

Case Study: Four Housing Co Durham

Application: 82 Social Houses on direct electric heating

Product: ThermaTwin Solar Thermal Type ST1200

Installer: The Solar Installer & Revolution Power



The Problem:

Direct electric heating is one of the most costly ways to provide hot water, as the immersion heaters use peak rate electricity to heat the cylinders, usually in the early evening.

Four Housing had identified 82 properties that utilised immersion heaters and timers to provide DHW that could not economically be provided with gas due to the distance from the grid, and there was not the budget for retro fitting air source heat pumps.

The RSL had considered solar thermal before, but 2 main problems prevented them from moving immediately ahead:

- a) The installed cost including a new solar-ready cylinder was prohibitively expensive
- b) The bathrooms and airing cupboards would need extensive remodelling to accept a larger cylinder

It was then by chance that Four Housing came across the ThermaTwin solar thermal system, manufactured in the UK by DiscreteHeat.

The Solution:

Uniquely, the ThermaTwin system uses a freeze tolerant design, meaning that it can accept the water directly from the hot water cylinder and by not using glycol anti-freeze has no need for a separate solar coil – the existing cylinder could be retained.

Not only did this significantly reduce the capital cost compared to any other system on the market, it did not require any bathroom cupboard refits and just as importantly could be installed in a matter of hours with minimal inconvenience to the residents.

In addition, the ThermaTwin uses a solar PV powered pump and controls, meaning that as there is no mains power required for a 240v pump and solar controller, any hot water generated is genuinely free. Installation is therefore easily carried out by installers with plumbing and roofing skills, with no need for a Part P qualified electrician.

Being Solar Key Marked, the system is eligible for grants under the RHI & Green Deal government programmes.

The Result

All 82 panels were fitted in March 2014, with up to 2 houses a day being completed by the 2 man installation teams.

In most instances, despite the relatively cold temperatures, the ThermaTwin panels began generating hot water within a few minutes of 'going live'.

For many residents, this was their 1st experience of renewables, and the response was very positive.

Said one resident:

"I was used to switching on my immersion to bath the kids at 6:00pm every night. Now, if it's even only been a bit sunny I don't have to bother – the solar has heated it during the day"

The main installer, Steve Campbell from The Solar Installer Ltd, was even more complimentary:

"I have fitted these panels for many years on customer's houses, but this was the 1st major social housing contract we've done. It went really well and the support from the factory was superb."



A typical ThermaTwin system will deliver between 900~1,000 kWh per year, typically sufficient to provide 60~70% of a 2/3 bed properties annual hot water requirements