Implications of a retrofit first policy in NSW

City Performance

Cities Institute Agenda Setting

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ASTROLABE GROUP

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CITY PERFORMANCE

Background

'Retrofit First' is a concept which encourages the prioritisation of retrofitting existing building stock instead of demolition and rebuilding. Discussions surrounding this concept are particularly pertinent in the United Kingdom (UK), where environmental performance and the high prevalence of heritage buildings are both key drivers and barriers to retrofitting. The main arguments supporting this approach are the environmental, social and community benefits associated with retrofitting, as opposed to alternate city-shaping mechanisms.

Retrofitting can potentially save over 50% of embodied resource demands, which are primarily greenhouse gas emissions associated with resource production and the construction process, compared to rebuilding.

Purpose

This desktop scan provides a review of the opportunities and considerations surrounding the introduction of a 'Retrofit First' policy in Australia. The 'Retrofit First' concept involves a policy implementation requiring developers to at least consider retrofitting as an option for redevelopment prior to entering into a knock-down and rebuild process.

This scan seeks to understand the benefits and challenges of retrofitting buildings, with a particular focus on decarbonisation, building amenity, and social housing. We also seek to understand how retrofitting and a 'Retrofit First policy' manifests through an exploration of literature and a number of case studies, to inform application.

Contents

Acknowledgement of Country

We acknowledge the Bidjigal, the Traditional Custodians of the land on which the Cities Institute is located, and pay our respects to Elders, past and present.

Retrofitting for redevelopment

'Retrofit First' is a concept which encourages the prioritisation of retrofitting existing building stock instead of demolition and rebuilding.

Discussions surrounding this concept are particularly pertinent in the United Kingdom (UK), where environmental performance and the high prevalence of heritage buildings are both key drivers and barriers to retrofitting. The main arguments supporting this approach are the environmental, social and community benefits associated with retrofitting, as opposed to alternate city-shaping mechanisms.

Retrofitting can potentially save over 50% of embodied resource demands, which are primarily greenhouse gas emissions associated with resource production and the construction process, compared to rebuilding.[1]

The City of London is currently exploring options for a potential 'Retrofit First' policy as part of its renewed planning vision. The policy would require all major development proposals to prove that "multiple options have been considered" when it comes to redeveloping a site, including consideration of retrofitting. Within a wider strategic planning framework, the push for a 'Retrofit First' approach aims to reduce embodied emissions and move towards net zero emissions.[2]

Research undertaken by consultancy group Arup shows that joint ventures between housing providers (including developers and social housing organisations) and governments will be required to create better places to live and work towards net zero.[3] Operational emissions associated with the UK's housing stock represent 20% of the country's total annual emissions; retrofitting needs to occur on a large scale within a short timeframe. Aside from environmental impact, the impact on poor building quality on human health is significant.

The research also identified different types of retrofitting and reuse:[4]

> Adaptive reuse – repurposing buildings and upgrading performance
> Expansive reuse – upgrading and adding new space to existing buildings
> Proactive reuse – upgrading building systems, including repairs and replacement.

Examples of these retrofit types in an Australian context are provided in the Case Studies section.

Within an Australian context, there is currently a renewed push for an increased focus on utilising retrofitting as a first preference in redevelopment, with a number of multidisciplinary retrofitting initiatives commenced in the last few years. For example, establishment of the Reliable Affordable Clean Energy for 2030 Cooperative Research Centre (RACE for 2030 CRC) in 2020, explores retrofitting in Australia. The Australian Government has invested $68.5 million in this program, which is expected to run for at least 10 years.[5]

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1 Fitzgerald, R (2020, August 31) Retrofits versus building new: we need whole of industry change, *The Fifth Estate*, available at https://thefifthestate.com.au/innovation/building-construction/retrofits-versus-building-new-we-need-whole-of-industry-change/.

2 Spocchia, G. (2023, May 17) City of London considers adopting 'retrofit first' policy, *Architects' Journal*, available at https://www.architectsjournal.co.uk/news/city-of-london-considers-adopting-retrofit-first-policy.

3 Arup. (n.d.a) Transforming homes for decarbonisation, safety and wellbeing, available at https://www.arup.com/perspectives/transforming-homes-for-decarbonisation-safety-and-wellbeing.

