



Social Housing Policy Team
Department of Family and Community Services
Locked Bag 3002
AUSTRALIA SQUARE NSW 1215

Submitted via email to: socialhousingreform@fac.s.nsw.gov.au

19 February 2015

Dear Social Housing Policy Team,

**RE: SOCIAL HOUSING IN NSW:
A DISCUSSION PAPER FOR INPUT AND COMMENT**

Thank you for the opportunity to provide comment on the *Social Housing in NSW: a discussion paper for input and comment (Discussion Paper)*. The Green Building Council of Australia (GBCA) supports the NSW Government's efforts on improving social housing and this submission focuses on Pillar 3: *A social housing system that is sustainable*.

The GBCA encourages the NSW Government to consider how the suite of Green Star rating tools can be used to maintain and develop more sustainable and efficient public housing stock within NSW.

Government at all levels has a responsibility to provide visionary leadership, in particular by setting contemporary benchmarks and rigorous standards. The GBCA believes it is vital that sustainable development principles are considered during the earliest stages of planning in order to achieve the best long-term outcomes for communities.

About the GBCA

The GBCA is the nation's authority on sustainable buildings, communities and cities. Our mission is to accelerate the transformation of Australia's built environment into one that is healthy, liveable, productive, resilient and sustainable. We work together with industry and government to encourage policies and programs that support our mission.

We educate thousands of people each year on how to design and deliver sustainable outcomes for our buildings, communities and cities. We operate Australia's only national voluntary and holistic rating system for sustainable buildings and communities – Green Star.

The GBCA has a three-point plan for better buildings and communities that can assist social housing in NSW reaching its economic, social and environmental potential:

- 1. Certify new and existing buildings with Green Star**
- 2. Encourage industry to go beyond standard practice for new and retrofit projects and improve existing building performance**
- 3. Create better communities across NSW**

The Green Star rating system

The first Green Star rating tool was released in 2003 in response to market demand for a rating tool that would evaluate the sustainable design and construction of buildings. Green Star rating tools can be applied to almost all building types; with over 810 projects have now achieved Green Star certification across Australia.

The Green Star rating system is designed to take an holistic approach within each class and building sector, addressing nine categories in total; Management, Indoor Environment Quality (IEQ), Energy, Water, Materials, Land Use and Ecology, Emissions, Transport and Innovation and defining 'best practice' in each.

The *Demographia International Housing Affordability Survey: 2014* found Australia's housing markets to be among the most unaffordable in the world. This survey found Australia, now has 25 housing markets that are considered to be 'severely unaffordable'. Of the 360 markets assessed, Sydney was ranked as the sixth most unaffordable market in the world. The median house price in Sydney is 9.0 times greater than the median gross annual income and rising. It is therefore cheaper to buy a home in New York City (which doesn't even rate in the top 20) or London (which comes in at 21) than it is in Port Macquarie, NSW.

However, affordability is not just about the upfront cost, but must consider the long term ongoing operational costs including projections of rising cost of living and utilities. As mentioned in the *Discussion Paper* 'expenses continue to rise as a result of an ageing portfolio of stock that requires significant and increasing levels of maintenance'. While the cost of operations over lifetimes should be an integral part of the affordability equation, we rarely consider lighting, heating, cooling or energy use costs.

The Australian Bureau of Statistics predicts, by 2020, energy consumption in Australia's residential sector will rise by 12 per cent on 2011 levels and by 39 per cent above 1990 levels. This will mean significant increases in household energy bills.

Utility costs are just part of the story - when both housing and transport costs are considered, where you live consumes a third of the average household budget. Transport is the second-largest cost to households, and rising petrol prices are felt most acutely in the outer suburbs of cities where car dependency is highest. According to the *Discussion Paper*, 'the primary source of income for 94 per cent of subsidised public housing tenants is Centrelink benefits', as a result, the cost of transport and transport options must be considered.

