

Taken from the BRANZ House Insulation Guide, 3rd edition, 2007

**New insulation minimums
– but you can do more**

An uninsulated or under-insulated house loses huge amounts of heat through roofs, walls, floors and windows.

There have been minimum insulation requirements for roofs, walls and floors since the late 1970s. Now, these minimum requirements have been increased – and for the first time, glazing is included.

If you want the best from energy efficiency in your new home or major extension, get professional advice about going beyond the new minimum requirements.



- **improved efficiency of lighting in new and refitted commercial buildings**, and certain other large buildings, which will reduce the average power consumption of lighting installations by around 33 percent.

No change has been made to the Building Code but the Acceptable Solution, H1/AS1, has been amended to use the recently updated Standard NZS 4243: 2007 Parts 1 and 2, instead of NZS 4243: 1996. This update reduces the maximum allowable lighting power density in COMMERCIAL buildings from 18 W/m² down to 12 W/m² on average, with corresponding changes to COMMUNAL NON-RESIDENTIAL buildings. The update also accounts for lighting controls.

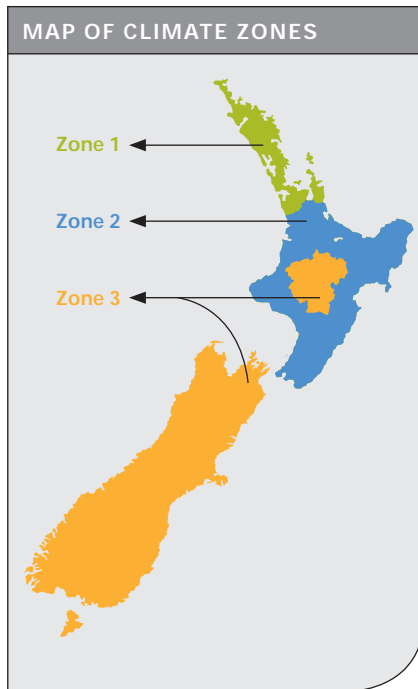
- **easier approval of solar water heating systems** across New Zealand are being introduced through a new Compliance Document. This specifies a way for installing solar water heaters to comply with the Building Code. It includes all necessary features and requirements.

No change has been made to the Building Code but a new Acceptable Solution, G12/AS2, has been published that brings together all the relevant Building Code requirements for installing solar water heating systems. Consideration is given to the structural integrity, weathertightness and durability of the installation, and the health, safety and efficiency of the system's operation.



When do these changes affect you and your region?

The new minimum insulation requirements, including double glazing for most new homes, are being introduced in stages to allow industry to gear up. The country is split into three zones and changes start taking effect from 31 October 2007. By October 2008, all new homes and major extensions across New Zealand will be required to meet the new insulation requirements.



TIMELINE

August 2007

- Building Code amendments and Compliance Document published

31 October 2007

- amended Building Code and Compliance Document become effective
- increased thermal performance and R-values in **zone 3**
- increased stringency for commercial lighting everywhere in New Zealand

30 June 2008


- increased thermal performance and R-values in **zone 2**

30 September 2008

- increased thermal performance and R-values in **zone 1**

**EXAMPLES OF PAY BACK:
NEW HOMES TO USE
30 PERCENT LESS ENERGY**

New, tougher insulation requirements by the Government will result in new homes using about 30 percent less energy to achieve comfortable indoor air temperatures.



