Reimagining The Future of Home

A best practice guide for Build-to-Rent

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Introduction

Hannah Morton

Associate Director, Sustainability

Affordability, sustainability, and supply are the big trifecta of challenges facing the residential property sector.

Build-to-rent (BTR) is an opportunity to make a positive difference while also creating investment assets that generate reliable, long-term returns.

BTR is already a well-established typology in the UK, USA and Europe. The growing appetite in Australia has already seen global property funds and other funds staking a claim here, and an increasing number of large domestic real estate investment funds also marking out a share of the territory.

The key to lasting real value and operational success is not building down to a budget, but rather building up to a standard that ensures A grade assets that are fit for purpose for the net zero carbon decades to come. Putting ESG (Environment, Social and Governance) at the heart of BTR approaches is essential, both from a sustainability perspective and from a financial due diligence and de-risking perspective.

Best practice and investment security also relies on achieving quality in designing for operational cost-efficiency and delivering on this promise.

This guide shows you how, by drawing on the expertise of multidisciplinary building design and digital engineering practitioners. It explains why the occupant experience will be crucial to the viability of the business case, and why adopting net zero operational emissions is fundamental for these long-term property investment assets.

> The key to lasting real value and operational success is not building down to a budget, but rather building up to a standard.

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Best practice snapshot

To challenge market perceptions around multi-residential property developments, we design for maximum performance and lasting value – not code minimum compliance. We look ahead to 2050 and design to achieve net zero here and now.

David Collins, Director, Sustainability, Cundall

Design BTR with ESG at the core

As a long-term investment asset best practice design, delivery, and operations within BTR integrates:

Strong ESG frameworks

Including design for social inclusion and human wellbeing

Leverage sustainability

Megatrendsdecarbonisation, circular economy, health and wellbeing and protecting biodiversity are fundamentals that build value for asset investors, occupants and the wider community.

Passive solutions

Minimise operational costs and maintenance over the lifecycle, thereby increasing investor returns and reducing upwards pressure on rents over time. This approach adds value for both owners and residents.

Integrated, multi-disciplinary engineering

Design for energy-efficiency, lifecycle performance, robustness, and climate change resilience

Designing for the lived experience

Through thoughtful approaches to lighting and acoustics underpin sense of place, community harmony and tenant satisfaction, reducing churn and benefiting resident health and wellbeing.

Energy-efficiency

In building services coupled with smart building approaches enable real-time tracking of energy, water, waste, and tenant occupancy patterns whilst supporting predictive maintenance practices and lifestyle amenity for residents.

Upper House by Aria, 66 Hope Street, Brisbane, Australia © Aria / Koichi Takada Architects / Binyan Studio

> Our homes already produce around 13 per cent of Australia's greenhouse gas emissions. If our population continues to grow at its current rate, to an estimated 31 million people by 2030, we will need to construct as many as 197,000 homes a year. Whether these homes help or harm our planet is up to us.
>
> *CRC for Low Carbon Living*
> *Growing the Market for Sustainable Homes*[i]

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The business case of ESG led design

There is now a growing focus on ‘future proofing’ assets to ensure maximum liquidity of investments in the years ahead. Central to this, is reducing risk of obsolescence triggered by future regulation change or shifts in tenant sentiment and preferences. Over the past year we have seen an increase in the number of investors in the BTR market who are explicitly prepared to pay a premium for schemes with strong environmental and sustainability credentials.

Knight Frank, UK[ii]

Sustainability is now an intrinsic part of design; gone are the days when such measures were treated as an afterthought or optional extra. The world’s largest banks, capital funds and investors are seeing the benefits of incorporating ESG considerations into their capital allocation decision-making. This is particularly true for assets that are expected to have a multi-decade operational life such as build-to-rent residential.

One of the key drivers for the increased ESG scrutiny is the awareness that many of the major international agreements have specified target years for achieving the required changes in practices, approaches, and supply chains. The Paris Accord, for example, commits us as a global society to achieving net zero by 2050 – at the very latest.

