

‘Hotboxes’ a housing health crisis hellfire

Bob Burnett

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Rows of townhouses are springing up in cities around the country. They have their merits, but too many are poorly designed in a way which will blight the lives of their occupants for years to come, argues Bob Burnett.

Bob Burnett is the founder of Bob Burnett Architecture and a trustee of the Superhome Movement Charitable Trust.

Every summer, New Zealand media runs the same story: new townhouses overheating so badly that residents can't sleep. And every winter, we get another round of headlines about the 30,000 Kiwi kids admitted to hospital each year with preventable illnesses due to cold, damp homes.

This pattern has been repeating for over a decade. Yet nothing seems to change. While experts raise the alarm, regulators continue to look the other way, and politicians remain focused on one thing: making housing cheaper. But cheaper at the expense of a lifetime of discomfort and potentially suffering serious health problems isn't a solution, it's pouring petrol on what has become a housing health crisis hellfire. And it's a crisis we're literally building into the future.



With swathes of inner Christchurch earmarked for residential development post-earthquake, hundreds of townhouses have risen throughout the CBD.

As the climate continues to warm, the homes we build today will be around for 50 to 100 years. Right now, we are constructing thousands of dwellings that will lock occupants into lifelong overheating, cold, dampness, and avoidable health problems. The suffering isn't hypothetical, it's guaranteed. It's not an accident; it's designed in.

New Zealand's housing typology has rapidly shifted from standalone homes to rows of multiunit townhouses. That isn't inherently bad — density done well improves affordability, sustainability and urban vibrancy. But density done badly creates another leaky-homes era, just with different symptoms.

Most mass-produced townhouse developments are not designed with occupants in mind. They're designed to maximise yield and minimise cost. Purchasers often accept what's available, newness and a low price tag masking fundamental design flaws.

People don't know what they don't know.

And what they don't know is that homes built only to the minimum code are often not fit for purpose.

The result is, stifling hot boxes in summer; cold, damp, unhealthy homes in winter; bedrooms which are over-glazed and with no cross ventilation; homes with zero thought given to airflow and shading to avoid overheating; and a complete absence of thermal design.

All of this is perfectly legal, because New Zealand's building code is not protecting us.

It does not require overheating design, ventilation effectiveness, airtightness, or heating or cooling systems in new homes.

Rentals have higher requirements under the Healthy Homes Act than owner-occupied new dwellings. Read that again.

New tenancy termination rules New tenancy rules for landlords - what's changed and how to stay compliant.

Meanwhile, countries we like to compare ourselves to - the UK, the EU, the US - are miles ahead. Against international best practice, our standards are a laughing stock. The industry knows better. Many developers pretend they're building "quality" while delivering the bare legal minimum and regulators pretend that minimum is enough. It's the Emperor's New Clothes of housing policy. With the huge shift to multi-residential development, we are now seeing entire suburbs filled with townhouses that will never perform well, no matter what appliances or heat pumps you throw at them. Can you tell if a townhouse will overheat?

Bob Burnett says care and attention at the design stage can spare townhouses from problems with overheating and poor ventilation.

Any competent designer experienced in performance-based design can identify overheating risk at a glance. The warning signs are clear to anyone who knows what to look for: poor orientation, tiny eaves, too much west-facing glass, no cross ventilation, over-glazed bedrooms, dark roofs, and no external shading.

These are not accidents.

These are the inevitable outcomes of design being marginalised in New Zealand.

Most volume builders treat design as "drafting consent plans as fast as possible".

But design and drafting are not the same thing.

Great homes don't happen by accident. Faulty homes do.

Thermal modelling can predict overheating, but it must be done properly. Whole-building averages often mask severe problems in specific rooms - a south-facing space can hide the real overheating risk of a west-facing bedroom.

Skills and experience matter. So does post-occupancy monitoring.

Affordable sensors allow us to confirm how homes actually perform - yet this almost never happens outside the Superhome Movement and a handful of leading practitioners.

And that's the deeper issue: only a small minority of designers and builders in New Zealand currently prioritise healthy, high-performance design. Politicians often frame affordability as the price you pay on day one. But true affordability is measured over the life of the home. A cheap build that costs a fortune to heat or cool is not affordable. A townhouse that keeps a child sick each winter is not affordable. A home that drives up power bills, doctor visits and hospital admissions offers no real savings at all. A home that maintains stable indoor temperatures, uses less energy and supports wellbeing is genuinely affordable — even if the upfront cost is slightly higher. We need to redefine affordability not as "cheapest to build" but as "lowest cost to live in physically, financially and socially".



Architectural designer Bob Burnett is part of the Superhome Movement, championing healthy, more efficient home design.

We don't need to reinvent the wheel. We simply need to stop ignoring it. New Zealand must update the Building Code to include overheating design, ventilation effectiveness, airtightness, and basic heating/cooling requirements.

2. Elevate real design - design is not drafting plans.

3. Improve consumer awareness so buyers understand what makes a home healthy and comfortable.

4. Introduce a mandatory Energy Performance Certificate.

5. Require thermal modelling and post-occupancy monitoring, especially for high-risk typologies like row townhouses.

6. Champion proven models like those in the Superhome Movement that already deliver homes that stay cool in summer, warm in winter, and dry year-round.

Minimum code gives us minimum health, minimum comfort, minimum energy efficiency and maximum long-term cost - both to households and the health system.

New Zealanders deserve homes designed for people, not just profit margins.

Right now, too many townhouses are failing that basic test.

It's time for regulators, developers, and industry professionals to start delivering and the public to stop accepting excuses and start demanding better.

The Superhome Movement, which champions healthier, more efficient homes, will have New Zealand's first zero-carbon Superhome and a multi-townhouse development open to the public on December 6, in Christchurch.

See <https://www.superhome.co.nz/events>.