4 Arup. (n.d.b) Building retrofit, available at https://www.arup.com/services/buildings/building-retrofit.

5 RACE for 2030. (2021a) *About us, available at* https://racefor2030.com.au/about-us/.

The state of retrofitting in Australia

In Sydney and more broadly across NSW, adaptive reuse uptake has been relatively overlooked. However, as office building and social housing stock continues to age and demand for commercial development falls, opportunities for adaptive reuse are increasing.[6] In NSW, the Land and Housing Corporation (LAHC) undertake social housing proactive reuse retrofitting in areas of need, to either remove asbestos or ensure that houses are within minimum building standards.[7]

The NSW Resilient Homes Program also provides incentives for proactive retrofitting in locations affected by natural disaster where future risks and economic unfeasibility impede the ability of residents to move or re-build.[8] Adaptive and expansive reuse policies have also been prominent features of NSW Government retrofit activities.[9]

AHURI research shows that current policy and market conditions are not conducive in promoting a 'Retrofit First' approach in Australia. The delivery of sustainable apartment buildings through retrofitting is currently faced with a number of barriers:[10]

> Limited incentives for the development industry to optimise building longevity, and subsequent lack of investment in retrofitting programs
> Challenges for retrofitting in strata titled buildings associated with cost-prohibitive programs. Retrofitting practices are notably less taken-up in strata titled apartment buildings compared to all other building types
> Financial conditions are not conducive for retrofitting to occur. Government grant systems, such as the City of Sydney Smart Green Apartments program, provide financial incentives to enable retrofitting to occur
> A need for education around retrofitting and associated outcomes through government programs
> A need for new constructions to enable retrofitting to occur in the future. A large number of new constructions are not conducive of retrofitting practices, compared to older brick walk up style apartment buildings
> Depending on the intended future use or current state, a number of building types may not be suitable for retrofitting and therefore more susceptible to demolition and rebuilding.

AHURI has also identified an acute need and opportunity to retrofit social housing stock throughout Australia.[11] The current state of social housing stock in Australia is hugely varied; there is a large amount of stock of poor quality, which ultimately impacts negatively upon the liveability, health and wellbeing of residents, as well as overall living costs. A concerted retrofitting program has the potential to improve dwelling performance and liveability.

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6 Wilkinson, S J & Remoy, H. (2017) Adaptive reuse of Sydney offices and sustainability. *Sustainable Buildings*, 2, DOI: 10.1051/sbuild/2017002.

7 NSW Legislative Assembly. (2020) Questions and Answers, (55):2083-2084, available at https://www.parliament.nsw.gov.au/hp/housepaper/13624/055-QandA-P.pdf.

8 Northern Rivers Reconstruction Corporation. (2023) Resilient Homes Program, available at https://www.nsw.gov.au/sites/default/files/2023-09/NRRC_Fact_sheet_Home_Raising_and_Home_Retrofit_September_2023.pdf.

9 NSW Office of Environment and Heritage. (2012) Adaptive Reuse of Heritage Places Policy, available at https://www.environment.nsw.gov.au/resources/cultureheritage/120898ARHPP.pdf.

10 AHURI. (2023a) Final Report No. 400: Delivering sustainable apartment housing: New build and retrofit, available at https://www.ahuri.edu.au/research/final-reports/400.

11 AHURI. (2023b) Final Report No. 397: Sustainable social housing retrofit? Circular economy and tenant trade-offs, available at https://www.ahuri.edu.au/research/final-reports/397.

