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Double glazing – it’s worth it

When double glazing became mandatory it was thought the cost of these window systems would drop. Did that in fact happen?

THE BUILDING CODE CLAUSE H1 *Energy efficiency* requirement for windows changed between October 2007 and September 2008 to require double glazing for all new housing using the schedule, or table, method for compliance.

Single glazing is allowable if the calculation or modelling method is used to offset the glazing with extra bulk insulation - a trade-off in warm areas enabled by the Building Code Acceptable Solution.

Although some single glazing is used (see Figure 1), in most locations, new houses now require double glazing.

No drop in double glazing costs

Cost-benefit analysis at the time indicated double glazing was cost effective in the lower North Island and the South Island for typical new housing and heating. The analysis assumed double glazing costs would reduce slightly after the changes, due to the increase in demand. However, Figure 2 shows a cost escalation of about 22% for double glazing, including installation. This increase is very similar to the overall increase in new housing over the same period.

Use already widespread

Window prices did not decrease as expected for several reasons:

- Widespread, voluntary use of double glazing in the South Island for new housing meant manufacturers had already geared up and were producing in bulk 2-3 years before the Code change.
- Before 2007, double glazing was mainly used for replacement windows in easy to install situations. When it became mandatory for new houses, costs increased due to a high incidence of larger upper storey windows and the need for site glazing due to weight.

But energy price rises increased savings

The costs versus benefits of double glazing are not greatly affected by higher than expected window prices, as energy prices have risen

faster than assumed in 2006. The real increase (inflation adjusted) in domestic electricity prices was 2.9% per annum between 2006 and 2012 - the original analysis assumed a 1.0% per annum increase.

The higher than expected energy cost savings of double glazing more than offset the larger than expected double glazing costs. ◀

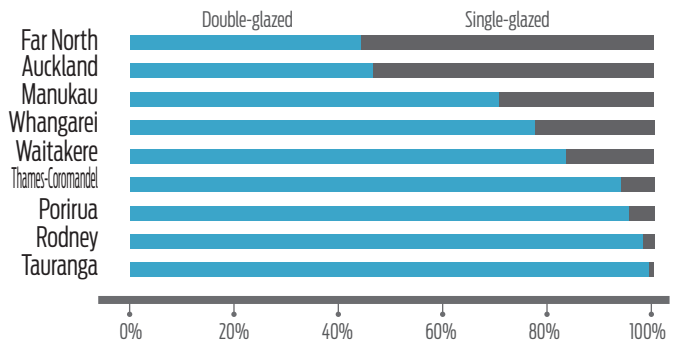


Figure 1: These were the few territorial authorities that had single glazing in new houses in 2011. Source: BRANZ new dwellings survey.

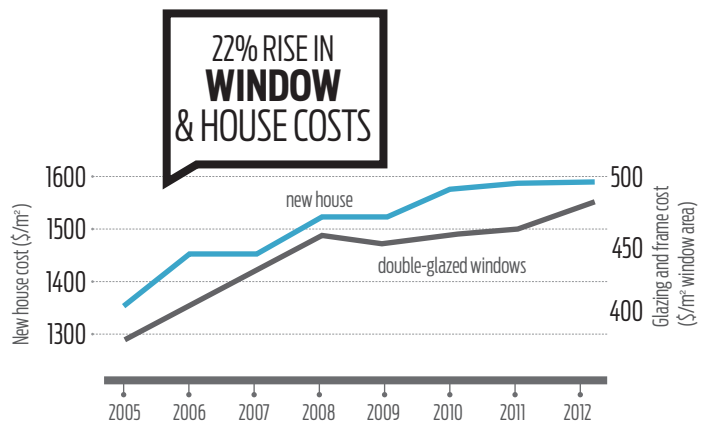


Figure 2: New housing and double glazing costs.