More efficient, productive and sustainable housing can also contribute to greater affordability. This has been evident in the Lilyfield and Redfern social housing projects, both delivered through Housing NSW on cost-neutral budgets. The Lilyfield Housing Redevelopment project achieved a 5 Star Green Star rating in 2009. Housing NSW invested in environmentally sustainable initiatives such as gas-boostered solar hot water systems, 267 square meters of solar panels and a 4 kilowatt photovoltaic system to power common area lighting. The gas-boostered hot water system caters for 60 per cent of hot water consumption and delivers annual savings of \$19,000 or \$213 per unit – meaning the annual energy bill for households will decrease by 25 per cent. Similar outcomes have been achieved for the Redfern project and both of these case studies have been included with this submission.

Mission Australia has also been involved in the delivery of another Green Star social housing project, the Camperdown project in NSW which is based on the successful 'Common Ground' model from New York. This project provides permanent homes and on-site support services to help a social mix of people, including low income workers as well as people exiting long-term chronic homelessness. The 104 unit property consists of a range of accommodation options including 88 self-contained studios, and one and two bedroom apartments. Space for on-site support and tenancy services and a social enterprise is located on the ground floor with a 24-hour 7 days a week concierge service in the lobby.

Green Star – Communities

In 2009, the GBCA commenced work, in consultation with industry and all levels of government, on the development of a rating tool for sustainable development projects on a community scale; examining issues of economic, social and environmental importance. All state and territory land organisations have been key supporters and sponsors of the Green Star – Communities rating tool.

The first step in developing the Green Star – Communities rating tool was to develop a national framework consisting of five best practice principles:

- Liveability
- Economic Prosperity
- Environment
- Design
- Governance

Stage 2 of the project involved establishing best practice benchmarks and metrics for assessing and certifying sustainable communities. A set of 38 credits (now refined to 35 under PILOT version 0.2) was then developed and tested on a number of projects across Australia. The Green Star – Communities PILOT rating tool was launched in June 2012 and there are now 40 PILOT projects registered across Australia.

As mentioned in the *Discussion Paper*, 'the social housing asset portfolio has failed to keep abreast with changing tenant profiles. This has resulted in dwellings that may not meet tenant requirements with regard to size, location, modifications and access'. The GBCA encourages the NSW Government to consider how the Green Star – Communities framework and the rating tool credits can assist in developing objectives and setting measureable targets within social housing planning.

The 35 Green Star – Communities credits could be referenced or adopted as guidelines, benchmarks or community indicators against which social housing projects can be measured. Several examples of how the credits relate to the goals of the project are detailed below.

The Liveability category encourages and recognises developments that deliver safe, accessible and culturally rich communities. The category rewards communities that have a high level of amenity, activity, and inclusiveness.

Liv-1 Access to Amenities aims to encourage and recognise projects that provide a high level of access to amenities. Having a diversity of amenities close to where people live and work contributes to convenience, walkability and wellbeing. This credit establishes a benchmark for the distance between residential uses, workplaces and/or educational facilities in the community to frequently-used amenities.

Liv-3 Healthy and Active Living, aims to encourage and recognise projects that promote healthy and active living. Effective planning, urban design and landscape architecture that support physical activity and social engagement contribute towards healthy and active living in the community. This credit encourages the delivery of tangible elements which lead to health benefits and promote an active lifestyle, such as paths for walking and bicycle riding, or recreation facilities for exercising.

The purpose of the Environment category is to reduce the impact of urban development on ecosystems. The category encourages resource management and efficiency by promoting infrastructure, transport, and buildings, with reduced ecological footprints.

Env-6 Sustainable Buildings encourages and recognises projects that deliver 'green' buildings and energy efficient homes designed and constructed to meet the changing needs of occupants across their lifetime.

Env-11 Transport encourages projects that reduce the environmental impact of transportation. The credit which requires an Integrated Transport Plan (ITP) to be developed, reduction in the number of parking spaces, and facilitating the use of public transport. The ITP sets out how various forms of transport outcomes, particularly the existing and future public transport network and planning and provisions for active transport will be planned.