Subiaco East, Perth, Australia © Development WA

> Investor sentiment has shifted to the whole ecosystem around buildings and to the entire value chain. Companies are moving from risk control to establishing system resilience, and they’re becoming more proactive rather than reactive to reach their net zero ambitions in the built environment.
>
> *Amanda Taylor*
> *Head of Sustainable Finance,HSBC Australia*[iii]

The business case of ESG led design

What this means for a BTR developer

If you commence a project right now, by the time it attains DA approval and construction and commissioning is complete and tenants have begun to occupy residence, then it is likely to be 2025 or so. And because this asset is expected to be operational for 30 years at least, it will need to be net zero within its lifetime because the 2050 global net zero target of the Paris Accord is a non-negotiable.

While it is entirely possible to retrofit upgrades to existing buildings to improve performance and transition them to net zero, framing the initial scope, design and delivery for new assets as net zero-ready needs to be the new business as usual. This ensures an asset delivered now remains relevant well into the future. It also means significant financial gains from the get go.

An analysis by Renew showed that there are immediate up-front savings on development cost through eliminating gas connection infrastructure on the site and within dwellings. Operationally, even without solar the analysis showed significant operational savings for heat pump hot water and space heating appliances and minimal price differential compared to gas equipment.

Operational savings are fundamental to the ROI proposition for BTR.

BTR

BTR potentially offers higher and steadier rental yields compared to a conventional investor-grade build-to-sell product. A case study by Charter Keck Cramer comparing two developments at Olympic Park in Sydney showed a one-bedroom BTR delivered a 19% greater rental yield and two bedroom dwellings achieving 27% greater yield. The report noted also that BTR can leverage additional income streams from rental of car parking and additional storage.

Arkadia, Sydney, Australia © Iris Chan

> Australia's property sector is going into overdrive on new BTR proposals, seeing a clear opportunity to address the dire shortfall of rental dwellings in many of our cities and regions. But while some developers are advocating for less discerning design and performance standards and an easing of planning requirements around public space and greening, this approach may be setting a stranded asset trajectory for the developments.
>
> *Hannah Morton, Associate, Sustainability, Cundall*

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CASE STUDY

Defence Housing Australia leads the way

Arkadia, Sydney, Australia

Arkadia is an innovative medium density residential development by Defence Housing Australia comprising 152 units embedded in landscaped surroundings. It has an identical profile to BTR as it is a mix of private market product and apartments retained by DHA as homes for Defence Personnel and their families.

Liveability, community, and sustainability were fundamentals, with initiatives including full electrification, rooftop vegetable garden, renewable energy generation, car-share spaces, and parking for 160 bicycles.

Both common areas and apartments were designed to maximise natural ventilation, natural light and passive thermal comfort through measures including embedding vegetation throughout the development for shade and cooling benefits.

Arkadia, Sydney, Australia © Tom Ross

> The project was an early adopter of fossil-fuel free design, and from Day 1, had set ambitious targets to reduce energy and water demand, and improve thermal comfort through passive design. PV solar energy, heat pumps and rainwater harvesting reduce its environmental impact, while the music room, chicken coop, rooftop community garden and impressive recycled brick design make it a wonderful place to live.
>
> *Hannah Morton, Associate, Cundall*

The four megatrends and why they matter

There are four major megatrends shaping our urban realm and the buildings we design and deliver - embracing these is crucial if we want today's buildings to be relevant in 2030 and beyond.

Megatrend one: Climate change mitigation

The focus here is on practical, engineering-led approaches to decarbonising our economy, society and built environment. Buildings should be designed to last 100 years or more, but even if a BTR developer is looking only at a 25-year timeframe for the tenanted, standing investment, the design needs to be fit for a changed future.

It makes good economic sense to design BTR projects now as a net zero carbon developments. Ignoring this means developers face expensive net zero retrofits later or purchasing large amounts of offsets as the regulations around emissions become stricter heading towards 2050. Neither option is palatable from an investor perspective.

A significant upside of planning for net zero carbon now is that it delivers a clear marketing edge for attracting and retaining quality tenants, while also benefitting a developer's reputation with investors and capital markets.

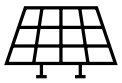
The four steps to achieving net zero carbon

Step 1

Optimise design and passive performance to reduce operational energy demand, including orientation, form, and fabric, to address heat transfer, air tightness, daylight, natural ventilation, and thermal comfort.