NEW HOMES

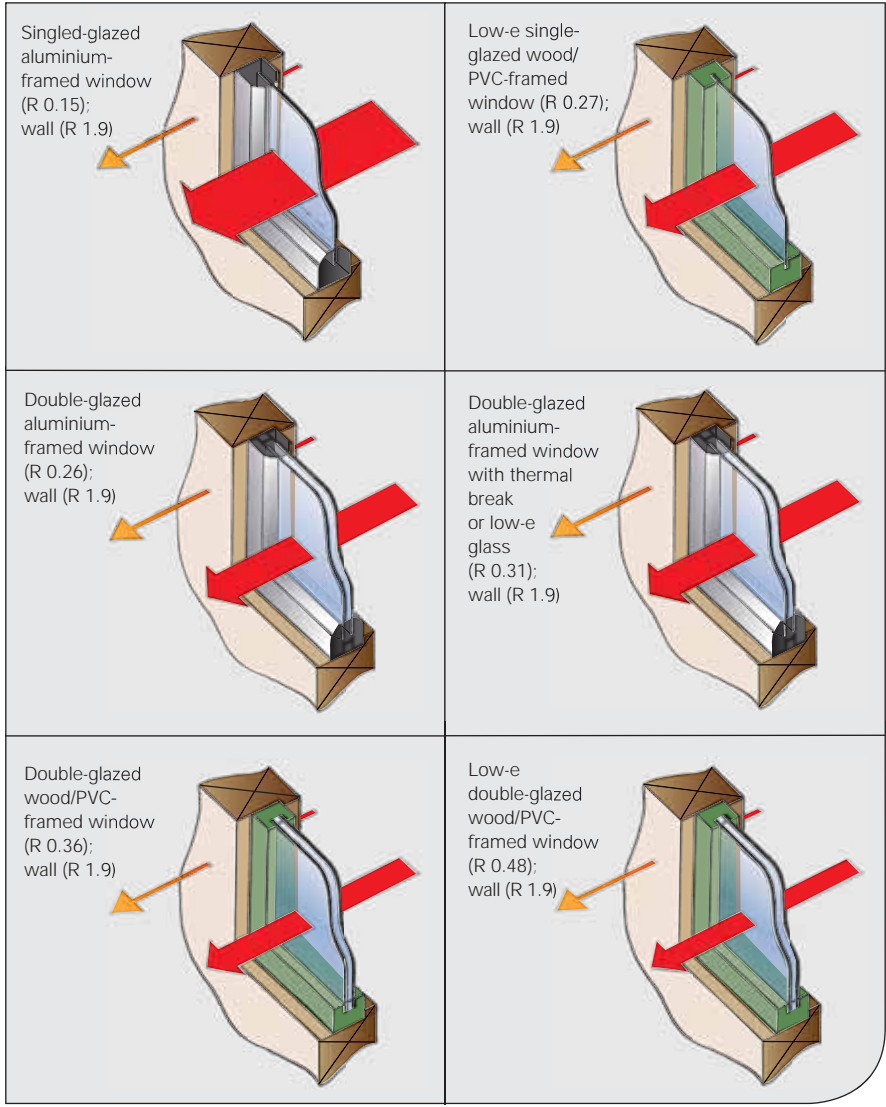
Location	Average cost of constructing a medium-sized house now	Average additional cost of construction after the changes	Annual saving in energy bills	Return period on investment (in years)
Auckland	\$254,000	+\$3,000 to \$5,000	\$760	7
Wellington	\$253,000	+\$3,000 to \$5,000	\$940	6
Christchurch	\$251,000	+\$3,000 to \$5,000	\$1,340	4
Dunedin	\$250,000	+\$3,000 to \$5,000	\$1,800	3

Note: this assumes the entire house is heated to 16°C all day, and the living areas are heated to 20°C in the morning and evening. While this heating regime is greater than most New Zealanders currently follow, it is similar to measured heating regimes in new houses (based on cost benefit analysis from October 2006).

Was it worth it? "Absolutely!" the owners say. "Doing a few things differently at the beginning meant we got some really big benefits. It's an incredibly easy, comfortable place to live in. We have less health issues, lower living costs, and people who come to stay notice how dry and warm it is."



Heat loss in different window systems




There is no such thing as a maintenance-free house.

Having a no-maintenance house is a myth. Modern homes require less attention than older homes but all properties need maintaining.

Maintenance covers:

- preventative work, such as gutter cleaning – this can stop water and dampness entering your home
- repairs to prevent small problems growing
- major maintenance tasks like reroofing which should be planned for time and budgetary reasons
- preparing for emergencies, like knowing how to turn off water, gas and electricity.

For home buyers' and home maintenance checklists, go to  www.consumerbuild.org.nz



