



Green Gown Awards Australasia

2030 Climate Action

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2020 Case Study



MONASH University

Net Zero Initiative

To achieve net zero emissions for Monash's built environment by 2030, the NZI focuses on emissions reductions through five key areas: energy efficiency measures, campus electrification, offsets, renewable energy generation, and building a sustainable Microgrid.

Energy efficiency measures are reducing the overall energy use of our operations through LED lighting upgrades, building optimisation programs, low-carbon certification and financing of new buildings, and investing in smart building technology. We are fully electrifying our Australian campuses to transition off on natural gas and allow our campuses to be 100 percent powered by renewables. All new buildings will be all-electric and since 2018 we have constructed five all-electric Net Zero ready buildings.

We have invested in on-site and off-site renewable energy to provide our campuses with 100 percent renewable power. We have installed 4MW of rooftop solar power across our four campuses and have a power purchase agreement with the Murra Warra Wind Farm in Western Victoria. This combined on-site and off-site renewable energy covers over annual electricity usage. We're building an on-site microgrid at Clayton which will receive and store energy from various renewable energy sources, including an on-site 1MWh battery.

The microgrid will allow us to control when and how to use our energy and provide the ability to reduce demand and strain on the electricity network during peak times.

We're committed to purchasing offsets with Verified Emissions Reductions and to date have purchased 15 percent Certified GreenPower and offset our transport emissions (excl. air travel) via Greenfleet. We have committed to offset our flight emissions by 2030. The NZI has created a living laboratory at Clayton campus which provides the opportunity to research practical sustainability problems using technology and equipment which has been deployed on site, to create solutions for the broader energy market.

FIND OUT MORE



Environmental & Social Benefits

NZI has demonstrated the value of activating University operations as a showcase teaching, research and industry transformation platform, to help reduce operational costs, increase value for the University and create solutions for the global community.

The Monash Microgrid has attracted an additional \$1.5m in funding for research and development activities. This has established Monash as a destination for future leaders to research, collaborate and learn how to power a sustainable world.

Being a first-mover in the delivery of all-electric and Passive House certified large-scale buildings demonstrates to the building industry that very low-carbon net-zero buildings are technically and financially achievable. Our low-carbon building program is also driving transformation and skills development in the design and construction sector as organisations in this sector respond to and deliver on our briefs.

The program is now a model for interdisciplinary collaboration and applied learning and research, with other initiatives including campus scale water harvesting and campus biodiversity following the same model.

watch this video



Leadership & Engagement

Monash was the first University in Australia to commit to a Net Zero Emissions strategy. It is the only University and possibly organisation to commit to transitioning off natural gas as part of its net zero strategy. The NZI brings together all areas (eg. operations, research and teaching) of the University to drive an integrated low-carbon response to energy production, distribution and consumption. The NZI has been embedded into teaching and learning at the University at undergraduate and postgraduate. The NZI is creating a living laboratory on our campuses that allows students to apply their learnings using real world examples. Monash has also delivered a number of industry knowledge sharing activities including conferences, seminars and publication of case studies.



Wider Societal Impact

The Net Zero Initiative is a model that can be replicated into other organisations and precincts to drive net zero cities of the future. We engage our student body in the net zero journey and all the learnings from the initiative are shared with industry.

At Monash, the NZI demonstrates how city-scale decarbonization is possible. Our strong engagement with local and global organisations including the UN, International Energy Agency and World Green Building Council enable industry and governments to accelerate urban transitions to net zero by informing policy making, and building new solutions and business models to accelerate the transition.

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| NZI has transformed Australian building design and construction industry through delivery of five Net Zero Emissions Buildings, including Australia's first commercial Passive House Buildings and 'Climate Active Certified Carbon Neutral Construction' building (in collaboration with Lendlease).

| Raising \$400m in Climate Bonds, a World first for the University sector

| Developing a microgrid to support the energy market of the future

| Eliminated fossil fuel (natural gas) from new and existing buildings, proving that 100% electric renewable powered buildings are technically and economically viable.

| Partnered with industry to develop a hydrogen fueling, heating, energy storage and water treatment concept for the Monash Technology precinct.

Top 3 Learnings

Value of both strong executive leadership and bottom up support to drive action

Develop strategy to achieve vision then target quick wins that collectively realise the strategy and make the next step easier to achieve

Integration and electrification are challenging to achieve