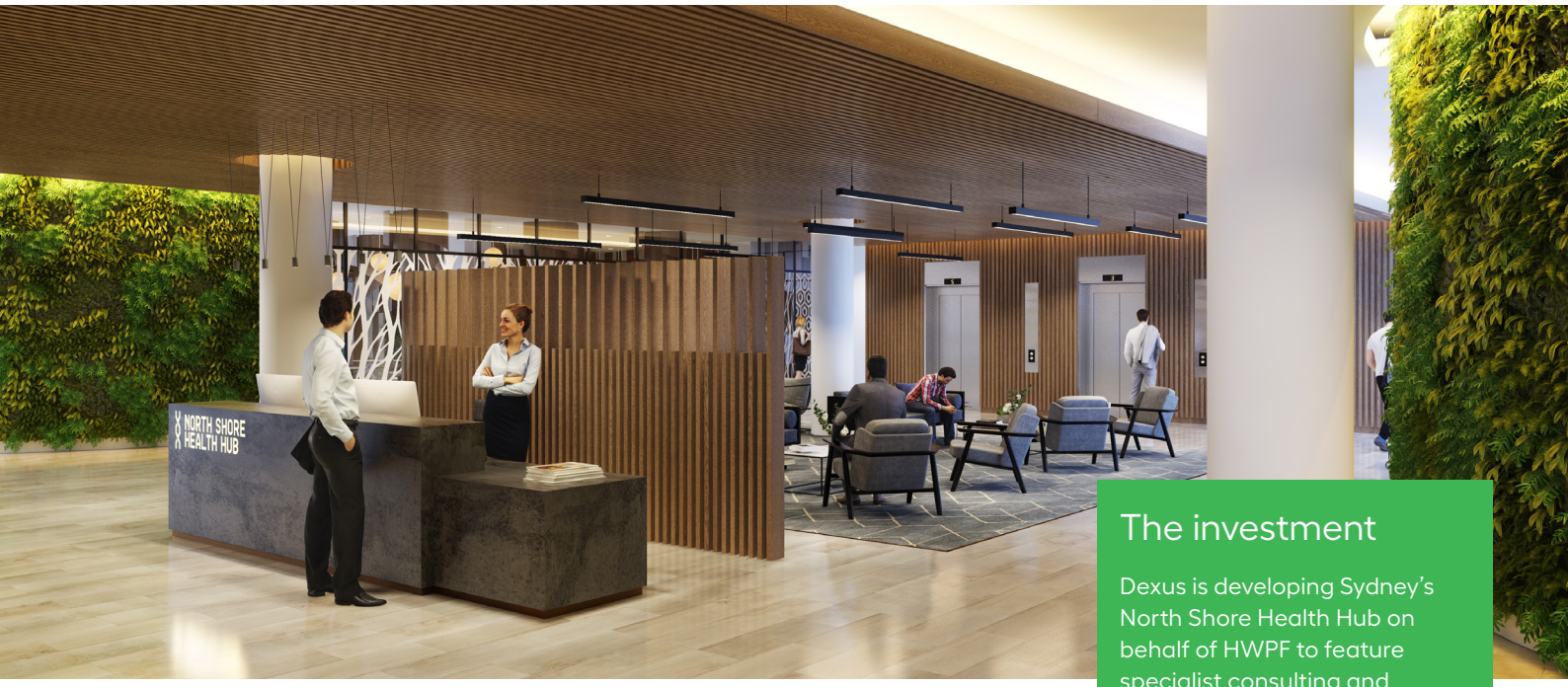
Clean energy and healthcare

How can Australia's healthcare sector lower emissions while delivering the world class health services our community needs? The CEFC and leading property owner, manager and developer Dexus are working together to identify and implement practical solutions.



The investment

Dexus is developing Sydney's North Shore Health Hub on behalf of HWPF to feature specialist consulting and medical suites, a day surgery and facilities, a medical centre, medical imaging, pathology, cancer treatment centre, food and beverage and convenience retail.

Sustainability targets

- Set a new benchmark for a healthcare facility to accelerate Australia's healthcare property sector to net zero emissions
- Reduce operational energy usage and greenhouse gas emissions to achieve a 40 per cent emissions reduction against the 2015 National Construction Code (NCC) baseline
- Target a 5-star Green Star Design and As Built (Core and Shell) rating
- Facilitate market transition to clean energy and sustainable transport.

