

Worth its weight: Building insulation in New Zealand

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Kimberley O'Sullivan



Source:

<http://www.sustainability.vic.gov.au/services-and-advice/households/energy-efficiency/toolbox/how-to/check-your-ceiling-insulation>

Building insulation provides comfort and health benefits to occupants, saves energy, enhances energy security, and can reduce greenhouse gas emissions. This blog looks at these issues and wonders why the NZ Government is not doing more to enhance building performance and insulation standards when it is such a good investment.

The recently proposed changes to the Residential Tenancies Act suggest that the NZ Government is still undervaluing the benefits of building performance and insulation standards. This is despite benefits from insulation that include providing comfort, protecting

health, saving energy, enhancing energy security, and reducing greenhouse gas emissions.

The Minister of Building and Housing is arguing against improving building performance. He suggests that the health benefits of improving insulation in rental housing from 1978 standards to meet current 2008 standards for new build housing (which are already pretty thin compared to international insulation standards) are not worth the cost.

But here's the thing: insulation retrofitting has important environmental co-benefits that should not be ignored when looking at the cost-benefit ratios of any government policy to improve standards. What the Minister of Building and Housing calls "incremental" heat loss reductions by improving insulation can all add up so that at a national level the country might be spared the need for the ongoing operation of coal-hungry Huntly power station. These environmental benefits are also global health benefits, given that one of the biggest public health threats of our time is climate change.

The International Energy Agency, of which NZ is a member, strongly argues the importance of seeking energy efficiency gains to limit world energy demand growth. They point out that the biggest global greenhouse gas emissions reductions (of up to 49%) can be achieved from improving energy efficiency, and they want insulation in new buildings increased to approach near-zero-energy buildings. The European Commission has been increasing requirements for energy efficiency in buildings in directives to member countries requiring (Energy Performance of Buildings Directive) that all new buildings be nearly zero-energy by the end of 2020. All new public buildings must be nearly zero-energy by 2018. These requirements are likely to be strengthened even further following the 2015 Paris Agreement on Climate Change.

These international bodies highlight that energy efficiency is the cleanest, cheapest, and most secure source of energy, because the result is harnessing the energy that has already been generated and is currently wasted. What is probably needed in NZ is a policy shift consistent with achieving the targets agreed to in the recently signed Paris Agreement - and rapidly increasing building energy efficiency is low-hanging fruit.

What might happen, aside from risking our international reputation, if we don't improve our building standards like other forward-thinking nations? Perhaps rising temperatures will help make our homes feel a little warmer during winter, possibly reducing our need to dress for the outdoors while relaxing in the living room. But variability and extreme weather events are predicted to increase, potentially giving us more really cold snaps, and at least double the number of days per year above 25°C by 2100. Globally, temperatures are breaking records, while in NZ we've just experienced our hottest February and are starting to turn to air conditioning during summer rather than relying on passive cooling to keep us comfortable (see this and this article).

If we insulate our houses better now, we'll need less heating in winter, and less cooling in summer. We'll reduce hospitalisation rates among children, and the high number of excess winter deaths, or deaths that happen just because it's winter - approximately 1600 of them every year in NZ (see this NZ research article). We'll reduce greenhouse gas emissions, contributing to our international obligations to reduce climate change.

Individually incremental savings through increasing building performance are important, particularly when the cost-benefit ratios, taking broader benefits into account, are so favourable. Missed opportunities for improving building energy efficiency will leave our children living with the health effects of exposure to inadequate indoor temperatures, in

addition to the wider environmental challenges they will face. Many children and young people understand the importance of environmental stewardship, and they care about cold housing (see here for a presentation of new research we're working on with young people).

Currently, the Government appears to be playing the "she'll be right" card for housing insulation, while at the same time the new Climate Change Minister is reportedly "working on a plan to have a plan" to reduce our carbon emissions and reliance on fossil fuels. Increasing energy efficiency in buildings seems an obvious option to avoid environmental and health harms, and enhance our energy security. Since the Climate Change Minister is concerned for her "grandchildren's children and grandchildren", she might like to consider the request of the young people we've spoken to for Government to improve their housing as part of her package to reduce emissions.

Summary

In summary, there are many benefits from building insulation: comfort, health benefits, energy savings, enhanced energy security, and reduction of greenhouse gas emissions. There is a case for the NZ Government to take all reasonable opportunities to support increased use of insulation in buildings. Changes to the Residential Tenancies Act has been one such opportunity - and one that still needs to be properly addressed.

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