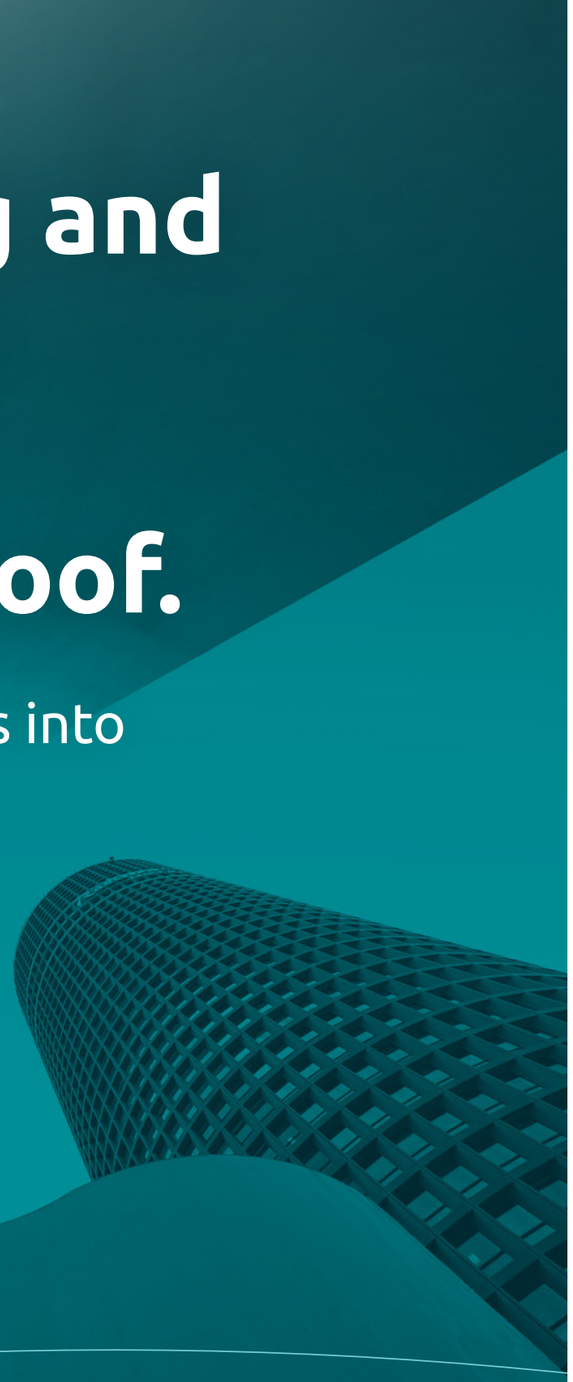

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Letter from the editor

We're loving the magazine format at The Fifth Estate and hope you do too! We see it as a breath of fresh air – great design on a page that gives new dimensions to the stories we bring you.

There's also the joy of being able to collate articles between two covers, so you get to (digitally) flip through the pages and find what you expected – and what you didn't expect!

Huge thanks to everyone who responded to our call for submissions. We contacted as many of you as we could; and hopefully for the balance we can pick up your insights and news for the website.

Thanks also to our advertisers.

We rely on the support of advertisers, sponsors and members to keep our work going. So please keep us in mind if you would like to see how we can elevate your brand!

Tina Perinotto

Editor and Publisher
The Fifth Estate

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All's fair in love, war – and a housing crisis

Australia's obsession with housing in this country is legendary. It goes to the very heart of the national psyche and comes partly from our immigrant roots. It goes something like this: "build it, they will come, and we'll get rich." It's the dream machine of wealth – a constant supply of housing-hungry people spending ever more to buy their slice of dreamland.

But in the past few years, something happened to snap the back of that formula. Suddenly unaffordable housing became ridiculously unaffordable. And with climate change lashing the least fortunate parts of the country, location now has existential overtones.

What to tell our young? Is this where those with the biggest access to funds simply clean up? Maybe.

That's a problem beyond our ken. And sorry to disappoint, we're not going there.

But regardless of this there are intractable facts we need to deal with. The biggest is that the market won't pay what it costs to build our homes.

The New South W Productivity and Equality (sic) Commission unpacked the reasons late last year. You can see in the handy table it provides on page 21 that the gap is pretty close to the profit margins that are needed to incentivise action.
There's the builder, the developer, the financier, the marketer, the tradies and all the hangers on – each wanting their "margin".

What if we remove the margins for that bunch and give them a job instead – on a fee for service basis?

The government is big and burly enough to do this and reap the economies of scale (economics 101). It can procure the finance at lower costs because it's much better placed to deliver housing to quality. Perhaps even deliver to National Construction Code standards for energy efficiency, climate resilience and accessibility that seems to be beyond the reach of the private sector for anything other than the premium end.

If it embarked on providing 30 per cent of housing – all social and affordable – it could underpin a low carbon market transformation in the entire supply chain. Let's recall it was the government's mandate for minimum Green Star offices that kick started the green building movement.

It might also be able to underwrite the prefabrication or modern methods of construction so that this big promise pays off. Finally.

It's all about scale. Economies of scale are the alchemy the market needs right now. It's the magic ingredient that matches the moment.
In the past, when we had plenty of everything – natural resources, a stable climate, cheap energy and lashings of optimism in the "natural order of everything" – it was a good time for the free market to unleash its multitudinous animal spirits.

But those animal spirits don't quite cut it anymore.
They are being crushed by a constrained planet, rolling climate change and severe global disruptions in everything from the supply chain to the geo-political order. They need to be big burly beasts to survive.

Or governments.

If small to mid size developers are calling for regulations to be wound back because they can't afford to deliver better, cheaper, more resilient sustainable buildings, what's our answer?

Do we give in to them and get rid of the red tape/green tape?
Or do we do exercise our free market prerogative and find someone who can give us what we want and what we need?

Maybe AI can solve all our problems. Maybe.

But until then we should look to the Lego blocks available to us and put them together as best we can.

This special issue of the magazine is a cross section of what socially and environmentally minded people have been able to deliver using their available resources.

They are to be applauded. But what they can do barely touches the sides.

Here's our wish list: governments to deliver 30 per cent of our housing for sale and rent without the profit margin inherent in the private sector, but with the private sector engaged in delivering it on a fee for service basis.

And let the balance of the private sector do what it does best for those who can afford it.

See how that goes.

– Tina Perinotto

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TINY HOMES

BY WILLOW ALIENTO


Photo: Minitopia

What's the difference between a tiny home and an apartment? The size of the habitable space.

Did you know that the **2018 International Housing Code** defines "tiny" as 37 square metres or less of habitable space? That is two sq m more space than the legislated minimum of 35 sq m for a studio apartment in New South Wales.

Generally, in Australia any single detached home 50 sq m or less is defined as a tiny home – which is the same footprint as the minimum one bedroom apartment size in New South Wales, so technically, many standard investor-grade apartments delivered in the past decade qualify as tiny homes, as would a vast number of studios and apartments delivered across every state.

In an extensive review to compare the two dwelling types, The Fifth Estate noted that one of the major design differences with tiny homes is considerations around optimising layouts – lofts, usable functional spaces under stairs, inbuilt shelving, maximising daylight, porches, connection to gardens, cross-ventilation and flexible functional furnishings.