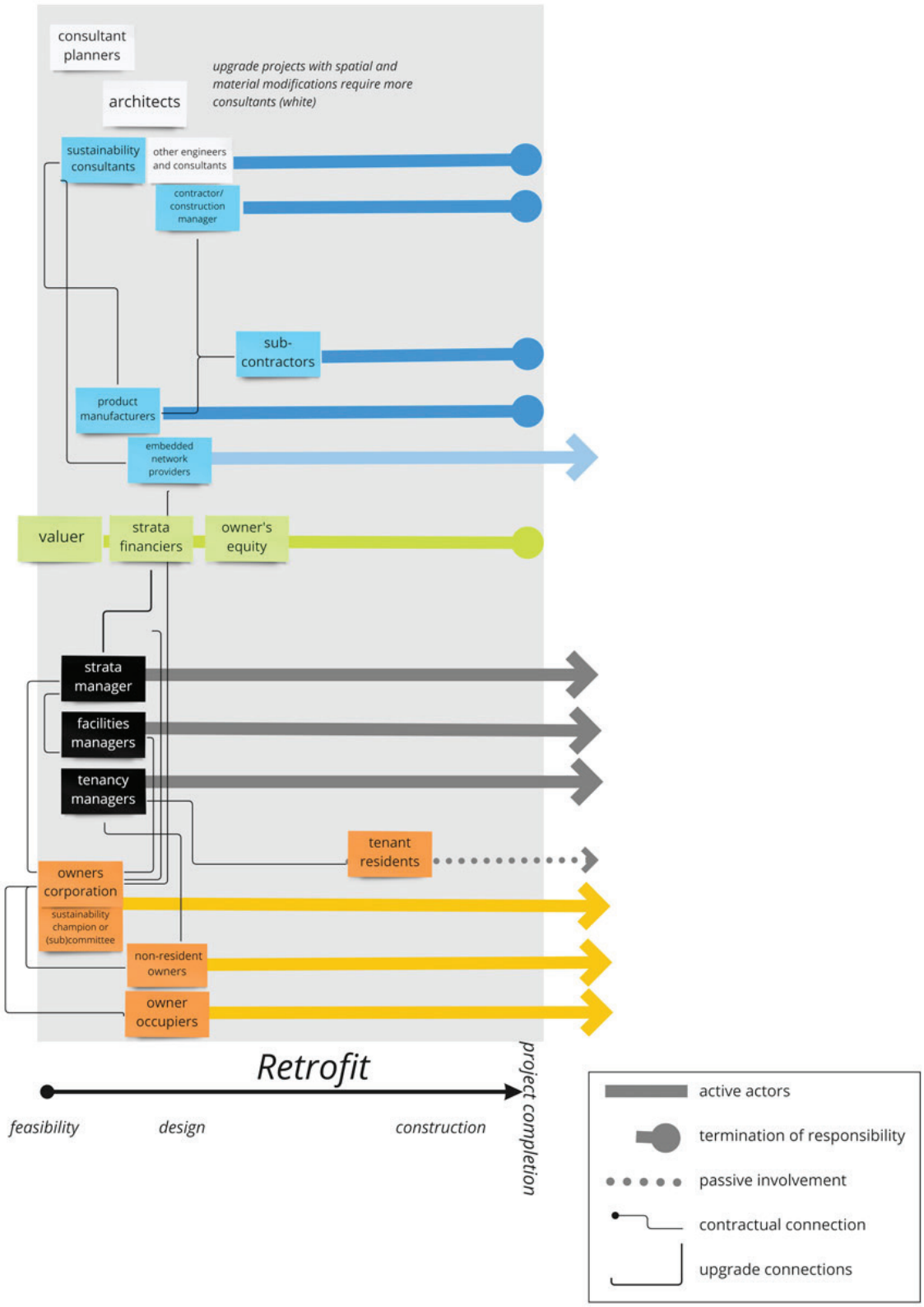

Figure 1. Apartment retrofitting process and stakeholders[12]

12 AHURI. (2023c) The apartment retrofit process, available at https://www.ahuri.edu.au/sites/default/files/documents/2023-06/AHURI-Final-Report-400-Delivering-sustainable-apartment-housing-new-build-and-retrofit_0.pdf, p. 46.

Among other barriers, AHURI has noted that improving minimum dwelling quality is not typically an explicit focus of most retrofitting programs, which tend to prioritise dwelling environmental performance outcomes. Despite this lack of focus, evidence shows that implementing and improving minimum apartment design requirements creates enhanced amenity for residents, thus improving mental wellbeing.[13] Another significant barrier to social housing retrofit is the lack of capacity of low-income households to fund and carry out retrofitting.

Complexity regarding collective management and costs related to retrofitting in strata-titled buildings also presents implementation barriers.[14] The need to address immediate repair issues in apartment buildings creates reduced capacity for consideration of sustainability in retrofitting. Apartment retrofitting process and stakeholders below provides a brief overview of the complexity of the apartment retrofitting process in Australia.

Environmental benefits of retrofitting

The built environment is responsible for a sizeable proportion of emissions across the world. Retrofitting existing buildings will be required moving into the future to decrease embodied emissions in the construction industry, reach net zero and contribute towards developing a sustainable circular economy.[15]

AHURI research shows that the primary environmental objectives of retrofitting are based around reducing energy consumption, and thus emissions, reducing environmental footprint and reducing the need for unsustainable knock-down and rebuild redevelopment to decrease built environment embodied emissions.

Social and community benefits of retrofitting

From the 1950s onwards, apartment buildings have been developed in large numbers across the world as a solution to urban population growth.[16] In 2023, a significant proportion of these buildings do not meet contemporary environmental and liveability standards. Historically, government retrofitting incentives and programs have prioritised environmental performance over the changing social needs of apartment residents.

The development of retrofit programs presents the opportunity for co-design processes to take place between building tenants, architects and other stakeholders, in order to improve living conditions and environmental outcomes. Additionally, retrofitting social housing has the potential to address urgent inequitable housing quality conditions of residents in tandem with environmental sustainability concerns as part of a wider circular economy framework.[17]

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13 Foster, S et al. (2022) Grand designs for design policy: Associations between apartment policy standards, perceptions of good design and mental wellbeing, *SSM – Population Health*. 20, DOI: 10.1016/j.ssmph.2022.101301.

14 AHURI. (2023a) Final Report No. 400: Delivering sustainable apartment housing: New build and retrofit, available at https://www.ahuri.edu.au/research/final-reports/400, p. 44-45.

15 AHURI. (2023b) Final Report No. 397: Sustainable social housing retrofit? Circular economy and tenant trade-offs, available at https://www.ahuri.edu.au/research/final-reports/397.

