

# case study:

# Mount Macedon

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## RETROFIT CASE STUDY

Mount Macedon in Victoria's Macedon Ranges is a place of extremes, freezing in winter, and hot in summer. Without the right home insulation, the temperature inside can fluctuate as much as it does outside.

When the owner of a house in nearby Carlsruhe had her elderly father move in, comfort was a top priority, especially in the winter.

As the area does not have access to piped natural gas, she had previously installed a reverse-cycle air conditioner to heat and cool the house.

The appliance was very expensive to run, so heating and cooling costs were a factor in the owner's decision to look at energy-saving window options.

Research carried out by Arup has found that windows can be great energy wasters. In an otherwise well insulated building, up to 49 per cent of heat loss can occur through non-energy efficient windows in winter, while in summer, up to 87 per cent of solar heat gain can occur through non-energy efficient windows.

After speaking to friends and trades people about energy saving and eco-friendly options, the owner decided to replace her old single-glazed, leaky windows with a modern, energy-saving alternative.

She approached long-established local glazing company Macedon Ranges Glass to seek the best solution.

She found that the only really cost-effective solution to cut heating and cooling costs by making the house cooler in summer and warmer in winter was to have the entire home re-glazed with Insulated Glass Units.

Macedon Ranges Glass modified the existing timber window frames to accept DMS Glass Thermotech Insulated Glass Units (IGUs).

While the new Thermotech IGUs have not been installed long enough to compare the year-round savings on energy costs, the owner has already noticed a considerable difference in the temperature and comfort of the home.

The Thermotech units had a 12mm sealed space, filled with argon gas, which improves the insulation effect of the IGU. Thermo Plastic Spacers are used instead of metallic spacers which maximises comfort and energy savings.

Independent research carried out by Dr Peter Lyons found that Thermotech IGUs with Thermo Plastic Spacers save up to 12 per cent more energy in heating and cooling a home, compared to other IGUs.

The challenge of retrofitting the Carlsruhe home with IGUs in the existing window frames was to ensure that the timber awnings would accept the units.



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To overcome this, Macedon Ranges Glass removed the window sashes and bought them to the factory where the rebate was routed out then returned to site and re-installed. The existing fixed lites had no problems accepting home the IGUs.

The project is an example of how retrofitting existing homes with Insulated Glass Units is an affordable option, with immediate benefits for the occupants, and for the life of the

The entire turn around for the project from start to finish was around 48 hours, costing around \$10,000 to replace the existing glass in the house with IGUs.

Glazing supplier: Macedon Ranges Glass  
Insulated Glass Unit supplier: DMS Glass

DMS Glass supplied the Thermotech IGUs with 5mm clear, toughened glass.

**For more information or additional high-resolution images call John Power or Jill Johnson at OMC Media on (03) 9867 6822.**

A bull nose verandah around the entire house protects every window from the sun throughout the day, and from extreme summer heat.