Green Star – Performance

As Pillar 3: *A social housing system that is sustainable* identifies, the social housing system must be financially viable. The *Discussion Paper* identifies that operating costs are increasing as dwellings continue to age and the need for maintenance and repairs increases. Green Star – Performance, which measures the operational efficiency of existing buildings, can be adopted as guidelines, benchmarks or indicators against which social housing projects are measured and could assist in reducing social housing operating costs.

Within Green Star - Performance, the Energy category rewards projects for the implementation of strategies and actions to measure and reduce a buildings operational energy use.

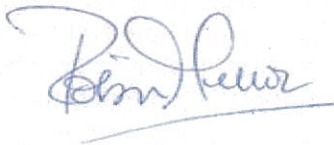
The *Peak Electricity Demand* credit recognises and rewards operational practices that reduce peak demand on electricity supply. Peak demand refers to the maximum amount of electricity consumed by an electrical system at any one point in time.

The Transport category rewards projects and actions that discourage single-occupant vehicle use and encourage the use of alternative transportation modes such as public transport, walking or cycling.

The *Alternative Transport Program* credit assesses the access to building owner and/or operator supported alternative transport modes offered by occupants, to reduce reliance on conventional single-occupant vehicle use.

It is important that government and industry work together on building more sustainable buildings, communities and cities. The GBCA appreciates the opportunity to provide comment on the *Discussion Paper* and I would welcome the opportunity to talk with your team further about how the GBCA and Green Star can support the best possible outcomes for social housing in NSW. Please do not hesitate to contact me or Luke Farr, Advocacy Coordinator – Local Government on 02 8239 6200, or via email at luke.farr@gbca.org.au, for further information, or to arrange a meeting.

Yours sincerely



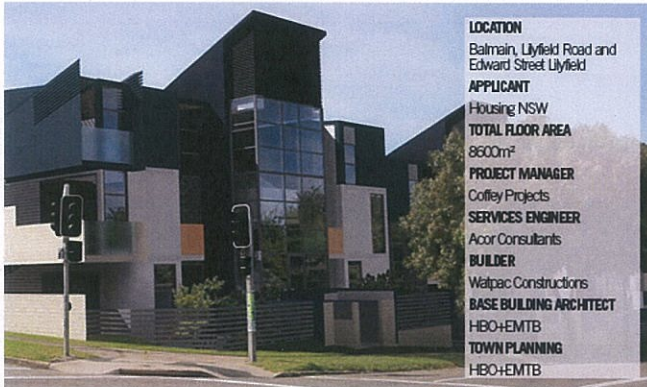
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Lilyfield Housing Redevelopment

Green Star / Green Star Projects / Green Building Case Studies

THU 21 JAN 2010



The Lilyfield Housing Redevelopment in Sydney is the first social housing scheme in Australia to be awarded a Green Star certification. Achieving a **5 Star Green Star - Multi Unit Residential PILOT rating**, the Lilyfield Housing Redevelopment is also the first project of its kind to achieve a Green Star residential rating on the East Coast of Australia.

Representing 'Australian Excellence' in environmentally sustainable design, this project by HBO+EMTB for Housing NSW sets a new standard for public housing developments in Australia, and demonstrates that highly sustainable public housing outcomes are both realistic and achievable in terms of building function and use, project demographics and importantly, housing affordability.

HBO+EMTB Director, Gustavo Thiermann says, "The formal rating of this [housing] scheme by the GBCA and its 5 Star Green Star outcome reflects Housing NSW's willingness to embrace innovation therefore providing the design team sufficient freedom to apply sustainable design principles and achieve benchmark outcomes for public housing."

The new frontier

The Lilyfield Housing Redevelopment received an Innovation point (INN-1) for being the first social housing development in Australia to participate in a Green Star PILOT rating tool scheme.