16 Löschke, S K & Easthope, H. (2022) The problem of aging housing; A co- and re-design approach, *Architecture Australia, available at* https://www.renew.team/re-co-design-in-architecture-australia/.

17 AHURI. (2023d) Final Report No, 403A: Informing a strategy for circular economy housing in Australia, available at https://www.ahuri.edu.au/sites/default/files/documents/2023-07/AHURI-Final-Report-403a-Informing-a-strategy-for-circular-economy-housing-in-Australia.pdf.

The benefits to community and individual wellbeing directly attributed to apartment design is well-documented.[18] Retrofitting old residential apartment blocks has the potential to improve the overall wellbeing of residents and the wider community. Arup has developed a report which aims to quantify the benefits of retrofitting (in a UK context), which have historically been hard to measure.[19] These benefits focused on retrofitting of homes, which include:

> Cost benefits for residents who have to spend less on heating and cooling
> Reduced negative mental health impacts from improper temperature conditions in homes
> Indoor air quality improvements
> Reduced overheating impacts (general health issues and death)
> General health improvements; reducing childhood asthma, less school or workplace absence, improved educational performance, less depression and anxiety in adults, improved productivity[20]

There is also potential to improve resident health and wellbeing with less negative environmental impact and disruption to households in comparison to a knock-down and rebuild scenario. Further, retrofitting has a role to fulfill in improving fire safety in social and affordable housing, as an increasing number of buildings are not meeting NSW fire safety standards.[21]

Figure 4 further illustrates the positive outcomes for mental health and wellbeing associated with apartment design and quality.

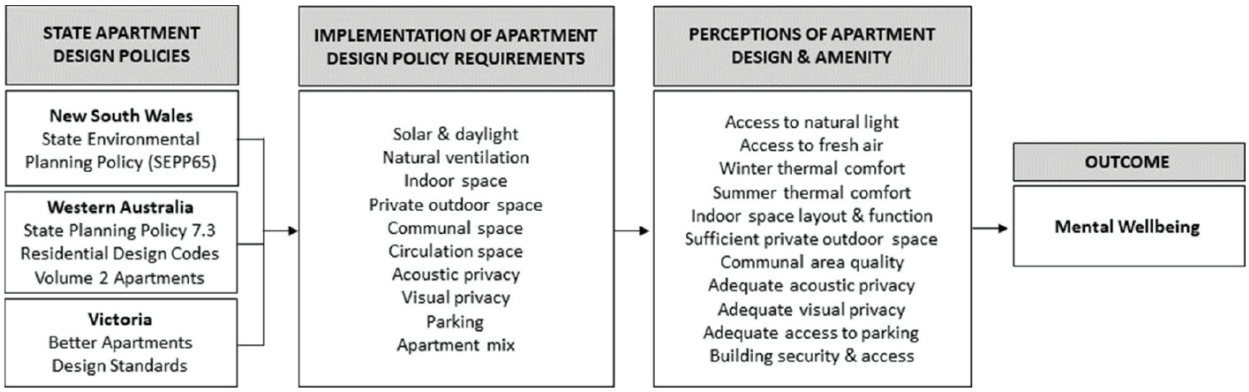

Figure 2. The positive outcomes for mental health and wellbeing associated with apartment design and quality.

18 Hadi, Y, Heath, T & Oldfield, P. (2018) Gardens in the sky; Emotional experiences in the communal spaces at height in the Pinnacle@Duxton, Singapore. *Emotion, Space and Society*, 28, 104-113, DOI: 10.1016/j.emospa.2017.09.001.

19 Arup. (2023) How retrofitting homes can also tackle health issues and inequality, available at https://www.arup.com/perspectives/beyond-carbon-how-retrofitting-homes-can-tackle-wider-social-priorities-of-health-and-inequality.

20 Arup. (n.d.a) Transforming homes for decarbonisation, safety and wellbeing, available at https://www.arup.com/perspectives/transforming-homes-for-decarbonisation-safety-and-wellbeing.

21 Gregory, X. (2023, September 6) Boarding houses closing across Sydney after crackdown on fire safety, *ABC News*, available at https://www.abc.net.au/news/2023-09-06/sydney-boarding-house-fire-safety-crackdown/102816934.

Economic benefits of retrofitting

In addition to social and environmental benefits, there has been significant research into the potential wider economic benefits of retrofitting in Australia, particularly in relation to commercial building stock. Business NSW's "Revaluating Sydney's CBD" review explores the potential of retrofitting to create value in mixed-use buildings. The report has identified a number of associated challenges and opportunities, including:[22]

Changing commercial property values due to work behaviour shifts has resulted in an opportunity for commercial buildings to serve a mixed-use purpose in a revitalised approach

Converting commercial buildings to residential land uses and improving performance of other commercial buildings is ecologically responsible and provides environmental mitigation benefits

Promoting mixed use conversion has wider implications for improved social, environmental and economic outcomes in cities by encouraging a compact city model, which reduces the reliance on private vehicles and subsequent emissions, as well as general pollution

Adaptive reuse and retrofitting of commercial buildings reduces the embodied carbon emissions that would normally be associated with a knock-down and rebuild redevelopment scenario.

