



GENERSYS™ plc
A Global Solar Corporation

Addressing Agenda 21

By Robert Kyriakides, CEO Genersys Plc

Some people think that the nineteen sixties, for all the flower power and colour, represented the worst architecture of the last century. Certainly the designs tended to be “boxy” and the materials often used weathered badly but the designers of buildings had to use whatever budgets they were given and the state of technology that existed then.

For a while in the sixties and early seventies oil was the cheapest option for space heating. It was significantly cheaper than gas and massively cheaper than electricity. Some buildings were built with oil fired heating because they had no other reasonable option. In some sixties buildings oil fired central and water heating was installed subsequently.

On the outskirts of Chippenham in Wiltshire is a classic three storey block of 24 two bed roomed flats called Neeld Crescent. It is situated on an estate of similar housing. They are built with traditional construction, bricks mortar and tiled roofs. They have four communal entrances and a communal hot water and heating system, fired by oil. Westlea Housing Association rent out the flats as general needs housing but the tenants have to suffer the expense of oil.

Oil, as a heating fuel, is far more polluting than gas and the emissions of oil burning can include not only the environmentally ubiquitous carbon dioxide but also the even more environmentally harmful carbon monoxide.

Westlea has already carried out a number of energy efficiency improvements to the flats at Neeld Crescent. They have carried out cavity wall insulation, provided double glazing and low energy communal lighting, all of which are worthwhile and important facilities. Westlea felt that the oil boilers were struggling to keep up with demand. If they used solar water heating they could relieve the



demand that the boiler had to cope with on sunny days. Westlea accordingly explored solar thermal possibilities and they came to us as their preferred solar thermal partner.

After consultation and

survey, Westlea and Genersys applied for a 50% Clear-Skies grant (www.clear-skies.org) for this and three other Wiltshire apartment blocks.

Our design created in consultation with the engineers at Future Heating, offered twenty four solar collectors covering forty eight square metres of roof. The collectors were mounted on a south facing roof and preheat the water in two one thousand litre cylinders before feeding two instantaneous boilers. Genersys systems are fully pumped, pressurised indirect systems with temperature differential controller for maximum efficiency.



In Germany, where they have far more experience of solar and of solar systems in cold weather than we do in the United Kingdom, hardly any drain back systems are sold. Frost protection in Genersys systems is provided by polypropylene glycol – known in Germany as edible glycol. There are important health issues that require the use of this type of glycol rather than normal anti-freeze.

The Genersys system is, as you can see neatly mounted on the roof with the collectors grouped in rows of six. I personally think that it enhances the look of what otherwise would be a fairly uninteresting sixties building.

Perhaps more importantly the solar system saves at least 6 tonnes of carbon dioxide each year and other greenhouse gases. The solar fraction – the amount of water heating that the collectors provide – is estimated conservatively at around 30-40% of the demand.

This project was only made possible with the help of a Clear-Skies grant. Capital expenditure of this level is always hard to find even in the best managed not for profit organisations because there are so many demands on limited funds. Clear Skies funding is not only doing its part to make the skies clearer and cleaner but also helping residents in places like Neeld Crescent to enjoy hot water that is both cheap especially with the benefit of a Clear-Skies grant and cleaner to produce than the hot water they used only a few months ago.