The investors

Dexus is one of Australia's leading real estate groups, managing a high-quality Australian property portfolio valued at $31.8 billion at 30 June 2019. Over the long term, Dexus's Healthcare Wholesale Property Fund (HWPF) is targeting a portfolio of net zero carbon outcomes, including low emission transport options, and the adoption of energy efficient practices by tenants and hospital users. Dexus has committed to achieve net zero emissions across its portfolio by 2030.

The Clean Energy Finance Corporation has a strong commitment to reducing emissions across Australia's built environment, including the healthcare sector. We are a $100 million equity investor in HWPF. By focusing on demonstration and 'first of their kind' projects, such as the North Shore Health Hub, our investment commitments are working to deliver significant emissions reduction.

Why healthcare?

The built environment is accountable for more than 20 per cent of Australia's emissions, according to ClimateWorks Australia[1].

Improving the energy performance of healthcare properties – including hospitals, medical centres and pathology labs – can drive down emissions. Low emissions transport options integrated into healthcare facilities can also yield long term energy and environmental benefits.

1 ClimateWorks Australia, "Tracking progress to net zero emissions", September 2018

Sustainability features

Passive design

- North orientation featuring good use of daylight and natural ventilation with the additional benefits of efficient pedestrian and vehicular access
- High performance, low emittance double glazing, specific for different façade exposures

Energy efficiency

- Distributed heating, ventilation and air conditioning (HVAC) unit design, so tenants can install and adjust capacity as required
- Centralised condenser water cooling system and individual control for the consultancy suites
- Car park demand control ventilation using carbon monoxide monitoring and variable speed fans
- Full direct digital controls (DDC) for all mechanical services, forming a building monitoring and control system (BMCS) for day-to-day control of mechanical and energy efficiency functions, including outside air control, night set back, night purge and area usage monitoring for both energy and water

Renewable energy

- A 160kW rooftop solar PV array that is expected to generate around 230MWh of energy per year, covering 13 per cent of base building energy use
- Half of the remaining base building electricity to be sourced from offsite solar and wind sources via a supply-linked renewable energy supply agreement, which is expected to reduce annual carbon emissions by 780 tonnes
- An embedded network that leverages both onsite and offsite renewable energy and enables tenants to access clean energy

Low emissions transport

- Electric vehicle charging outlets to be provided for 18 parking bays, equivalent to five per cent of total car spaces
- Premium end-of-trip facilities offering locker facilities, showers and a towel service, as well as bicycle parking and bike maintenance area, to reduce commute-related carbon emissions

Collaboration for enhanced outcomes

Developed in collaboration with CEFC, HWPF's Clean Energy Policy establishes early design and operational targets to drive sustainability in the assets. Embedding emission reduction targets within the North Shore Health Hub's key deliverables, challenged the project team to enhance its focus on environmental performance and energy efficiency.

Through workshops focused on ecological sustainable design (ESD), investors and future property management teams collaborated with the design team to identify and evaluate innovative and alternative cross discipline solutions, which will also inform future projects. Initiatives were assessed against the project goals, impacts on tenants and occupants, capital and operating costs and forecast carbon emission reductions. For example, a planned 73kW building integrated PV system (solar glass) was not pursued due to the required investment in electrical infrastructure yielding an 18-year simple payback.

Cost, savings and valuation

The sustainability features built into the design are forecast to deliver approximately $180,000 in avoided energy costs per annum, with $40,000 of this attributed to installed solar PV.

The combined solar PV and embedded networks system is expected to cost just under $400,000, representing 0.2 per cent of the project value upon completion. The payback period, based on current electricity rates, is expected to be just under five years. The solar PV daytime electricity production will also help reduce peak energy demand.

Further sustainability savings are achieved by only fitting out core spaces. Tenants deliver their own fit out, reducing potential wastage through replacement of speculative fit out materials.

Integrating climate resilience

The North Shore Health Hub development incorporates a Climate Change Adaptation Plan in line with the recommendations of the Task Force on Climate-related Financial Disclosure. Features include:

- Relocating critical equipment and ensuring sufficient drainage is provided to mitigate the risk of on-site water retention and flooding from severe rainfall events
- Protecting rooftop plant, including cooling towers from hailstorms
- Installing outside air smoke detectors to shut down outside air intake to protect occupants from bushfire smoke

> “We look forward to our investment helping drive new benchmarks in energy efficiency in the energy-intensive healthcare sector.
>
> **Ian Learmonth**
> CEFC CEO

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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