Similarly, retrofitting existing buildings allows for improved energy performance. Transitioning between commercial and mixed use presents a number of challenges associated with design and servicing requirements, as shown in Figure 3.

The City of Melbourne, in association with their 1200 Buildings retrofit program, has outlined a number of benefits for businesses associated with retrofitting buildings in the city:[23]

> Lower operating costs due to lower energy consumption
> Higher return on investment and rental income
> Lower tenant turnover and vacancy rates; government and private sector are increasingly requiring a minimum standard of energy efficiency
> Higher building capital value
> Lower environmental footprint
> Potential for improved waste management, water efficiency
> Improved indoor environment – benefits for health and productivity.

22 Business NSW. (2023) Revaluing Sydney's CBD: Recycling buildings to create more value through mixed use, available at https://www.businessnsw.com/content/dam/nswbc/businessnsw/pdf/Revaluing_Sydneys_CBD_BusinessNSW_report.pdf.

23 City of Melbourne. (n.d.a) Retrofitting is good for business, available at https://www.melbourne.vic.gov.au/business/sustainable-business/1200-buildings/Pages/retrofitting-good-business.aspx.

Requirement:	Workspace	Retail	Childcare	Hospitality	Residential	Hotel
Hydraulic Services — Cold water — Sewer — Drainage — Gas	No change	Much higher	Higher	Much higher	Much higher	Much higher
Electrical Services — Transformers — Distribution boards — Wiring	No change	Much higher	Similar	Much higher	Much higher	Much higher
Structural Capacity — Floorplates — Columns — Structural Core	No change	Higher	No change	Higher	No change	No change
Façade Design — Natural light — Ventilation — Shading	No change	Less	Different	No change	Different	Different

Figure 3. Requirements for retrofitting from commercial to mixed use[24]

24 Business NSW. (2023) Revaluing Sydney's CBD: Recycling buildings to create more value through mixed use, available at https://www.businessnsw.com/content/dam/nswbc/businessnsw/pdf/Revaluing_Sydneys_CBD_BusinessNSW_report.pdf, p. 27.

Case Studies

Retrofit First vs. Retrofit Only? A UK case study

Within the development sector, especially in London where retrofitting is a policy position of local government, there is a debate around whether retrofitting should be the first preference for redeveloping a site.[1] This debate also contains questions surrounding the mechanisms to incentivise retrofitting, and whether a 'retrofit first' policy would increasingly inhibit new development in the form of a 'retrofit only' outcome.

The drive for decarbonisation and net zero is used as a primary justification for a 'retrofit first' policy, among other benefits which include reduced development turnaround time. The development industry in the United Kingdom, which includes the London Property Alliance, argues that retrofit suitability should be considered on a site-specific basis;[2] there are concerns surrounding feasibility and the potential for lower operating emissions from newer, more energy efficient construction.

The UK Architects' Journal has developed a 'RetroFirst' campaign which aims to redress the problematic aspects of the built environment in a move towards decarbonising the industry. The campaign identifies a number of policy barriers to implementation, and has three main demands:[3]

> Tax – cutting value added tax (VAT) rates for building refurbishment, repairs and maintenance from 20% to 5% or less
> Policy – promote retrofitting, using reclaimed materials and implementing clauses into planning policies, guidelines and regulations
> Procurement – working towards a whole-life carbon approach in the construction industry. Insist that all publicly funded projects take a 'retrofit first' approach. (for an Australian context – see LendLease Absolute Zero by 2040 – Scope 3 Emissions Protocol).[4]

Retrofit Australia program

Climate-KIC Australia runs the Retrofit Australia program,[5] which aims to retrofit 1 million Australian houses over a 5-year period. The program has three phases; explore, test and deliver. In addition to an aim of improving occupant living standards, the program aims to reduce household energy consumption and embodied emissions to ensure that Australia can meet its net zero emissions targets.

Phase 1 (the exploration phase) of the project is now complete. The outcome of this phase is a report produced in collaboration with key government agencies and universities, including AusIndustry, the NSW

1 Kollewe, J. (2023, March 12) Old walls, new life? Britain's builders embrace the retrofit revolution, *The Guardian*, available at https://www.theguardian.com/business/2023/mar/11/old-walls-new-life-britains-builders-embrace-the-retrofit-revolution.

