



Clean energy and build-to-rent housing

How can Australia's emerging build-to-rent sector use sustainable design practices to reduce operating costs, differentiate its market offering to residents and deliver lower emissions?



Sustainability targets

1

Designed to reduce emissions by 40 per cent when compared with a National Construction Code (NCC) compliant design

2

A NABERS for Apartment Buildings energy rating which will provide a measure of energy performance for the base building

3

Targeting a 4-Star Green Star Design and As-built rating

The project

Build-to-rent residential developments are retained by the developer for long-term rental, rather than sold to strata purchasers.

The \$200 million LIV Indigo complex is the seed asset in the ABTRC.

It includes 315-apartments in two-towers, as part of Mirvac's Pavilions development at Sydney Olympic Park. LIV Indigo's one, two and three-bedroom apartments are under construction, with the first residents expected to move in by late 2020.

The investment

In an Australian first, the CEFC is investing in the Mirvac Australian Build-to-Rent Club (ABTRC), an innovative project incorporating sustainable design principles to deliver benefits to investors, developers, residents and the environment. The ABTRC is part of Mirvac's broader strategy to achieve a net positive carbon outcome by 2030.

The investors

Mirvac: a leading, diversified Australian property group, with an integrated development and asset management capability. Mirvac owns and manages assets across the office, retail and industrial sectors, with more than \$22 billion of assets under management at 30 June, 2019.

Clean Energy Finance Corporation: Extensive investments across the built environment through the Sustainable Cities Investment Program, which aims to cut emissions while supporting economic growth.

Capturing the benefits of sustainable design

The build-to-rent model, where the developer is also the long-term owner and manager of a residential property asset, has a unique opportunity to use energy efficiency and renewable energy technologies to deliver benefits for developers, tenants and investors.

The cost of incorporating sustainability measures has the potential to be recouped as energy savings resulting from the improved ongoing lifecycle performance of properties.

The use of sustainable design practices in the LIV Indigo development will deliver a range of benefits for residents, asset owners and investors.



Benefits for residents

1

Efficient lighting design, including LED lighting in apartments.

2

A tenant engagement strategy will help encourage residents to reduce their energy consumption and promote the sustainable design initiatives of the buildings.

3

The apartments have been designed to improve thermal comfort and energy performance. Passive design along with increased insulation and high-performance double glazing for all the apartments has resulted in a 6.4 star average NatHERS rating.

4

Energy monitoring meters feed into a building and apartment energy usage portal, enabling tenants to manage their energy, which can deliver savings of 5-15 per cent per year.

5

A low carbon transport plan will see the installation of two high voltage electric vehicle charging facilities, capacity for an additional eight charging stations based on future demand, the allocation of spaces for car share vehicles and the inclusion of 428 bicycle spaces.

Benefits for asset owners

1

Energy efficient LED lighting, motion sensors and time clocks in common areas to better manage energy consumption.

2

Regenerative lifts, with an auto-off function, to reduce energy demand during periods of low usage.

3

A 30kW rooftop solar system designed to generate 10 per cent of the modelled common area energy consumption. The system has an estimated payback of under six years.

4

Efficient basement carpark ventilation strategy, including carbon monoxide monitors, variable speed drives to control fans and efficient fan layout.



Cost and savings

Mirvac's investment in sustainable design has been modelled to save \$337,000 on LIV Indigo's annual energy cost compared with a National Construction Code (NCC) compliant building.

About half of these energy savings will flow to residents in the form of their energy bills, while the balance will benefit the asset owner through common area energy cost savings.

An incremental \$886,000 (representing 0.7 per cent of capital cost) over the original budget was invested to unlock these savings.

Upgrading to double glazing, which is one of the development's higher-cost initiatives has been achieved at a cost below the original estimate and represents 0.5 per cent of the capital cost.

The installed rooftop solar has an estimated payback period of under six years, which is also better than initially forecast.



Low emissions living

CEFC finance is supporting the delivery of clean energy solutions to a diverse range of communities, from build-to-rent to seniors' living, community housing, hotels and student accommodation.

We see compelling reasons to improve the energy efficiency and use of clean energy technologies in our built environment, which is accountable for more than 20 per cent of Australia's emissions.

Energy efficient residential and commercial buildings using clean energy technology:

- reduce stress on the electricity network
- lower electricity consumption
- support a least-cost pathway to low carbon outcomes
- can improve health and resilience outcomes for households and businesses.

CEFC investments are also targeting large-scale and long-term improvements to the emissions profile of landmark residential and commercial developments and, through our Sustainable Cities Investment Program, we are investing in a broad range of clean energy opportunities that provide productivity, accessibility and liveability benefits for Australia's 50 largest cities.

About the CEFC

The CEFC is responsible for investing \$10 billion in clean energy projects on behalf of the Australian Government. We help lower Australia's carbon emissions by investing in renewable energy, energy efficiency and low emissions technologies. We also support innovative start-up companies through the Clean Energy Innovation Fund. Across our portfolio, we invest to deliver a positive return for taxpayers.

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“ This investment is about giving tenants the same access to clean energy technologies as homeowners. It's an immediate way to reduce tenant energy use as well as tackle greenhouse gas emissions in Australia's rental housing portfolio.

Ian Learmonth
CEFC CEO