Many of these are things we don't often see in the greige (grey + beige) boxes within a code-minimum apartment building.

So why aren't we rolling these out?

In Australia, the various barriers to tiny house living include local government planning schemes, issues with connection to utilities such as water and sewerage, time limits imposed on mobile dwellings on sites at caravan parks, or restrictions on occupancy duration.


Photo: Minitopia/John van Hamond


Photo: Minitopia/John van Hamond

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But resistance is **starting to shift** as housing market failures continue to lock growing numbers of people out of either owning or renting property.

The Shire of Esperance in Western Australia recognised tiny houses as permanent dwellings in December 2022. Others that are looking to enable tiny house developments include **City of Shellharbour** and **City of Shoalhaven** in NSW and Surf Coast Council in Victoria.

Rent the land, build the house

The concept of deliberative communities with small footprint, sustainable homes and generous green space is not new, it's like what in the pre-industrial past we'd term a "hamlet" or "village".

In Europe and the UK, tiny houses are also gaining traction, not only as a way of **providing shelter for the homeless,** but as a long term housing option.

There's a contemporary twist to this. Instead of the residents leasing their land or dwelling from a titled landowner, they lease from a **community land trust,** or in the case of **Minitopia in the Netherlands**.Founded in 2016 by Tessa Peters and Rolf van Boxmeer, Minitopia obtains sites, then invites prospective residents to apply to design and construct a tiny house as part of a master planned ecovillage.

To date, six locations have been procured and four communities are either fully or partially completed. Two more are in the detailed planning and resident recruitment stage.

Peters and Boxmeer also offer an option for people to purchase digitally designed, prefabricated tiny homes that incorporate low carbon and natural materials and are designed for passive thermal performance and low energy use. READ MORE HERE



Photo John van Hamond

The environmental case for tiny homes

Dr Edmond Lascaris agrees with a rising tide of opinion on our homes: "Australia has some of the biggest houses and one of the highest levels of household debt globally"

But it doesn't have to be this way, he adds, and part of his work involves a focus on tiny homes on leased land.

Lascaris works in stormwater management in local government in Melbourne but he also teaches a smart cities course at the Whittlesea Tech School, in Melbourne's northern suburbs.

His students use advanced manufacturing techniques (computer aided design software, laser cutting, and 3D printing) to design and test experimental tiny houses for thermal performance.

"The course is basically a training ground for students interested in skills related to modular housing design and construction," he tells The Fifth Estate.

He has undertaken extensive research into the trajectory of tiny homes globally, and the history of modular and sustainable residential development.

Researchers suggest that housing should target 15 sq m of living space per person, meeting the goal of "decent living with minimum energy".

"Installing small preconstructed Passive Houses would make it easier for people to enter the housing market," Lascaris says.

The smaller footprint, combined with advanced manufacturing, also makes it more cost-effective to achieve the highly sustainable Passive House standard for new homes.

We've done this before

In the past, Australia has rolled out economical, sustainable housing at scale. For example, after World War II, the Peter Lalor Housing Cooperative gave returned service men and women the opportunity to own their own 80-120 sq m house.

Lascaris explains, "These homes included generous green spaces (100–200 sq m per person) for local recreation and food security, a vital resource after petrol and food rationing during WWII."

This is a lesson that remains highly relevant for tackling today's cost of living and climate change challenges. READ MORE HERE – Willow Aliento



Dr Edmond Lascaris

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Community land trusts can produce affordable and diverse "forever" housing



Image credit

BY LOUISE CRABTREE-HAYES

Decades of international experience shows that, when enabled by supportive policies, community land trusts (CLTs) can produce a diverse range of stable, perpetually affordable and appropriate housing options for people priced out of their communities. They can also channel the voices of residents and the broader community into thriving, innovative, and high-quality placemaking outcomes. The Australian sector is well poised to learn from and build on this experience.

CLTs are community-led non-profit organisations that steward property to deliver permanently affordable housing and community benefits. They use a number of tools to achieve this, but their basic premise is to remove land value from residential and non-residential programs.

Internationally, CLTs hold diverse portfolios of permanently affordable rented and owned homes as well as non-residential property. This can include community-based retail, food, employment and renewable energy projects, as well as diverse affordable housing options. CLT portfolios are in line with community needs, which also increasingly include First Peoples' objectives, and there is a strong community presence in their membership and governance.

CLTs have a proven track record of maintaining affordability and fostering stability while enabling both equity gain and mobility. What's more, they channel community voices, including people who live in CLT homes and those who don't, into better and more diverse placemaking and development outcomes.

Despite policy interest in providing a greater range of housing options and better urban design outcomes in Australia, as well as ongoing and intensifying local interest in CLTs, to date they have struggled to gain traction. But this could be about to change.

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Creating Community in co-housing

According to Elena Pereyra of Co-housing Australia, co-housing differs significantly from other community housing models in that future occupant participation throughout the project lifecycle is non-negotiable.



Apartments are built near other existing apartments "and not where we need new medium density in middle ring suburbia," Pereyra explains

Photo: Chris Grose

BY WILLOW ALIENTO

One of co-housing's flagship projects is **Murundaka**, an all-rental housing cooperative in the northern Melbourne suburb of Heidelberg. Established in 2011, the co-op includes 20 households across one, two and four-bedroom apartments.

It also has extensive shared spaces, including a common house that's open to the broader local community for meetings and events held by groups such as choirs, parent groups and grassroots organisations.

It's owned by **Common Equity Housing Limited,** a specialist cooperative housing organisation that manages more than 2000 properties across Victoria, involving over 90 individual housing cooperatives.

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Image credit

A registered charity and member of Community Housing Industry Association Victoria, it both develops new properties – with 25 under construction as of the 2023-24 financial year – and purchases properties which are then upgraded for sustainability performance and liveability. The 2024 annual report shows a portfolio of $1.2 billion in assets and operating revenue of nearly $25 million for the year.

According to Pereyra, co-chair of Cohousing Australia, the success of Murundaka as a housing solution helped lead the local council, City of Banyule, to include the model in its new housing strategy for the municipality. These developments will be given an exemption from the developer contributions levied by council, in recognition of the fact that they provide a level of community amenity within the design and also deliver affordable housing.

She says that co-housing differs from other housing models such as multiple occupancy, market strata, commercial build to rent (BTR) and standard urban infill estates, in that future residents participate in the design, delivery and post-occupancy management and governance.

By contrast, projects by affordable housing focused groups are designed and led by architects, developers, government or community housing groups. Some of these include elements of the co-housing approach, such as consultation in design or control over community operations.

Co-living is also a different model. BTR for example, is a form of co-living, where the building has shared facilities and amenities.

Much of the recent private sector purpose-built student accommodation is also a co-living proposition. READ MORE HERE

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Community housing providers

reshaping Australia's housing paradigm

BY ADRIAN HARRINGTON



Image credit

The Australian residential sector is undergoing a paradigm shift, driven by the emergence of Community Housing Providers (CHPs) as key property players. This evolution extends beyond their historical role as social housing managers, towards becoming sophisticated property development and management institutions.