Step 2

Ensuring the most energy efficient mechanical plant and other building services are specified, right sized, and fine-tuned for optimal operation.



Step 3

A combination of on-site solar Photovoltaics (PV) and Power Purchase Agreements for renewable electricity supply all energy – no gas using plant or equipment is specified or installed.

Step 4

Any remaining emissions that cannot be engineered out (such as transport-related or residual embodied emissions) must be offset through the purchase of high quality, third-party verified carbon offsets.

The four megatrends and why they matter

People often wonder – Are carbon offsets all the same?

Carbon offsets are a balancing mechanism, where emissions generated by an activity or asset are like the debit side of the ledger, and money or effort deployed to activities or assets that either sequester (lock up) carbon emissions or contribute to reductions in emissions sit on the credit side of the ledger. That said, all carbon credits are not equal in terms of their social and environmental benefits.

If, for example, offsets are created by flooding a valley and displacing the Indigenous community to build a hydroelectric plant, while the energy is clean, the method by which it was obtained contradicts some very important ethical principles including the rights of Indigenous Peoples. And if those offsets are being procured to balance the carbon books for an open cut coal mine, the proposition becomes even more questionable.

Carbon offsets should only be procured after every attempt has been made to reduce emissions in the first place through energy-efficiency, sustainable design and sustainable procurement, including prioritising renewable energy use.

In scientific terms, nature-based offsets from projects that actively draw down carbon dioxide and lock it up as organic carbon such as improving soil, regenerating native vegetation, restoring marine kelp beds and so forth have the greatest positive impact to abating emissions and mitigating future climate change impacts. These offsets also potentially deliver valuable co-benefits including biodiversity protection, soil erosion prevention and regional economic development

Arkadia, Sydney, Australia © Tom Ross

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The four megatrends and why they matter

Megatrend two: The move to a circular economy

Non-renewable resource depletion and waste are attracting increased attention, and single-use products or products that involve extraction of raw materials in an environmentally damaging way represent a clear reputational risk.

A circular economy approach has three key principles

1. Keeping products and materials at their highest use for as long as possible.

2. Designing out waste and converting products that have reached the end of their useful life into new manufacturing inputs.

3. Regenerating natural systems.

Circular economy thinking starts to drive accountability and transparency in the supply chain around the contents of our products and the conditions under which they were made.

Specifying products that have third-party certifications such as GECA Certification, Environmental / Health Product Declarations, Declare Certification, or other recognised schemes, can also help projects address risks (and ESG opportunities) related to Modern Slavery, climate, and their Social License to Operate.

There is also a design aspect to circular economy in terms of the places we create. Successful communities make spaces that encourage people to connect and share, whether that is a vegetable garden or a bike repair workshop. There might be a small community library, or a kitchen for shared meals, tool sharing cupboard or space for storing give-away items like furniture or sporting equipment. When we see developments not as just the building but as an inclusive community, we can start make circular economy thinking a more obvious choice.

The Englefield, 17-19 Chambers Street, Australia © Perri Projects / Woods Bagot

Research shows that the circular economy offers a $4.5 trillion economic opportunity by reducing waste, stimulating innovation and creating employment.

World Resources Institute[vi]

The four megatrends and why they matter

Megatrend three: Health and Wellbeing

It has been known for many years that minimising or erQadicating volatile organic compounds (VOCs) in schools, hospitals and offices is important for cognitive function, recovery, and general occupant wellbeing. The same is true for homes, and the list of toxins we need to be avoiding is much longer that just VOCs.

Halogenated Flame Retardants, cadmium, mercury, lead, and phthalates are just some of the toxic ingredients commonly still appearing in our building material supply chain today. BTR occupants are likely to include people who are home for prolonged periods of time including pregnant women, infants, people who work from home, and people with compromised immune systems (such as the ill and the elderly). Minimising toxins in the indoor environment is crucial for healthy homes as well as the health of those manufacturing our products.

Natural light, fresh air and thermal comfort are also fundamental for human wellbeing.

