

CASE STUDY

The Sustainable House, Fendalton, Christchurch



This award-winning home lives up to its sustainable philosophy with an eco-friendly heating solution.

Challenge

When the owners of this award winning property specified a high tech and sustainable home with a fully integrated heat distribution system, Wilson & Hill Architects and John Creighton Builders turned to Central Heating New Zealand to provide a sophisticated turnkey solution.

Solution

The large open plan two storey home was always going to provide a challenge for any system, yet the combination of air to water heat pumps, solar hot water and underfloor heating combine to ensure this large home and its swimming pool are provided a steady stream of hot water and its internal spaces kept warm, no matter the weather.

The air to water heat pumps heat inslab water pipes throughout the ground and first floors as well as providing domestic hot water to the pool, spa and hot water cylinder. At times where the solar gain is high, a massive 8x32 tube solar tube array takes over primary domestic hot water heating,

with any surplus being diverted to the pool.

Another challenge the installation presented was heating the cantilevered upper bedroom with its tongue and groove timber floor. As a concrete floor would have been too heavy for the structure, the solution was to lay a thin screed floor between battens over the underfloor heating pipes. The result offers the best of both worlds: a master suite with the cosiness of a timber floor combined with fast response heating.

Coupled with an extensive Photovoltaic system for electricity production, the home enjoys the

Contractors and Client

John Creighton Builders,
Christchurch

Products Used

2x Air to Water Heat
Pump

Solar Hot Water array
and collector

Extensive underfloor
heating loop



“

... the home has been recognised nationally in the 2009 Registered Master Builders House of the Year award.



benefits of low energy costs coupled with a truly sustainable approach to home heating.

Benefits

As well as enjoying the benefits of an integrated home heating solution, the home has been recognised nationally in the 2009 Registered Master Builders House of the Year award, taking home the BRANZ Sustainability Award for its design. This is in addition to winning John Creighton Builders the Canterbury Placemakers Supreme Award and numerous category wins.

Home heating plays a central part in any house design and the system provided by Central Heating New Zealand sits easily with the sustainable brief

of the house. Air to Water Heat Pumps are able to provide excellent efficiency and when coupled with a specialist designed underfloor heating loop are able to provide controllable year round warmth.

System Description

520 Sq m four bedroom home, heated by Air to Water Heat Pump and underfloor system over two floors. Domestic Hot Water is provided by both the heat pumps and solar array to cylinder, pool and spa.