While this transformation echoes the journey of UK housing associations, it's taking place within Australia's unique market dynamics and regulatory framework.

Institutional evolution and market dynamics

CHPs are not-for-profit entities and registered charities dedicated to providing housing for individuals and families on low to moderate incomes, who may otherwise struggle to find suitable accommodation. Their focus extends beyond mere shelter, encompassing support for specific cohorts like Aboriginal and Torres Strait Islander peoples, older women at risk of homelessness, and individuals with disabilities who are often excluded from the private rental and ownership markets.

The evolution of CHPs reflects a structural response to the market failures within Australia's housing system. These organisations have transitioned from small, community-based charities into advanced institutions specialising in housing development and management.

With over 400 CHPs nationwide, the sector has become a significant player in addressing housing challenges. Notably, Tier 1 providers – now numbering more than 50 – are managing large-scale property portfolios and engaging in complex development projects, either independently or through strategic partnerships. The most prominent CHPs currently oversee portfolios exceeding 7000 properties and boast balance sheets with assets surpassing one billion dollars, underscoring their growing influence and financial strength within the housing market.

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Nightingale Preston is leading the way

Nightingale Preston is a standout example of community-driven, sustainable design. It blends thoughtful material choices, high sustainability standards and a deep commitment to fostering a vibrant, interconnected community environment. It features a mix of innovative communal spaces, including a shared rooftop with a dining area, veggie patch and laundry, as well as a guesthouse.

This community housing development is part of the broader Preston Crossing precinct in Melbourne's north east. It consists of 52 homes of different sizes, and was designed by Breathe Architecture with landscape architecture by TCL. The project was delivered by developer MAB and built by Balmain & Co, in collaboration with Nightingale Housing, a not-for-profit that builds socially, financially and environmentally sustainable apartments.

It includes seven "Teilhaus" apartments – small-footprint, space efficient homes – as well as 20 one-bedroom apartments, 25 two-bedroom apartments, and two commercial tenancies on the ground floor. In line with Nightingale's principle of building homes for people rather than profit, the apartments were sold at cost, with prices starting around $300,000 for a Teilhaus apartment and up to $720,000 for a two-bedroom home.

The project is designed in three distinct sections, each reflecting a different aspect of the area's history and character. On the ground floor, carbon neutral brickwork is a nod to Preston's residential past. The middle section features a precast, fluted concrete facade and a saw-tooth roofline, referencing the suburb's industrial heritage. The building is split in two, creating a "green spine" in the middle for vegetation to grow and fresh air to circulate, symbolising Preston's commitment to parks and open spaces.

Image credit

in more affordable, sustainable and meaningful living

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Sustainability Features

Nightingale Preston is all-electric and fossil-fuel free. The building has a 5-star Green Star rating, and all apartments have a minimum 7.5 NatHERS rating. This is the result of careful window orientation, external shading, and the use of shrouds to improve thermal performance. The rooftop hosts a 30 kilowatt photovoltaic array which primarily powers the all-electric, high-efficiency heat pump.

The ground floor is home to the bike store, which includes charging points for cargo bikes, e-bikes and mobility scooters. It also houses the recycling hub, a naturally ventilated space that accommodates multiple waste streams, with additional waste managed by residents to reduce landfill contribution.

All windows are double-glazed, with thermally broken anodised aluminium window frames and timber doors to balconies. To optimize cross-ventilation, a Juliet window system allows residents to open entire window frames, enabling them to purge air and naturally ventilate their homes. Each apartment is also well-insulated and equipped with a heat recovery ventilation (HRV) system.

The building uses a sustainable material palette, including cork flooring inside, low formaldehyde MDF for kitchen joinery, stainless steel benchtops and solid timber decking. Where possible materials and fixtures are left exposed, including lighting, services and bathroom hardware.

Image credit

Communal Spaces

The rooftop is designed to foster interaction among residents. It features a communal dining area and kitchen which can be used for meals, community gatherings and as a work-from-home space.

The dining room also serves as a climate refuge on increasingly hot days with its own high-efficiency air conditioner and openings to the landscaped outdoor area.

The rooftop also hosts the shared laundry and clothesline, small seating areas, productive garden beds and a communal bathhouse. The bathhouse was thoughtfully designed based on feedback from Nightingale residents, responding to the need for a shared space where families can relax or bathe children. This area is bookable by residents at any time.

Another unique feature is the guesthouse, inspired by multi-residential projects worldwide. This compact space on the ground floor is shared by residents and encourages people to live in smaller homes while reducing the financial burden of having an extra bedroom that's rarely used. This facility is managed by the community, and residents can book it for a nominal fee of $70 per night, which covers the costs of maintenance and operation.

Nightingale Preston is a unique and forward-thinking project that is contributing to the creation of a modern, vibrant residential village. It's also setting a new standard for future developments in the City of Darebin and beyond.

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PRADS

unlocking private investment for essential worker housing



Housing All Australians (HAA), a private sector-led not-for-profit organisation, is pioneering a new approach to solving Australia's housing crisis through what the organisation calls "compassionate capitalism". This is the notion that we can balance critical societal needs with business sustainability, according to the HAA's new chief executive Dan McKenna who moved to the organisation from Nightingale Housing towards the end of 2024.

He notes the scale of Australia's housing challenge is "staggering" with $290 billion needed over the next 20 years to build 891,000 dwellings, a challenge beyond government to fund alone but that private capital from institutional and private investors can help plug the gap. The organisation's answer to the dilemma is the Progressive Residential Affordability Development Solution (PRADS). And here's how it can work.

The PRADS model

The PRADS model is built on the premise that affordable housing requires a subsidy, and this subsidy can be created through planning incentives rather than just relying on government funding.

The model enables collaboration between developers and local governments, where additional value is created through planning concessions (such as increased height or density) and then strategically redirected to subsidise affordable housing at an agreed below market rent for at least 30 years.

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How a group of *older women* in Victoria are *taking charge* of creating housing

Many older women find its almost impossible in today's market to either buy or rent housing. They fall into "housing precarity" thanks to being life-long renters, or because they accumulated disadvantages thanks to race, sexuality, domestic violence, disability or low-income employment. A third reason is losing home ownership because of life events such as divorce, illness, unemployment or similar.

Then there are the "missing middle" women, a term coined to describe women who are not in a sufficient degree of poverty to qualify for social or community housing, yet don't have enough income, superannuation or wealth to afford to rent or service a mortgage in their 60s and beyond.

BY WILLOW ALIENTO

Photos: Women in Co-Housing INC

Victoria's Women in Co-Housing INC group had its start in 2017 when founder Anneke Deutsch worked with a charity for older lesbian women and recognised the need for a focus on housing.

First, she worked with a community housing provider that successfully delivered the first community housing – three apartments – specifically for older lesbians in Melbourne.

Next, she started to think about what might happen when she became older, and a housing forum was set up within the Women's Property Initiatives. She and others including her neighbour Mary-Faeth Chenery, now president of WINC, looked at a range of co-operative and alternative housing models in Melbourne.