2 Bloxhub. (2023) Retrofit only or retrofit first? New dilemmas for the building industry, available at https://bloxhub.org/impact-stories/retrofit-only-or-retrofit-first-new-dilemmas-for-the-building-industry/.

3 Hurst, W. (2019, September 12) Introducing RetroFirst: a new AJ campaign championing reuse in the built environment, *Architects' Journal*, available at https://www.architectsjournal.co.uk/news/introducing-retrofirst-a-new-aj-campaign-championing-reuse-in-the-built-environment.

4 Lendlease. (2023) Absolute Zero by 2040 – Lendlease's Scope 3 Emissions Protocol, available at https://www.lendlease.com/au/sustainability/climate-and-environment/.

5 Climate-KIC Australia. (2023a) Retrofit Australia, available at https://climate-kic.org.au/work/projects-programs/retrofit-australia/.

Department of Planning and Environment (DPE) and the Victorian Government. The report found that retrofitting one million homes across five years has the potential to:[6]

> Reduce average home energy use by up to 9,000kWh per year
> Reduce average home emissions by up to 5.8 tonnes $CO^{2\ eq\ per\ year}$
> Create an up to $55 billion private finance investment opportunity."
> The extensive portfolio of works which will be required to be considered and undertaken to implement a retrofit scheme of this scale (1 million homes in 5 years) is outlined in Figure 4 below.

Figure 4. Work portfolio associated with a retrofit scheme[7]

6 RACE for 2030. (2021) Pathways to scale: Retrofitting One Million+ homes Final report, available at https://climate-kic.org.au/wp-content/uploads/2021/12/One-Million-Homes_Final-Report-9.12.21-1.pdf.

7 Climate-KIC Australia. (2023b) The large-scale home retrofit scheme portfolio of 20 work packages, available at https://climate-kic.org.au/work/projects-programs/retrofit-australia/, p. 97.

Adaptive reuse – 44 Market Street, Sydney

The retrofit development of the site at 44 Market Street in the Sydney CBD involved the refurbishment of a pre-existing underutilised building podium.[8] The collaboration between Dexus and architect Woods Bagot resulted in the activation and façade refurbishment of the ground floor and mezzanine of a 26-storey commercial building.

This project, shown in Figure 5 below, demonstrates the effectiveness of a relatively small-scale retrofit project in generating new mixed-use spaces at a ground level and activating the streetscape while respecting the original building frame.

Figure 5. 44 Market Street, Sydney[9]

8 Brickworks. (2020) 44 Market Street, Sydney, available at https://www.brickworks.com.au/articles/projects/44-market-street-sydney/.

9 Woods Bagot. (n.d.) Street Beacon, available at https://www.woodsbagot.com/projects/44-market-street-podium-redevelopment/.

Expansive reuse – Quay Quarter Tower, Sydney

The Quay Quarter Tower, a mixed-use development by 3xN and BVN, is an example of both expansive and adaptive reuse in NSW. The building was completed in 2022 and won the 2023 Best Tall Building Worldwide award.[10] The developers maintained 65% of the original building's floorplate and 98% of the original structural walls, which is estimated to have saved approximately 12,000 tonnes of embodied carbon in that would typically be generated in a knock-down and rebuild process.[11] Additional floors and floorspace were added to the development on top of the original core.

In considering feasible development options, retrofitting was revealed to be the most feasible in terms of both economic and environmental outcomes. In addition to saving embodied carbon generation, time and money savings from avoiding demolition and construction improved development feasibility. Figure 6 below illustrates the form and scale of the building.

Figure 6. Quay Quarter Tower[12]

10 Winder, A 2023. (2023, November 1) Sydney's Quay Quarter Tower takes out top global award, *ArchitectureAU*, available at https://architectureau.com/articles/sydneys-quay-quarter-tower-takes-out-top-global-award/#.

11 Arup. (n.d.c) Quay Quarter Tower's sustainable building design saves embodied carbon, available at https://www.arup.com/projects/quay-quarter-tower.

12 Aran Anderson. (n.d.) Sydney's Quay Quarter Tower takes out top global award, available at https://architectureau.com/articles/sydneys-quay-quarter-tower-takes-out-top-global-award/#.

Proactive reuse – City of Melbourne 1200 Buildings Program

Implemented from 2010 onwards, the City of Melbourne's 1200 Buildings Program has sought to retrofit approximately 1,200 of the city's commercial office buildings to improve building performance and reduce built environment emissions.[13] The program has aimed to provide information and incentives to program signatories to improve building environmental performance to a 4.5-star NABERS level.

A 2015 survey of the program found that in the 5 years since its inception, the program had resulted in 541 completed and 315 planned retrofits throughout the city.[14] In addition to reducing operating costs for commercial tenants, the program also aimed to attract new environmentally conscious tenants to the city. Figure 7 depicts the outcomes of the program assessed to 2015.

