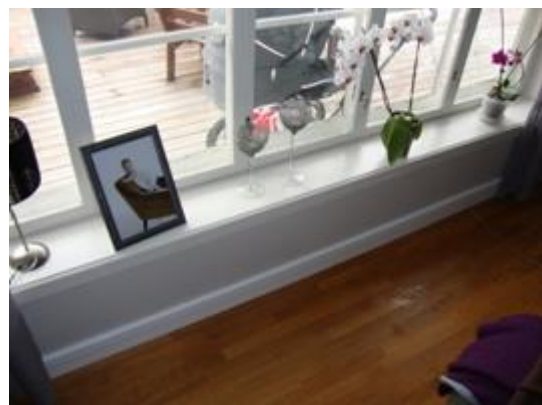
Trond explains further;

"The skirting has no problems to deliver the heating even down to -12°C outside, but below -12°C I need to supply with other heat sources because of the capacity of the air pump drops badly below -12 and the water temperature is falling after that. The beauty of ThermaSkirt is that it can run at 40°C water for most of the year, and then accept the higher 55°C water from the immersion on those very few really cold days. Floor heating cannot do this."

Rapid response is also a major plus point of the ThermaSkirt system compared to under floor heating, and with no walls taken up by oversized or fan assisted radiators the smooth clean lines so preferred by the Scandanavian's is preserved.



The original wooden floors stay put – creating a great look.



Low walls would have made oversize radiators impractical.

### The Result

Being an 'above ground' solution, ThermaSkirt is a much simpler retrofit onto renewables in existing buildings than UFH and a more aesthetic and comfortable solution than large radiators. With a comfort pattern indistinguishable from UFH, and a response time of a radiator it really is the best of both worlds. Says Trond "I have recommended the ThermaSkirt to many people in Norway and I am very delighted with the performance."

ThermaSkirt is now distributed in Norway by Qviller Klimaprodukter in Skytta, near Oslo: [www.qviller.no](http://www.qviller.no)