They settled on rural co-housing as the preferred approach. The membership grew to around 50, including potential residents and supporters, and the hunt for a block of land began. An initial pool of capital was raised with nine members each tipping in $100,000, and WINC was formally incorporated as an entity that can purchase, own and develop land.

Building the vision

The group purchased a five-acre former dairy farm near Castlemaine in north east Victoria. It included a four-bedroom house with potential to be transformed to a community house, along with sheds and another dilapidated house that will need to be deconstructed.

WINC members participate in monthly working bees on the site, including Landcare activities and collaborative design workshops to create a vision for the community.

Low-impact living

Plans for the site include 31 small, prefabricated homes with footprints of between 50 square metres and 80 sq m. Each will be single level, accessible and designed to Passive House standards and accessible features, with solar power.

Deutsche said the houses will be prefabricated as this have proved to be the lowest cost option, with estimated at between $200,000 and $300,000.

The site will be landscaped to facilitate accessibility for walkers, mobility scooters and wheelchairs, so women can age in place. Instead of each home having carparking or a garage, all carparking will be in a central area near the entry and convenient to the community house.

Productive community gardens and shared workshops are also in the plans, along with extensive regeneration of bushland including the riparian zone along the creek, currently dominated by blackberry.

The existing home will provide common facilities and guest quarters, and a second purpose-built common house is planned to provide space for cooking for each other, celebrations and activities such as film nights.

One of the core design principles is "design that promotes interactions", Deutsch says.

Including the missing middle

The women could have chosen to only include those who can afford the capital or obtain a mortgage to purchase a home in the community. However, Deutsch and Chenery said, they are aiming for a diverse community and are making a deliberate choice to include the "missing middle" women. READ MORE HERE

It's *time* for resilience ratings for housing here's why

(in case you can't guess)

BY WILLOW ALIENTO

Resilient buildings are those that can recover from disruption with minimal impact on their functioning. It's a key factor in the sustainability of buildings, especially given the unpredictability of climate change, but how do we measure it? Enter resilience ratings.

The Resilient Building Council (RBC), which brings together expertise in disaster mitigation, building safety, climate adaptation and energy efficiency, has found that 90 per cent of Australian homes are not disaster resilient or climate adapted. It launched a formal Resilience Rating system for buildings in October 2023.

Since then, around 40,000 resilience assessments have been undertaken. The scale of this uptake in such a short time indicates just how concerned homeowners, business owners and local governments have become about the risk landscape.

According to RBC chief executive officer Kate Cotter, insurers and banks are also seeing value in the rating scheme.

The RBC is currently working with a couple of major banks on residential developments that embed the resilience ratings in their design to enable access to discounted finance.

Future buyers also stand to gain, with two insurers and one major bank already providing resilience rating discounts once these homes are built and able to be certified by the RBC.

Insurance industry can see the value

The insurance industry already backs the rating scheme, which aligns with one of the key recommendations of the November 2024 Senate Select Committee report on the Impact of Climate Risk on Insurance Premiums and Availability.



Kate Cotter

This recommendation states that "insurance companies in Australia be required to provide policyholders with a sufficient breakdown and explanation of insurance premium costs, including details of price changes in response to resilience and disaster mitigation measures undertaken by the policyholder." READ MORE HERE

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MAKE ROOM



Image credit

Photo: Dianna Snape

A case study in transforming offices to residential for unhoused people

BY WILLOW ALIENTO

There's vacant commercial floorspace in capital city CBDs and we are in the midst of a housing crisis. For some people this sounds like a sustainable conversion opportunity waiting to happen. It's certainly something the City of Melbourne decided to integrate into both its housing and decarbonisation strategies for the city, when it released Adaptive Reuse of Office Buildings Guidelines late in 2024.

The first pilot project using the guidelines, the Make Room initiative, demonstrated how it can work.

Make Room aims to provide secure, supported residential living for rough sleepers or people who are chronically unhoused. The refurbishment of the six-storey heritage office building owned by City of Melbourne created 50 self-contained studio apartments, common areas including a productive rooftop garden, recreation space, and office space for visiting medical professionals and social support service providers.

The delivery team included i2C Architects, landscape consultants Tract, builder Harris HMC, project superintendent Reshape Development, Homes Victoria and community housing provider partner, Unison Housing, which will provide ongoing management of the property.

The Victorian state government contributed $9 million for the $24.9 million development and is providing $5.2 million for on-site support and specialised tenancy management. A further $7.1 million was contributed by philanthropic and corporate partners including the Ian Potter Foundation, Lord Mayor's Charitable Foundation, Gandel Foundation, Portland House Foundation, Helen Macpherson Smith Trust, the William Buckland Foundation, the Hansen Little Foundation, the Erdi Foundation and PWC.

The building itself, donated by City of Melbourne, was valued at over $12 million.

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The partners that also included Unison Housing and Homes Victoria committed to sharing the development model and its outcomes to assist similar projects.

The upgrade program needed to be sensitive to heritage needs.

Architect Gavin Salt, residential lead and associate at i2C says “The building has great floor to floor heights and access to natural daylight. The floor plate sizes, shape and building structure all naturally lend themselves to a residential typology, those are the challenges normally encountered in a commercial to residential conversion”.

The biggest design challenge was in the need to upgrade the external fabric of the building to make it more habitable as a long-term residential building.

Thanks to the heritage overlay, upgrade of the insulation of the existing concrete walls was through an internal solution, rather than additional exterior cladding. All glazing was replaced with double glazing to further improve passive thermal performance. The replacement windows reflect the original design and provide natural ventilation.



Photo: Dianna Snape

“A key component of the design has been universal design principles and equitable access,” Salt says. “In doing this we had to revise the building entry point and replace the industrial lifts with passenger lifts.”

There were positive rewards for the delivery team.

“Watching the revitalisation of an underutilised building into transitional housing has been a great source of pride,” Salt says.

Photo: Dianna Snape

The design team worked with Unison and City of Melbourne to integrate Indigenous art into the finalised building, something Salt describes as “incredible”.

“We worked with the artists to integrate their designs for the entry portal and building mural into the finalised building.

“The roof top garden is probably my favourite part of the project, we worked with Tract to deliver a safe, private, contemplative garden full of productive planter beds and trees. The bluestone pavers have been etched with designs from the Indigenous art team.”

READ MORE HERE

“THERE WERE POSITIVE REWARDS FOR THE DELIVERY TEAM

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Harnessing the Renovation BOOM for climate and sustainability

BY WILLOW ALIENTO





There's a renovation boom underway. And while we need new housing it's critically important that existing homes are also resilient to meet the growing challenges of a heating climate and sustainability.

According to a report from KPMG there was a 40 per cent surge in renovation as a proportion of total residential construction spending in 2023-24.

This was not seen as an entirely good thing.

"For every nail hammered and brick laid in residential construction 40 per cent of it is going into renovating a pre-existing home," the company's urban economist Terry Rawnsley said in a media statement, referring the current housing crisis and the lower number of new homes added to supply as a result.

Even worse is that a whopping 10 per cent of new construction was for a one-for-one replacements – so an existing home demolished and replaced with another.