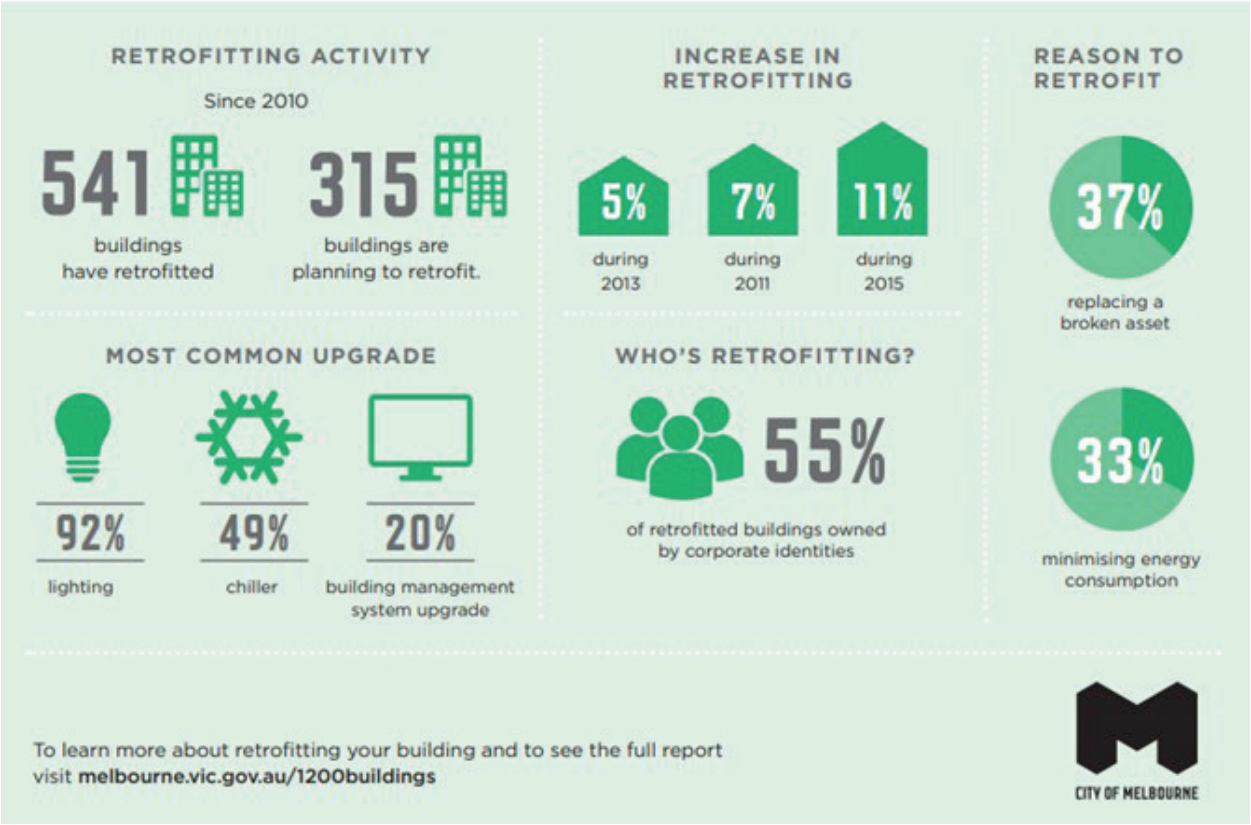

Figure 7. 1200 Buildings Program 2015 survey[15]

13 City of Melbourne. (n.d.b) 1200 Buildings, available at https://www.melbourne.vic.gov.au/business/sustainable-business/1200-buildings/Pages/1200-buildings.aspx.

14 City of Melbourne. (2015a) 1200 Buildings: Melbourne Retrofit Survey, available at https://www.melbourne.vic.gov.au/SiteCollectionDocuments/melbourne-retrofit-survey-2015.pdf.

15 City of Melbourne. (2015b) Melbourne Retrofit Survey 2015, available at https://www.melbourne.vic.gov.au/business/sustainable-business/1200-buildings/Pages/melbourne-retrofit-survey.aspx.

Briefing notes

Considerations

Retrofitting buildings has the potential to create huge social, environmental and economic outcomes.

Implementation of a consistent, effective 'Retrofit First' policy, where retrofitting must be considered as an option prior to redevelopment, would enable government and industry to create more appropriate, sustainable and high-quality stock for a wide variety of land uses.

In an Australian context, there is an opportunity to retrofit social housing stock on a relatively large scale, ubiquitously improving the wellbeing of residents and environmental sustainability of the built environment.

Future policies must reduce implementation barriers through incentivisation schemes education programs and circular economy considerations to ensure that retrofitting becomes a feasible option within a 'Retrofit First' framework.