Upon completion, the Lilyfield Housing Redevelopment will result in a fully integrated residential project consisting of 24 one-bedroom units, 58 two-bedroom units and six three-bedroom units. While the approved design significantly increases the number of units on the site, jumping from the existing 40 to 88 apartments, the development will have minimal impact on the amenity of surrounding properties and will merge with the existing character of the neighbourhood.

The site's location relative to public transport allowed HBO+EMTB to steer away from typical large-scale basement car-parking for the building. "Because the project has good public transport connections, is close to the inner west light rail and there is abundant on-street parking, a compelling town planning case was put to Council that there was no need for off-street parking, which was accepted," Thiermann explains. "This has presented a significant cost saving for the project when compared to a typical medium density residential project."

Let there be night

Efficient outdoor lighting systems offer substantial savings for both energy-use and expenditure costs. Of all the electricity produced in Australia, approximately 2.5 per cent is used for outdoor lighting. However, as most of these lighting systems are poorly-designed, it is estimated 30 per cent of light generated for outdoor use is wasted because it is directed into the night sky. This wasted light totals around 1,000,000,000kWhrs in electricity and costs at least \$80,000,000 each year.

To combat this major environmental problem and keep costs down for residents, HBO+EMTB tailored a lighting design that ensures no external luminaire has an upward light output ratio that exceeds 5 per cent. This lighting strategy complies with AS4282 "Control of the Obtrusive Effects of Outdoor Lighting", and contributes to significant cuts in light pollution emitted within the Project.

Thiermann says of the initiative, "By ensuring that all lighting is directed towards the lighting subject (and not the sky), developers can reduce the impact of light pollution. Furthermore, by

keeping lighting to a safe minimum, developers can also reduce the amount of electricity consumed during the development's lifetime."

Fostering community

The Lilyfield Housing Redevelopment not only incorporates environmentally sustainable design features to improve the building's energy and water efficiency, but also includes green initiatives to foster community and healthy living among residents. The building design features a large central courtyard, providing tenants with a secure and private open space for socialising, relaxation and play.

The communal garden facilities within the project will enhance the residents' sense of community, as well as providing them with the opportunity to grow their own vegetables and produce and to enjoy nature. It is hoped that this type of initiative will be taken up within all multi-unit residential developments thereby reducing the carbon mileage accumulated through the mass transportation of fresh produce.

ESD initiatives featured in the project:

Indoor Environment Quality

- All 88 apartments are naturally ventilated and there is no air conditioning in the development

Energy

- Roof elements over stair wells have been designed to support and orientate solar hot water and photovoltaic (PV) panels, which provide on-site energy
- All roofs to north facing units are tilted in order to maximise solar access to those units during winter (low sun angle) and to avoid direct excess solar radiation to those units in summer (high solar angle)
- The lighting design has utilised energy efficient bulbs throughout
- A common area interior lighting occupant movement and daylight sensor
- Solid floors exposed to the northern sun for thermal mass
- Low-E glass in all east and west façades

Water

- Water efficient fixtures throughout apartments and common area

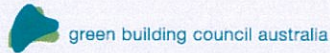
Innovation

- Exceeding the benchmarks of TRA-1 by providing significantly less car parking than the minimum - there is no on-site car parking in the development

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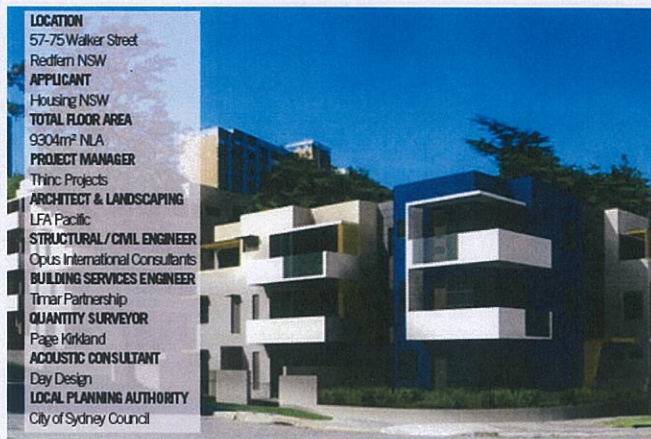




Redfern Housing Redevelopment

Green Star / Green Star Projects / Green Building Case Studies

THU 11 APR 2013



Download the [Redfern Housing Redevelopment case study](#).