"Homeowners are absolutely entitled to renovate their homes to add value to their investment and to ensure existing housing stock is maintained. However, shifting some of the labour and materials away from renovations and one-for-one replacements towards the construction of new housing stock can help to relieve current housing shortages," Rawnsley said.

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There's a critical need for existing stock to be upgraded to be climate-adapted, energy-efficient and healthy for occupants.

But there's more to the renovation story. It's the sustainability angle – the critical need for existing stock to be upgraded to be climate-adapted, energy-efficient and healthy for occupants.

This accords with the International Energy Agency. It has, as one of the agreed goals of its global **Breakthrough Agenda** that near-zero emissions and resilient buildings are to become the new normal in all regions by 2030.

Near-zero emissions and resilient buildings are to become the new normal in all regions by 2030

So, as an increasing number of people are now aware, fixing existing housing – or any building – is a priority for sustainability. But it can be difficult for homeowners to find the right information when scoping their own personal version of popular television series The Block.

This means we need to rapidly scale up efforts to address existing building stock in Australia, particularly in the residential sector, where policy, regulatory and market forces have failed to incentivise improvements to date.

We also need to be aware that, just as there is pushback from parts of the industry to improve standards for new construction, there is also a perception that renovation activity somehow detracts from new construction.

Yes, we can turn leaky tents into climate-adapted shelters

According to CSIRO research released in 2023, around 80 per cent of Australian dwellings including detached homes, townhouses and apartments, can be renovated to be "climate ready."

Climateworks and CSIRO found there are only 16 basic archetypes that describe most Australian homes, and the most common of these "can be turned into net zero carbon homes with either a quick fix, modest or full climate-ready upgrade."

Achieving this is not rocket science. CSIRO found there are only 16 basic archetypes that describe most Australian homes, and the most common of these "can be turned into net zero carbon homes with either a quick fix, modest or full climate-ready upgrade."

The renovation pathway CSIRO developed takes a "thermal-first" approach – dealing with air tightness and insulation – because energy used for heating and cooling is one of the major drivers of both energy bills and emissions.

Reducing heating and cooling load also makes it easier to supply a home from on-site solar PV. The next step is to electrify hot water, cooking and any heating equipment, and then the savings start to roll in.

The next step is to electrify hot water, cooking and any heating equipment, and then the savings start to roll in. CSIRO found that combining thermal upgrades with electrified hot water and cooking would mean average annual savings of:

- $1850 to $2200 for people living in detached houses
- $1270 to $1480 for townhouse occupants
- $1030 to $1200 for apartment dwellers

READ MORE HERE

New renovation platform

Start up founder Sonja Markovic's company taps the growing interest in sustainable housing renovation. She says there's "the biggest opportunity" in the design and construction professions to turn sustainability into a business model and in the meantime provide a different value proposition - quite different to the lens typically trained on simple resale value.

Markovic is chief executive of Evitat, which provides a platform for that vets materials for global warming potential, end of life uses and shipping distances.

In just two years the company has attracted 4000 subscribers and 400 professional users. In a nutshell it aims to help homeowners, tradies, architects and suppliers to collaborate in achieving betterment goals. Its tool helps people determine goals for their home, and then the value of these goals across a number of benefit categories, such as energy efficiency, passive performance, reducing emissions, climate resilience, benefits for occupant health and circularity of materials.

Homeowners still dominate the platform but Markovic says the potential is far greater, as designers start to understand what they too can gain from encouraging clients to do a sustainable renovation.

Both professionals and consumers using the product section of the platform can start to get a snapshot of why a specific product or material was included, such as its benefits in reducing embodied carbon, improving climate resilience or supporting human health.

Markovic explains this also helps build knowledge and understanding of sustainability factors in language that is accessible to the general homeowner. This includes understanding of key dimensions of climate resilience, such as the site-specific risks and means to address them.

"Renovation is our best opportunity to address climate risk through design and materials decisions," she says.



Sonja Markovic

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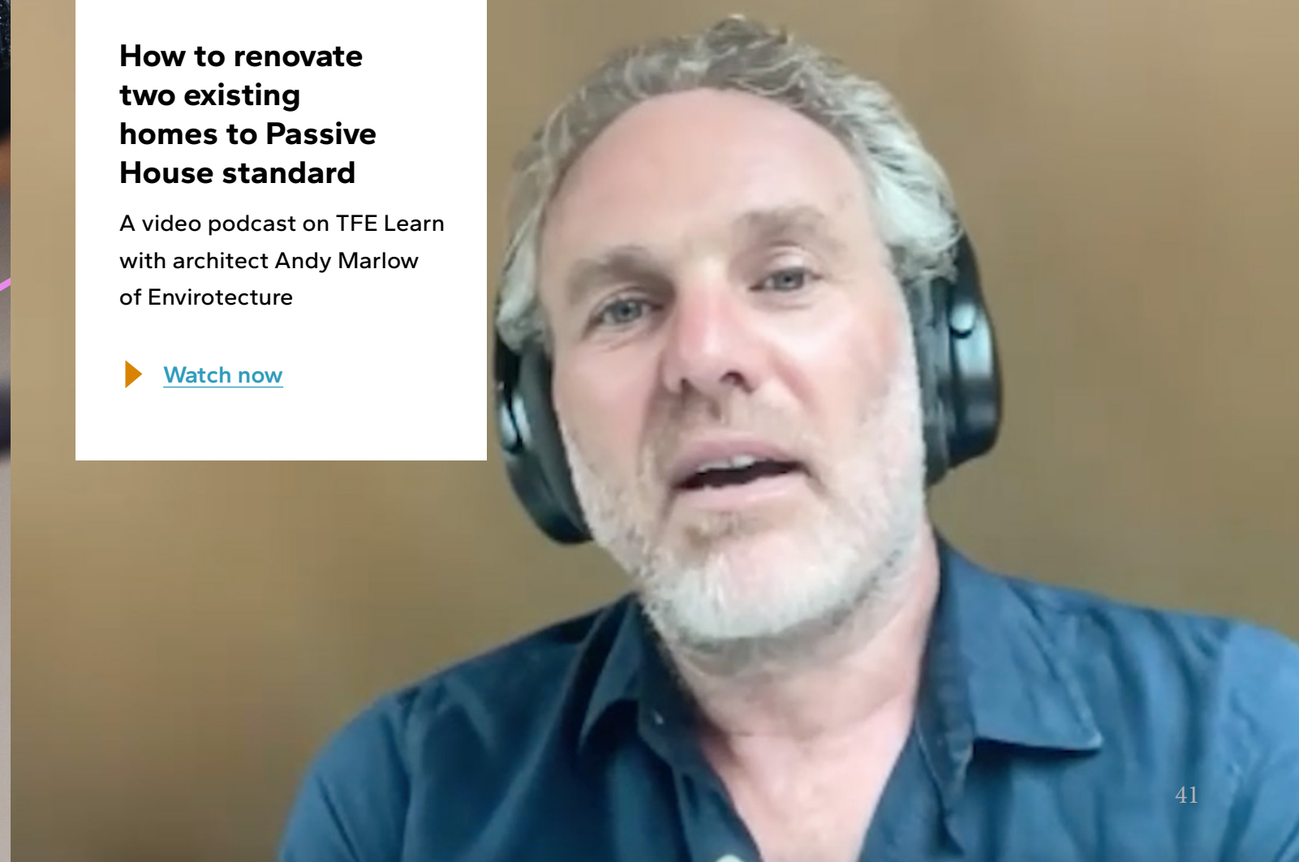
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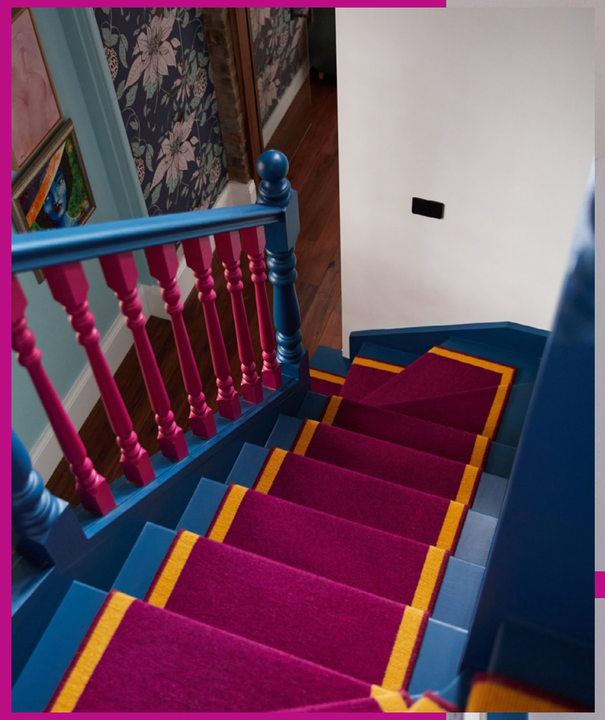
How to renovate two existing homes to Passive House standard

