

Sydney Children's Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre project

This project integrates an array of innovative Environmentally Sustainable Design (ESD) features into its overall building design and construction. It will achieve 100% electrification with the support of 180kW rooftop solar panels to provide onsite renewable, carbon-free energy to limit the hospital's reliance on the grid.

Sustainability snapshot



Decarbonising infrastructure

The project will achieve 100% electrification with the support of a 180kW solar panel system. Three electric vehicle (EV) charging stations will be provided.



Waste management

More than 90% of all construction waste is being diverted from landfill via recycling initiatives. Comprehensive waste management facilities have been incorporated into the new building, including a food composting unit on site.



Climate risk and resilience

More than 60 trees will be planted on site to provide 15.5% canopy cover and help to reduce urban heat impacts.



Energy and water management

The project is anticipated to achieve an 850-tonne reduction in annual carbon emissions and significant energy savings from installation of a HVAC* system and energy efficient upgrades.

WELS rated whitegoods and fittings, reduced cooling tower water demand and a 20kL rainwater tank will support an estimated savings of 3200kL of potable water annually.

*HVAC - Heating, ventilation, air conditioning

Project phase: In delivery



The \$658 million Sydney Children's Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre brings world-leading clinical care, research and education together under one roof to transform kids' health.

The project is being delivered by Health Infrastructure on behalf of the Sydney Children's Hospitals Network, in partnership with the Children's Cancer Institute and University of NSW. It is expected to be completed in late 2025.

Environmental approach

The project features environmental innovation to reduce carbon emissions across the entire project lifecycle, from design through to construction and ongoing hospital operations, delivering significant environmental benefits.

Decarbonising infrastructure

The project is targeting a 22% improvement in energy efficiency based on the standards set in the National Construction Code (NCC), specifically Section J, which focuses on energy efficiency for building design. To meet these standards the design of the building will include solar panels, improved water heating, cooling performance and lighting.



Principal contractor John Holland is also targeting carbon zero during construction. Use of biofuels, electric cranes and at least 15% green power during construction is reducing the project's carbon footprint.

Low carbon concrete has been used, providing a 30% reduction in cement content and more than 50% reclaimed water. Manufactured sand has been used in all concrete poured on site.

Waste management

Effective waste management during construction is essential to reducing carbon emissions and minimising landfill waste.

More than 90% of construction waste is being diverted from landfill, and an on-site recycling program enables suitable materials to be re-manufactured.

The building design provides space for a future comprehensive waste management facility to service the hospital, including a food composting unit.

Climate risk and resilience

To mitigate the impacts of urban heat, construction of external green spaces across multiple levels will help regulate temperature and alleviate thermal intensity. These spaces will improve air quality, biodiversity and provide a healing connection to nature.

More than 60 trees will be planted as part of the landscaping to provide 15.5% canopy cover and reduce onsite urban heat.

Energy and water management

The building design exceeds the thermal performance and national construction code requirements to reduce heating and cooling impacts.

Installation of energy efficient HVAC (heating, ventilation, air conditioning), steam boilers and domestic hot water services, LED lighting and energy efficient mechanical systems is expected to reduce energy consumption while reducing carbon emissions by approximately 850 tonnes annually.

Water conservation will be achieved through high water efficiency (WELS) rated water fixtures and fittings to reduce potable water consumption. This is projected to provide savings of 3.2 million litres of potable water annually.

Multiple landscaped areas will be maintained via direct rainfall, promoting moisture retention in the soil and supporting reduced stormwater outflow. A 20kL rainwater tank will further support irrigation requirements across the site.

Reduced travel emissions

The planned new virtual care centre will enable health service delivery via phone, video conferencing and remote monitoring, reducing the need for patients to travel for routine appointments.

A campus Green Travel Plan is also being implemented to promote sustainable commuting by hospital staff, supported by an End of Trip facility.

For more information

Visit: randwickcampusredevelopment.health.nsw.gov.au/projects/sch1

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