Recommendations

Astrolabe Group has developed recommendations which aim to build upon existing work undertaken by AHURI, UNSW and other agencies, to inform and further advance Retrofit First developments in NSW and Australia more broadly.

Additional observations

There is a need to demonstrate that retrofitting works and has the potential to be viable within an Australian context. The government needs to be convinced using evidence that investing in retrofitting and creating subsequent frameworks for implementation is worthwhile and creates value.

Thus, there is a need to undertake demonstration projects and improve communication surrounding retrofitting. People need to be trained and feel comfortable with the concept of retrofitting to ensure successful implementation.

Recommendation	Potential collaborators
Undertake a body of work in NSW which provides guidance and advice on the types of buildings that are suitable or feasible for retrofitting, identifying key patterns including building age, typology, etc.	NSW Government Architect, AHURI, UNSW, Property NSW, NSW Treasury, Developer peak bodies
Form a view to what proportion of renewal is expected to come from retrofitting vs. rebuild to forecast how many skilled workers need to be trained to service that need.	NSW DPE, AHURI, UNSW, Property NSW
Create a retrofitting opportunities pipeline based on building stock data and planning considerations, including areas where a lack of additional planning movement may be conducive of enabling retrofitting to occur.	Digital.NSW, NSW DPE, AHURI, UNSW
In relation to the wider circular economy, work with the NSW Environmental Protection Authority to create guidance around maximising the likelihood of construction and demolition waste being consumed or repurposed in the retrofit sector.	NSW EPA, AHURI, UNSW, DCCEEW
Create guidance around increasing the awareness of the reduced environmental impact of retrofitting compared to rebuilding. Test whether the market or consumers recognise this value and whether certification is a potential option to create value.	AHURI, UNSW, Developer peak bodies
Test whether the general community would be more open to retrofitting as opposed to knock down and rebuild development in terms of less disruption to residents and community.	AHURI, UNSW, Councils, Developer peak bodies
Develop a deeper understanding of why retrofitting is less feasible in NSW from several perspectives, including: • Policy settings • Accessing appropriately skilled labour • Accessing appropriate materials	NSW DPE, NSW Treasury, IPART, AHURI, UNSW
Research future market dynamics and how they may present opportunities for retrofitting to become more feasible e.g., if steel prices continue to rise, then retrofitting may become a preferred option.	NSW Treasury, UNSW, AHURI, Property NSW
Develop an understanding of how the lack of social dislocation associated with retrofitting could be considered in relation to feasibility. Lack of disruption is a socioeconomic benefit that is not typically captured in financial evaluations.	AHURI, UNSW, NSW Health, NSW Department of Communities & Justice
Offer an incentive to communicate the value created through retrofitting.	NSW DPE, AHURI, UNSW, Developer peak bodies
Explore mechanisms to ensure that new builds have retrofit capability and identify pre-existing buildings or building types with retrofit capability.	NSW Government Architect, NSW DPE
Develop a Retrofit First policy and governance framework.	NSW DPE
Create a retrofit toolkit that can be distributed to businesses, homeowners and government stakeholders containing relevant data and information regarding relevant services.	Councils (e.g. City of Melbourne, Sydney), UNSW, NSW DPE
Investigate how the needs of a retrofitting policy could be integrated in building codes, standards, strategies, and statutory mechanisms to ensure consistency.	NSW DPE, Australian Building Codes Board, Housing Industry Association, AHURI, UNSW
Investigate the role of retrofitting in the Australian market during development troughs to maintain developer supply chains and deliver certainty.	Property NSW, NSW Treasury, UNSW, Developer peak bodies

City of London considers adopting ‘retrofit first’ policy

17 MAY 2023 • BY GINO SPOCCHIA

Newly approved buildings featured in the images include: 50 Fenchurch Street, 55 Gracechurch Street, 60 Aldgate High Street, 70 Gracechurch Street and 2-3 Finsbury Avenue.

Source: Didier Madoc Jones of GMJ and City of London Corporation

The City of London is looking to adopt a ‘retrofit first’ policy for its future City Plan, according to proposals debated last month

Conclusion

Retrofitting buildings has the potential to create huge social, environmental and economic outcomes. Implementation of a consistent, effective 'Retrofit First' policy, where retrofitting must be considered as an option prior to redevelopment, would enable government and industry to create more appropriate, sustainable and high-quality stock for a wide variety of land uses.

In an Australian context, there is an opportunity to retrofit social housing stock on a relatively large scale, ubiquitously improving the wellbeing of residents and environmental sustainability of the built environment. Future policies must reduce implementation barriers through incentivisation schemes education programs and circular economy considerations to ensure that retrofitting becomes a feasible option within a 'Retrofit First' framework.

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citiesinstitute@unsw.edu.au

UNSW Cities Institute
Parramatta Innovation Hub
Parramatta NSW 2150

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