Other features that can be designed into BTR projects to support wellness are biophilic design principles, common green spaces, productive gardens, active travel infrastructure (such as well-designed cycle paths and pedestrian zones), and spaces for active recreation, quiet reflection, and social interaction.

Arkadia, Sydney, Australia © Tom Ross

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The four megatrends and why they matter

Megatrend four: Ensuring we protect and restore biodiversity

The web of life that supports human civilisation including our air quality, fresh water, arable land, and countless other vital functions relies on the interconnected ecosystem of animals, birds, insects, and aquatic life that shares this planet with us.

Protecting biodiversity can be achieved in many ways that also benefit humans in a place. For example, incorporating diverse, climate-adapted vegetation plantings for local cooling benefits also creates amenity and a unique sense of place and identity for residents. Adding communal productive gardens with herbs, fruit and medicinal plants supports our essential pollinators and human health as well as the informal sharing economy of community.

Transitioning to a zero carbon and circular economy which also regenerates biodiversity will help us to protect the environment and all the living things that rely on it.

Arkadia, Sydney, Australia © Tom Ross

> It is no coincidence that these four megatrends are interconnected and have multiple benefits for both a BTR residential community and for the reputation and balance sheet of the developer and asset owner. Taking a long term, future-focused approach is essential for ensuring the time, capital, and resources we invest in BTR delivers lasting value in every respect.
>
> *Hannah Morton*
> *Associate, Sustainability, Cundall*

Energy poverty is becoming a risk to the health and wellbeing of thousands of Australian households due to the combination of poorly performing dwellings and skyrocketing energy costs. People are having to choose between keeping their home cool enough or warm enough to stay well, or purchasing sufficient food and medications.

Morris and Chester (2012)[vvi]

Air conditioning

People often wonder – isn't air conditioning the best way to stay comfortable?

In recent decades the trend with housing and apartment buildings has been to presume occupants will use mechanical cooling and heating to ensure they are comfortable all year-round. However, the result of this is extreme vulnerability to changes in energy prices and increased risks of cold- or heat-related health issues, particularly if power supplies are interrupted.

Given climate change is causing longer, stronger and more frequent heatwaves, homes that rely on mechanical cooling alone are not only a financial risk for occupants they also pose a very real health risk.

The best way to ensure homes provide a reasonable level of thermal comfort, are resilient to weather events and have low energy bills is to incorporate fundamental passive design features including:

- Optimal orientation for passive solar warmth in winter and minimised solar gain in summer
- Strategic use of thermal massing and shading to store warmth in winter and cool in summer
- Design for cross-ventilation with openable windows where safe and feasible, and leverage thermal stratification to assist indoor airflow through the use of computational fluid dynamics modelling to refine design decisions
- Manage condensation risks through considering insulation, building envelope materiality and sealing, location of wet areas and adequate ventilation of wet areas.

Arkadia, Sydney, Australia © Tom Ross

Smart BTR homes

Smart building approaches can be a BTR owner's greatest ally in delivering efficiencies, cost savings and streamlined planning and reporting.

This can include simple measures such as integrating sensors on building systems that are connected to a hub that delivers real-time data on energy use, equipment performance and water use for common areas and individual dwellings. From a facility management perspective there are controls that assist with fault-finding, exception reporting, maintenance planning and cost projections.

Energy consumption and water consumption benchmarks can be established based on the detailed design modelling, and performance against those benchmarks tracked. Reporting of corresponding carbon emissions can be automated, as can financials including tenant payments and maintenance costs.

Smart approaches also enable the use of strategic demand response energy management approaches, enabling remote control of building systems to correspond with peak on-site solar PV generation, maximising the potential cost savings for operations of common area plant and equipment. Having the ability to manage equipment such as common area air conditioning and ventilation in real-time in response to current temperature conditions can also extend the working life of equipment.

A tagging strategy for plant, equipment and building systems creates a framework for digital twin approaches and portfolio-scale data integration and analytics. Through the use of open-source protocols, assets are also positioned as future-ready for connectivity with emerging technologies and the possibility of precinct-wide or city-scale smart systems.

Tenant-focused apps and platforms can also facilitate strategic value-adding such as shared mobility and common area EV charging facilities.