The Redfern Housing Redevelopment in Sydney was only the second public housing development in Australia to achieve a Green Star rating, and was awarded a 5 Star - Green Star rating under the Multi Unit Residential PILOT in 2009.

Representing 'Australian Excellence' in environmentally sustainable design, this project for Housing NSW sets a new standard for social housing developments, and demonstrates that environmentally, economically and socially sustainable outcomes are achievable.

According to the Green Building Council of Australia's Chief Executive, Romilly Madew, the Redfern Housing Redevelopment project is a "triple bottom line success story".

"The project team took a holistic approach to the development, and addressed the social sustainability issues alongside the more commonly recognised environmental and economic ones," she says.

Where community belongs

The project involves the demolition of ten existing two and three storey public housing buildings, and the construction of new low-to-medium rise accommodation. The 106 public housing dwellings will be comprised of 66 apartments and 40 townhouses, as well as two community rooms.

The goal of the redevelopment project is to deliver new public housing with a more appropriate mix of housing types that promotes a greater level of community within the area. Specifically, the new development will provide more adaptable and accessible housing for aged and disabled members of the community.

The design features an external façade which is both contemporary and sympathetic to the existing semi-detached and historic dwellings in the Redfern area. As a result, the development will integrate into and enhance the urban landscape.

Smart savings

Green initiatives such as rainwater collection and greywater treatment, solar hot water systems, solar photovoltaic cells for lighting and passive ventilation will deliver cost savings for both Housing NSW and the low-income tenants who live in the development.

The project's design aims to reduce energy consumption by 74 per cent when compared with standard residential buildings of similar size. This reduction in CO₂ emissions is equivalent to taking 100 cars off the road.

What's more, the energy efficiency measures are predicted to save around \$26,000 across the entire building in energy consumption each year alone.

Water efficient fittings and fixtures, as well as the reuse of rainwater and treated greywater, will ensure around 45 per cent of all water demand on the site is met by non-potable water. The predicted saving of 4,700 cubic metres of water a year is equivalent to 4.7 Olympic-sized swimming pools or 33,571 bathtubs. Based on current Sydney Water prices, the cost savings will be around \$7,500 a year across the entire tenancy.

Social spirit

Australia's indigenous people have a long association with Redfern, moving to the suburb in the 1920s for employment opportunities and affordable housing. They formed a strong and vibrant community which is still in evidence today.

Recognising the links between indigenous people and the suburb, a minimum of 20 construction workers on the project were required to be indigenous. This was a 'first' for a public housing project in Australia, and was rewarded with a Green Star Innovation point (INN-1).

Empowering the local community was an integral part of the sustainable development, and Housing NSW provided employment opportunities to both Aboriginal and long-term unemployed people to enhance their business skills, increase their knowledge of ESD issues and improve the social and economic conditions for both the individuals and their community.

ESD initiatives featured in the project:

Indoor Environment Quality

- All 106 apartments are naturally ventilated and there is no air conditioning in the development
- Energy
- Gas boosted solar hot water for apartment buildings and instantaneous gas hot water system for townhouses
- PV cells for common area lighting
- Use of low energy embodied materials where possible

Water

- Rainwater harvesting for toilet flushing and laundry
- Greywater treatment system for landscape irrigation

Innovation

- Exceeding the benchmarks of TRA-1 by providing significantly less car parking than the minimum - 6 dedicated disabled parking spaces are provided on the site
- There is no general parking but generous bicycle storage is provided
- Land Use and Ecology
- Remediation of a contaminated site
- Use of native landscaping.

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