A video podcast on TFE Learn with architect Andy Marlow of Envirotecture

Watch now



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Photos by Sally Griffiths

The ImPossible House

Dr Laura Ryan, the homeowner of an inner city terrace in Newtown, Sydney was recently featured on **Grand Designs Australia** after completing her highly sustainable "ImPossible House".

Ryan was committed to building a house with "inner city cool" rather than a "daggy, unkempt and drop toilet out the back" design that's often associated with sustainable housing. She aimed to make her two bedroom semi-detached house completely off-grid, capture and recycle enough water to support a three person household, use recycled materials where possible, minimise costs, and follow Passive House principles. However, Ryan continues to fight the local council to permit the installation of solar panels on her front roof (normally prohibited) to allow the house to be fully self-sustaining for energy.

SEE MORE OF THE IMPOSSIBLE HOUSE

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Improving Indigenous health, *one home at a time*

BY WILLOW ALIENTO



Photo: Healthabitat



Photo: Healthabitat

One of the proven ways Australia can help close the gap for Indigenous health is to fix housing. And when housing is in bad repair it turns out tenants are not generally at fault.

That's the evidence and data that's emerged from around 40 years of practical Housing for Health projects delivered by Healthabitat in fixing more than 10,500 homes across Australia, improving the lives of more than 60,000 people.

NOTE: Aboriginal and Torres Strait Islander readers are advised this story contains the names of deceased persons

According to director of Healthabitat, architect David Donald, his organisation has obtained an enormous amount of data on the repair work this organisation has carried out over four decades, as every tradesperson who works on one of the "survey and fix" projects contributes information on what the issues were, why they occurred, and what rectification was undertaken.

Only 7 per cent of issues with basic health infrastructure in the homes are due to tenant damage or misuse the data shows, he tells The Fifth Estate. A whopping 74 per cent of problems are due to lack of landlord or owner maintenance, and a further 19 per cent are due to faulty construction of the dwelling in the first place.

Less illness, less time in hospitals

The prevalence of issues with the basic health hardware of a home has had a major impact on the wellbeing of people, Donald stresses, and this insight comes from the organisation's early foundations.

A key founder was Yankunytjatjara Elder the late Yami Lester who had been heading up the Anangu health service, when he realised that around 80 per cent of people were coming in with infectious diseases that could be traced back to the quality of housing. READ MORE HERE

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Putting regenerative ideas into practice



Photo: Chris Buntine

As an environmental consultant Chris Buntine deals with advanced sustainability approaches every day in the commercial space. Now, with the renovation project he and partner, Sun Buntine are undertaking in Hampton in Melbourne's south east, he's road-testing regenerative design and construction principles on their new family home.

BY WILLOW ALIENTO

This is a renovation project that began when Chris and Sun Buntine purchased a century-old California bungalow that many would consider a prime candidate for a knock-down rebuild. But the Buntines looked at the home and saw embodied carbon that deserved to be stewarded to the greatest extent possible.

Instead of building on a blank canvas, the "biophilic bungalow" project aims to achieve Passive House standard, integrates biophilic design and implements biodiversity-friendly design within the constraints of the existing structure and site conditions.

The Living Building Challenge Core Certification and LBC Energy petal requirements are also being used to guide decisions, and certification may eventually be pursued.

An overarching ambition is to use the renovation process to stimulate a wider conversation in the property community about creating homes that are energy positive, carbon neutral, water resilient, zero waste, healthy and nature positive.

It's about showing how even in our existing urban fabric we can be re-connecting people with nature, weaving links within communities and dissolving the

perceived barrier between human zones and the natural habitat of native plants and animals. Blue-banded bees and busy family lives can co-exist, where humans create spaces that are inclusive of the wider web of existence.

At its root, regenerative development aims to create multiple layers of value for a place and for the life of that place, Buntine explains. It means contributing to the health and vitality of that place and the systems including ecology, water, energy and materials which it is part of. "A project, whether it is a building, a piece of infrastructure or an open space, is regenerative when it builds the capacity of the wider community of life to renew, evolve and thrive. If a project looks great but degrades the quality of its surrounding environment or a place far away, then it is degenerative.

READ MORE HERE





WHITE GUM VALLEY

Hope Street in Perth's White Gum Valley is a seemingly unremarkable suburban street according to the Western Australian Greens MP Brad Pettitt. But it is home to three case studies of sustainable and affordable housing developments. Pettitt say they are hopeful examples for a state struggling with density, affordability, and sustainability:

Terrace Green: 28 terrace house development that demonstrates "gentle density". With 60 per cent open space, every home has a green northern aspect. While its NatHERS rating is well above the legal requirement [at the time of development] the building costs were the same as any other houses. Designed by MDC Architects and Officer Woods.

90 Hope Street: Three semi-detached townhouses built for those wishing to downsize. It meets the international single-story and liveable housing gold standard with a NatHERS rating of 8.3 stars. The development uses solar, home battery, and is sealed to passive house standards. Designed by architect Michelle Blakeley.

Gen Y housing a set of three apartments disguised to look like a two-story McMansion for Gen Y who are finding it increasingly hard to buy a house. A great study for innovative models for medium density and brings hope of sustainability to the "missing middle". Designed by architect David Barr.