The important thing to keep front of mind is that for a long-term BTR asset, incremental savings across multiple aspects of project delivery and ongoing operations add up to a significant improvement in returns.

People often wonder: Aren't fancy smart building features out of place in a BTR apartment complex?

Actually, smart building features add enormous value in the BTR residential setting. Just think of all the apps people use for things like ordering a share car ride or reserving a concert ticket or managing their finances and apply the same concept at a building scale. It's all about service and convenience.

BTR smart features can improve the resident experience – think smart lighting, EV charging, a concierge service and being able to reserve shared facilities like a BBQ area or time at the gym.

They also enable the asset owner and building manager to have real-time insight into energy and water use and the performance of common area building systems. This facilitates fine-tuning maintenance, establishing benchmarking, fault alerts and exception reporting – aspects of managing a multi-residential building that can otherwise be time-consuming.

> App platforms customised for a BTR deliver a premium experience for residents through access to services and amenities, enhanced security, connectivity to community and seamless onboarding and tenancy management.
>
> *Julian Sutherland*
> *Partner, Building Services, Cundall*

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CASE STUDY

A service culture approach to BTR in the UK

Julian Sutherland, Partner, Building Services, Cundall

John Lewis Partnership in the UK recognised the potential of the airspace above their chain of Waitrose supermarkets as potential sites for BTR developments. As the company has high ethical standards, they determined that designing for net zero was the most appropriate approach.

To deliver on this ambition, a PassivHaus, fabric-first design has been developed for two BTR developments above existing structures. The design addresses both winter comfort and protection from heat in summer through optimising orientation, insulation, high-quality glazing and natural ventilation. No gas will be connected to the properties, so there is the option of 100% renewable energy supply. Special attention was paid to acoustic measures, as the sites are adjacent to major rail corridors so minimising noise impacts for residents is a priority.

Smart building approaches have also been adopted that will support both efficient operations and an improved occupant experience. One of the primary considerations for smart building technology within BTR is understanding what features will be most useful and desirable. Often developments focus on amenities such as apps providing lifestyle benefits such as car sharing, concierge and food deliveries as well as broadband and entertainment streaming. These can be positives for attracting tenants. However, one of the features that will help retain long-term tenants is a property where issues with lighting, hot water, security, plumbing or waste disposal are fixed before the tenants are fully aware there is a problem.

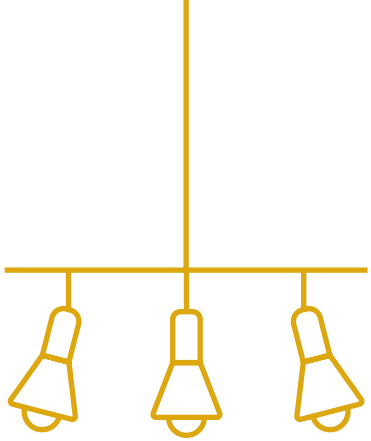
Well-maintained properties where everything works as it should offer an improved quality of life – and smart building systems can be used to give the property manager real-time insight into how building systems and fixtures are functioning, making fault detection more rapid and facilitating efficient and targeted maintenance or repairs.

The question we always ask a client when they are interested in smart building approaches is: what functions will add value for the operator tenants? What features really matter to your target market and your stakeholders?

Illuminating the sense of home

Lighting is central to our sense of place and wellbeing - and in the residential context, it both guides our footsteps and reassures us we have safely arrived.

Bettina Easton, Associate, Cundall Light4



Too often lighting is just a line item in the general electrical package, perhaps with a few dramatic fittings for otherwise standard luminaires. Sensitivities around construction costs aside, it also shows a lack of understanding of the value lighting designers bring to a residential development.

Lighting design considers how materials, structures, angles, and site conditions will interact with both natural and artificial light. That enables us to design a strategy that delivers the optimum level of brightness for task areas, safety, security, and wayfinding.

It's important to employ a dark-sky approach that reduces the amount of upward light spill. This reduces urban light pollution and protects nocturnal biodiversity. Landscaping, particularly roof or internal atrium landscaping, needs to ensure lighting is not 24/7 for every plant. Just like humans, plants and animals have a circadian rhythm and need some hours of darkness to maintain their normal growth and health.

