

# Domestic Heating

## Case Study

**Chale Community Project**  
Isle of Wight 2011

Making a  
World of  
Difference



**RENEWABLE SOLUTION PROVIDED**  
An ideal energy efficient heating system providing an effective and affordable alternative to gas

### Ecodan® helps provide renewable energy solution to alleviate fuel poverty\*

\*a household is said to be in fuel poverty if it needs to spend more than 10% of its income on fuel in order to maintain a satisfactory heating level (usually 21 degrees for the main living area, and 18 degrees for other occupied rooms)

Chale Community Project on the Isle of Wight was set up in December 2009. Its remit to find a renewable energy solution to alleviate fuel poverty amongst its residents, lower the village's carbon emissions, and promote self-sufficiency in all areas of Chale village life. One of the Project's key aims was to find a sustainable and affordable way to maximise the energy efficiency in the homes of residents living on an estate owned and managed by the Southern Housing Group. Built in the 1970s, the estate is a mix of both terraced and semi-detached properties designated as social housing.

Before the installation of Mitsubishi Electric's Ecodan air source heat pumps the only heating available came from poorly insulated night storage heaters run on electricity supplied via key meters. Several of the residents were living in fuel poverty and could only afford to heat one room at a time, or heat the entire house for just part of the week.



Air Conditioning | Commercial Heating  
Domestic Heating | Photovoltaics



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The Project took the gold in the charity/  
no-profit category of the nationwide  
**Green Apple Awards**, for Environmental  
Best Practice and Sustainable Development.

## Installation Summary

67 homes - a mix of terraced and semi-detached social housing built in the 1970s

Off-gas area

A range of 5.5kW, 8.5kW and 14.5kW units fitted to increase heating efficiency and lower energy costs

Originally heated by night storage heaters

Having secured funding from the Department of Energy and Climate Change, Southern Housing Group proposed, and project managed, a whole-house solution using various renewable technologies including better insulation, water saving devices, photovoltaic panels and sustainable heating systems. Eaga Heat Ltd - a Mitsubishi Electric approved Ecodan installer was commissioned to retrofit each house with an air source heat pump to provide a new heating system for every tenant. Ecodan units were installed quickly and easily to the outside wall of each of the 67 homes on the estate.

Ecodan harvests renewable low grade energy from the air and upgrades it into a heat supply, which provides cost-effective heating and hot water to the property. The units require very little maintenance and have a life-span of 15 to 20 years, offering residents improved energy efficiency within their home at a much lower cost, helping to stamp out the levels of fuel poverty experienced by some.

Chale has no access to the gas network so residents were dependent mainly upon badly insulated night storage heaters which were expensive to run and left many with a difficult choice as to how much or little they could afford to use them. The new Ecodan pumps produce an average of 3kW of heating energy from every 1kW of electricity fed into it, making them an efficient and affordable solution.

The refit was completed in October 2010 and along with better insulation has had a significant impact of the lives of the Estate's residents. They are delighted with their new heating systems and are now able to use all the rooms in their homes, even in the lowest temperatures.

One resident told the Project that having the pump fitted, along with photovoltaic panels on the roof, had reduced his electricity bill that month by **more than 50%** compared with the same period a year ago.

"Reaction to the new technology has been extremely positive and tenants are reporting a better all-round heat in their homes, whilst experiencing a significant drop in their fuel costs," said Vince Wedlock-Ward, Southern Housing Group. "It has taken a while for some residents to get used to the way the new radiators work - giving out an ambient heat in the room rather than getting very warm themselves - but all-in-all this part of the Project has been a resounding success, both for us and our tenants."

Fitment of the Ecodan air source heat pumps has contributed to the village reducing its carbon emissions by 50%.



Changes for the Better

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Mitsubishi Electric's commitment to the environment

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