Watch as Brad Pettitt walks you through some of the sustainable features and designs of Hope Street.



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THE *MADNESS* of strata – for *too many* people

BY TINA PERINOTTO

Delving into the strata world is like taking the wrong turn down the rabbit hole of building related trauma, which is bad enough, then discovering a whole new group of people living under the radar, struggling to find their way out.

Image credit

Fred Tuckwell, strata management expert and chair of the Owners Corporation Network, has some hair raising stories about working with strata owners to get sustainable retrofit in their buildings.

In one case he says, an owner in one block of apartments in Sydney demanded that if EV owners got an EV charger installed they wanted a petrol bowser on site for their internal combustion engine car.

He's got other tales to tell.

For people like Macquarie University academic Professor Cathy Sherry there's a lot of wasted energy expended in the area. She doesn't have confidence it can improve much and spends quite a bit of her social media posts urging people to avoid strata altogether.

A recent post flagged a warning to owners that if they lost their strata title house in a climate disaster they were still legally obliged to pay the levies and other legal charges to the owners corporation.

She wants a lot of it to just stop.

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"There's so much short-sighted community title being developed in Australia with little understanding of what it means for future homeowners and land use," she says.

"In off the plan sales, owners are required to legally bind themselves to purchase before any of these contracts are finalised. They have no idea what [the contracts] will say. "

The problems that Sherry tracks are myriad. They occur well before there's even a mention of sustainability retrofits or even EV chargers. And it goes downhill from there.

But we need to fix the problems.

The data says a massive quarter of our population, lives in strata. Not all are unhappy and have problems, but a lot do.

If we want more density to curb our profligate gobbling up of land, infrastructure and resources in urban sprawl, we have to get this model right. We have to make apartments in low, mid and sometimes high rise buildings, pleasant


Amy Brand


Kate Nicolazzo



and even desirable places to live. The Europeans manage it.

A lot of the problem stories centre around the difficulty of getting apartment owners to agree to improvements and how the improvements are paid for.

The ripoffs are almost legendary

And that's before the ripoffs. The ABC's Four Corners too exposed almost unbelievable scandals in the industry. In NSW Tony Irvine president of the industry's peak body, the Strata Community Association (SCA) was appointed to the job after his predecessor, Stephen Brell, "was forced to stand down following a 7.30 interview in which he admitted his company, Netstrata, had failed to disclose a raft of kickbacks."

"We asked you, our audience, just how widespread these practices were, and more than 2000 of you responded, many with extraordinary details of hidden charges, phantom fees and suspect deals with contractors," the ABC said.

Success exists and there are case studies

Despite the challenges, Brent Clark's Wattblock and the City of Sydney's Smart Green Apartments program have achieved a reasonable degree of sustainable retrofitting success in recent years and their sites have some good case studies of how these were managed. READ MORE HERE

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We need to *get* the *strata* formula *right*

Australia now over 3 million people living in apartments. That's 16 per cent of the population. But despite the rising need for this to work well so there's support to densify our cities sustainably, strata occupants are forced to negotiate a morass of bylaws and regulations, from the inability to dry clothes on their balconies to conflicts with strata managers appointed by the developer, sometimes embedded for years.

BY WILLOW ALIENTO

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Late last year a group of **university researchers** confirmed what many already knew.

They published results of a three year study that found an **"extraordinary array"** of ethical tensions in the strata industry. They found "uneven – and in places non-existent regulation of the strata management industry", leaving some people living in apartments or other strata title properties ripe for exploitation by unscrupulous operators.

New owners corporation may not be aware it can ask for more time before endorsing the developer's preferred strata manager.

The patchwork of regulation

Shari Driver chief executive officer of strata advocacy group Owners Corporation Network agrees there are serious issues that need to be fixed in the sector. One of the problems is that regulations around strata, including owner rights, responsibilities and community governance are different in each state and territory. This makes it challenging to develop a national approach to tackling big issues such as management practices, insurance and quality of design and construction.

The insurance issue **hit headlines last year** when an 7.30 investigation revealed strata management giant, NetStrata was "using its wholly owned insurance arm to charge apartment owners insurance brokerage fees as high as three times the typical rate."

Driver says many owners corporations find their strata management contracts specify an insurance provider but that's a problem when the cost of that provider includes a commission paid to the strata manager

This means insurance costs are higher than they need to be and the balance of power shifts from the strata owners to the strata manager.

New owners corporation may not be aware it can ask for more time before endorsing the developer's preferred strata manager.

Another significant issue is the appointment of strata managers. In new strata projects, the developer often appoints the strata manager. At the first annual general meeting, the new owners corporation often believes it must ratify the contract, which may keep that strata manager in place for years.

"The first AGM may be hours long," Driver says. "You have a newly created owners corporation that has to understand a huge amount of information before the meeting, then make a lot of decisions."

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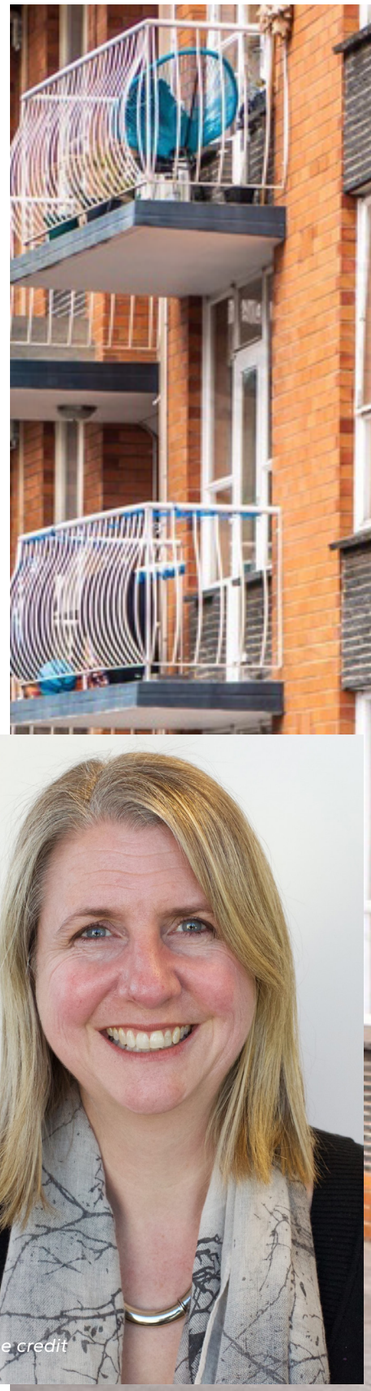


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Smart homes



There's a lot of marketing weight behind the notion of the many smart appliances now in some homes. But do the technologies deliver real sustainability and energy-efficiency advantage? Do they even save you time and labour? The Fifth Estate dug deep to find out.

Clever idea or gimmick?

Then how about balcony solar to charge your gear?

BY WILLOW ALIENTO

Telling Alexa to switch off the lights or turn the telly feels cool and modern.

Same with the growing cornucopia of smart tech for homes – TVs, fridges, ovens, dishwashers, airconditioning, lighting systems, blind controls, security systems and watering system, for both gardens and people.