Smart lighting approaches embedded within lighting design enable us to integrate all these multiple objectives and considerations within one strategy. Smart lighting using sensors and programmable logic controllers, and individually addressable LED luminaires, can vary lighting across time, seasons and spaces to respond to the specific place and the needs of those living and visiting that place.

The other benefit of smart lighting in BTR developments, is they can optimise energy efficiency. Conventional lighting, particularly when it specifies halogen luminaires for public areas, can be a significant contributor to energy costs for common areas. In addition to ensuring low lighting operational costs, smart lighting systems can also facilitate timely and efficient maintenance regimes.

People often wonder: why don't we just light everywhere brightly at night?

More is not always better when it comes to light. A bright standard streetlight or landscape floodlighting makes a concentrated pool of light and when angled, as most are, produces direct glare. This makes it harder to see anything beyond that brightness. Studies have shown that many conventional lighting approaches reduce personal security due to the way the human eye reacts to light. We cannot see what is in the shadow beyond the light.

When considering light for common exterior areas of multi-residential projects, our focus is on creating functional graduations of light, identifying where the contrast between light and dark could be problematic. Our approach of designing for space and for place focuses on evenly spaced lower brightness illumination. This allows the human eye to adapt to night-time surroundings easily and quickly, while enhancing beautiful details. We also employ small interventions such as ground-level path lighting, wall washing light from LEDs installed at soffit level and lighting within soft landscaping and garden areas. Illumination can be bounced from pale and hard surfaces and will be absorbed by dark or soft materials and surfaces.

> Lighting is fundamental to the identity and individuality of a place. It enhances colours and textures, generates ambience and brings life to space and form. It brings pleasure, delight and comfort – all emotions we associate with 'home'.
>
> *Bettina Easton, Associate*
> *Light4, Cundall*

CASE STUDY

Elevating the ordinary and breathing life into space through the artistry of lighting and experience-centred design

99 Mount Street, Sydney, Australia

Successful BTR integrates features that enhance the lifestyles of residents. One of the most important of these in terms of supporting low-carbon mobility and wellbeing is end-of-trip facilities for cyclists.

At 99 Mount Street, a highly effective and creative lighting strategy gives the EOT an air of glamour reminiscent of a luxury hotel, despite the extremely small project budget. The lighting supports the sense of security for users and intuitive wayfinding between the entrance and the amenities.

Working closely with the interior designer, strategic placement of luminaires provides elevated and focused illumination for specific tasks within an overall calm, welcoming ambience.

The facility also assisted the owner of the building, Ho Group, to successfully reposition this older commercial office asset in the highly-competitive post-lockdown Sydney leasing market.

99 Mount Street, Sydney, Australia © Luc Remond

Sounds like a lovely place to call home - Acoustics

Acoustics plays a vital role when it comes to people's residential experience. Look at any property manager's website or blog and noise issues are one of the major sources of complaints and resulting management headaches.

Noise complaints arise from various sources such as roads, rail and air transport, industrial noise, neighbourhood and recreational activities, construction sites and animals (barking dogs, for example). All these noise sources need to be managed as they may cause adverse effects on people. These effects vary in severity depending on the noise characteristics, timing, duration and frequency and a listener's subjective sensitivity to noise.

For long-term tenancies like BTR there is practically an orchestra of sounds to consider. For example, there are likely to be children in many households. Anyone with children knows there is a whole range of noise to consider – from the midnight baby through to the games of tag, learning the recorder, playing with model trucks, and general family life.

> When a development is a build-to-rent asset - the experience of people living there is crucial. Happy tenants tend to stay in place, which means reliable rental receipts. Unhappy tenants tend to depart, and this churn results in additional costs including administration, repairs or rectification, and finding and onboarding a new occupant.
>
> *Daniele Albanese*
> *Head of Acoustics, APAC, Cundall*

Curzon Wharf, Birmingham, United Kingdom © Woodbourne Group / Associated Architects

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Sounds like a lovely place to call home - Acoustics

When BTR assets are being designed, the importance of acoustic design for community well-being and harmony and ultimately for retaining tenants should not be overlooked.

By integrating acoustic considerations from early design stages, the balance between silence and ambient sound can be finely tuned based on the needs of the occupants and the intended use of the various spaces. While most people love peace and quiet, a place that is too quiet can be disconcerting. The goal is to find the harmony between vibrant buzz in common areas and public zones, and tranquil privacy within individuals' living and sleeping areas.

Striking the right note with sound also has benefits for resident wellbeing. Feeling connected to a community has been shown to be beneficial for mental health. Also, however, having disturbed sleep is detrimental for both mental and physical health. So acoustic design is very much like the score for a symphony – a diversity of tones, rhythms and tempos across the entire development is essential.

Good design and modelling can ensure that parents are not constantly stressed by the concern everyday sound will make their neighbours unhappy. Measures might include:

- Ensuring adequate sound insulation between tenancies;
- Specifying that floors are adequately insulated to prevent noise impacting neighbours below;
- That the dimensions and configuration of indoor areas does not amplify sound or cause excessive reverberation;
- That mechanical plant and plumbing noise do not interfere with the need of a peaceful environment.

People often wonder - what effects can noise have on human health and wellbeing?

There are generally two types of impacts from noise:

1. Auditory effects of noise exposure – those concerning the auditory system, such as noise induced hearing loss (NIHL).

2. Non-auditory effects – which include physical, psychological and behavioural disorders triggered by exposure to unwanted intrusive noise that interferes with our daily activities.

According to the European Environmental Agency, noise is the second-worst offender in terms of environmental factors that impact public health (the worst is pollution – yet another reason residential should be gas-free and use non-toxic finishes and fit-out).

Medical experts have linked noise exposure to conditions including cardiovascular disease, type 2 diabetes, cognitive problems, sleep disruption, childhood learning difficulties and low birth weights.

> Ultimately, BTR succeeds when it sounds like a lovely place to call home – in every sense.
>
> *Daniele Albanese*
> *Head of Acoustics, APAC, Cundall*

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The future of home starts here

Taking a siloed approach to addressing social, financial and environmental factors can make the development process unnecessarily challenging. It's like the difference between speaking to a dozen people individually and speaking with them as a group.

Best practice aims for a smart, integrated, multi-disciplinary approach that optimises passive features for operational efficiency and asset longevity. It puts the time and effort into getting the fundamentals right at the design stage and leverages digital technology for smoother, more efficient and de-risked delivery.

The end result is an asset that serves everybody's best interests.

Subiaco East, Perth, Australia © Development WA

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Let’s unlock your future BTR assets together. Our experts are your partners.

“The rewarding part of what we do is collaborating with our clients and external partners to drive change in the way we think about and deliver the built environment.”

Julian Bott – APAC Managing Director
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“It’s a satisfying process to optimise building performance in terms of energy efficiency and resource efficiency while balancing the different requirements of each project.”

David Collins – Director, Sustainability
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“One of Cundall’s main differentiators is having the strong technical foundations and breadth of expertise to support the sustainability vision, targets, and strategies we develop with our clients.”

Hannah Morton – Associate, Sustainability
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“Because the environment is a deep concern, my designs promote the integration of energy-saving solutions without compromising the aesthetics or function of the space.”

Bettina Easton – Associate, Head of Light4 Australia
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“As we move forward to a more sustainable future, we need to be guided by a more holistic set of principles that focus on achieving real, measurable outcomes to our quality of life and the impact that we have on our environment.”

Julian Sutherland – Partner
j.sutherland@cundall.com

“Excellence is at the forefront of everything we do and as the world moves towards net zero carbon targets, I am excited to bring my expertise to this important conversation.”

Madlen Jannaschk – Principal, Sustainability and ESG expert
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“As the built environment engages with the opportunities of digital technology, building controls are evolving rapidly - improving both building performance and the human experience.”

Michelle Ganley – Principal Controls Engineer
mi.ganley@cundall.com

“Through my background in music, I can easily relate to the creative minds of our clients and understand what matters to them.”

Daniele Albanese – APAC Acoustics lead
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