The sell on these things is all about making life easier, more comfortable and luxurious, something researchers have termed "pleasance'" Many of these systems also claim to help minimise waste of energy, water and in the case of fridges, perishable food.

According to RMIT's Alan Pears, these "smarts" are a two-edged sword.

"They can offer benefits but can also drive waste and loss of control. Outcomes depend on many factors, and how broadly you look," he says.

A 2024 international research paper looked at the performance of a range of smart appliances from smart ovens, to smart fridges and washing machines to lighting, thermostats and solar panels. The research found there was an energy efficiency gain of around 10 per cent for each item. What was still absence though was data to show how efficiency changes when people interact with the appliances.

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"Nor is there much information on the complex factors that push in both directions. In practice, energy and energy efficiency are often not even considered in decisions, or by product designers, sales people, tradies and policy makers," Pears notes.

The problem with pleasance

The problem is there is a perverse phenomenon at work.

Monash researchers Yolande Strengers, previously from RMIT, and Larissa Nicholls, argue that despite the promise of convenience and energy efficiency the smart home vision can result in people using more energy and dedicating more labour to their home.

Their work considered how "notions of smart convenience are intended to reduce energy demand"

Instead, they found that convenience "masks and legitimises opportunities to increase household labour and energy demand, through the promotion and circulation of new lifestyle expectations."

They cite the "Jevons paradox". That's when more efficiency leads to more consumption, defeating any original goal of reducing resource use overall.

Smart lighting and the Jevons paradox

Some lighting designers say that as LED luminaires offer more energy efficient lighting, many lighting schematics now incorporate many more luminaires – eliminating the energy saving and increasing embodied carbon. READ MORE HERE


Alan Pears


Yolande Strengers


Steve Hennessy


Larissa Nicholls

"ACCORDING TO ALAN PEARS, THESE "SMARTS" ARE A TWO-EDGED SWORD

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Heating, cooling and washing



How heat pumps help save the planet

BY WILLOW ALIENTO

Back in the days of cheap gas and blissful ignorance of carbon consequences, gas hot water, gas heating and gas cooking were standard across homes in large parts of Australia. But that was also the era when billboards promoted tobacco. Fast-forward to the present day and switching out gas appliances for all-electric alternatives is the main game, and heat pumps are increasingly the star of the show.

Most people are familiar with reverse cycle airconditioning, which is a basic form of heat pump. It works by either drawing heat from outside air in cold weather or dumping heat from the indoor air in hot weather.

In commercial applications, some buildings have a version known as a three-pipe chiller or four-pipe chiller, which can replace both the conventional chiller and a gas-fired boiler.

The three-pipe or four-pipe unit can simultaneously provide hot water for things like amenities and kitchens, and both chilled and hot water used for the airconditioning system.

Having one unit for homes that can provide both hot water and provide cooling in hot weather is not quite so straightforward.

When a heat pump is creating hot water or heating air, it is throwing away coolth. A fridge, by contrast, cools its contents while dumping heat into the kitchen.

Engineer and CIBSE ANZ committee member Steve Hennessy explains that when a heat pump provides cooling it uses refrigerant to transfer coolth to the air offtake, however, the heat needs to be disposed of.

A heat recovery system such as in a three or four-pipe chiller can make use of that heat, however, that is predicated on the building using cooling.

In residential, there is a mismatch, because while cooling needs are not constant, the need for heat is, for example to ensure continuous hot water.

Conversely, when a heat pump is creating hot water or heating air, it is throwing away coolth. A fridge, by contrast, cools its contents while dumping heat into the kitchen.

Hennessy explains that as a result, the heating technology can be most efficient where there is a use for that coolth, for example, sending the coolth into an apartment building's gym or some other space that has constant cooling demand.

Many of the heat pump systems installed in commercial premises do utilise heat recovery as some parts of the building may need cooling while others need heating, and hot water can be produced while cooling the building.

However, in a household it would be difficult to justify the cost and complexity to install these kinds of systems.
But even though homes are unlikely to benefit from one unit doing multiple things, there are heat pump solutions that can replace several key appliance types. These not only have an energy efficiency dividend – they can also contribute to improved indoor environment quality and reduced mould risks.

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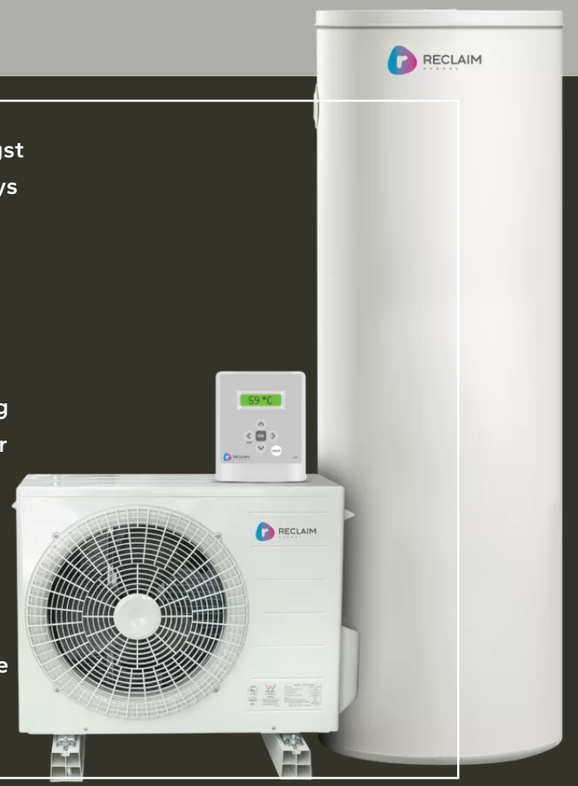
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Heat pumps: why you need to shop around

Are sustainable products in high demand amongst consumers and even tradies? Reclaim Energy says yes! The company known for its CO2 heat pump hot water system has seen a 50 to 58 per cent a year growth since inception.

But this doesn't mean consumers should just engage any plumber or supplier without "putting in the hard yards" Chris Taylor, managing director of Reclaim Energy, says.

According to Taylor the growing number of government incentives and rebates has caused a concerning trend of poor-quality products and products that are not fit for purpose flooding the market. READ MORE HERE



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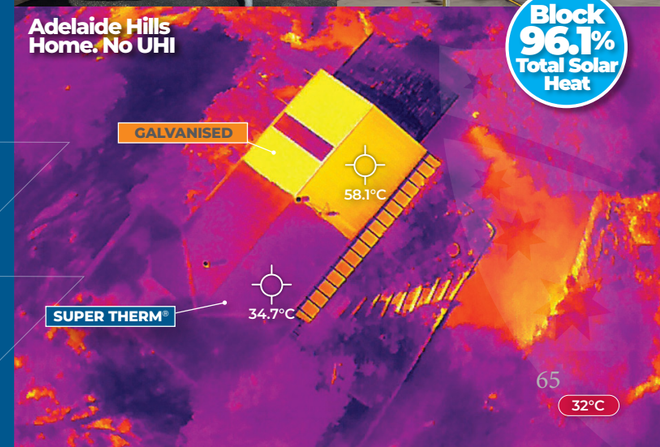
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