ENVIRONMENTAL MANAGEMENT PLAN
2017-2021
Vice-Chancellor's foreword

As Australia’s national university, it is our responsibility to provide a bold response and clear actions to address global issues related to sustainability.

The University’s Environmental Management Plan (EMP) sets ambitious targets for all the ANU campuses, with the intent to continue to innovate and lead in the global challenge of sustainability and reduce total carbon emissions associated with the University’s operations.

Increasing demand for energy and water use along with waste and pollution management, are just some of the environmental issues we are facing.

The EMP identifies key actions for the University to undertake by 2021 and beyond, and progress of these actions are documented in the annual Sustainability and Heritage Report.

Encouraging and empowering each and every individual to effectively address the issues of tomorrow is the broadest possible engagement we could be looking for on our journey to the sustainable future of our University.

The challenges we are confronting and the way we are tackling them to achieve our goals demonstrates the University’s accountability and how we as a community contribute to sustainable development.

I am pleased to present to you the Environmental Management Plan 2017 – 2021.

This plan is a key document for our University and for us it is an essential step on our path of applying best practice sustainability into all that we do.

Professor Brian P. Schmidt AC
Vice Chancellor and President
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ANU strives to be an international leader in campus sustainability and is committed to better outcomes for the environment. As a national leader in climate science and policy, ANU will prioritise sustainability as business as usual and will reduce its carbon emissions intensity over the life of the Strategic Plan 2017-2021. The Campus Master Plans provide an environmentally responsible framework for creating 'green' campuses through policy, physical expressions and by influencing behaviour.

The Environmental Management Plan 2017-2021 (EMP) for the Australian National University is a strategic plan for the environmental management of the operations of the University, helping to achieve the objectives of the Strategic Plan and the Campus Master Plan. The EMP was developed to encompass all ANU campuses, including the North Australia Research Unit (NARU), Kioloa, Siding Spring Observatory, and Mount Stromlo Observatory. A number of targets are specific to the Acton Campus but many apply to all campuses and are clearly outlined in the document. ANU will be working towards reporting on all targets for all ANU sites by 2021.

The EMP is based on the following principles:

1. Environmental sustainability - to ensure that ANU meets its moral, ethical and legal responsibility in managing the University’s environmental sustainability
2. Social sustainability - to ensure equity and well-being for all campus users, including the wider community
3. Long-term economic sustainability - The application of triple bottom line principles to business as usual solutions

The key priorities of the EMP align with the University's legal and statutory responsibilities towards Commonwealth and State legislation. They are:

- Environment Protection and Biodiversity Conservation Act (EPBC) 1999 - Commonwealth
- Environmental Protection Act 1997 - Australian Capital Territory
- Environmental Planning and Assessment Act 1979 - New South Wales
- Environmental Assessment Act 1982 - Northern Territory

The responsibility for the Plan’s implementation rests with the Vice Chancellor, with coordination and management to be undertaken by the Director, Facilities and Services Division (F&S). The ANU Sustainability and Heritage Office will execute the key actions as overseen by campus representatives on the Environmental Management Planning Committee, which will report annually to the Vice Chancellor through the F&S Director.

The University has annual sustainability reporting responsibilities required by the EPBC Act, Tertiary Education Facilities Management Association, National Energy and Greenhouse Reporting and the National Pollutant Inventory.

The University supports the United Nations 17 Sustainable Development Goals (SDGs) outlined in each of the nine themes in the EMP: culture, buildings, energy and emissions, water, recycling and waste management, pollution prevention, transport, landscapes and biodiversity, and heritage. The SDGs promote actions to improve humanity and protect the planet from degradation.
2.0
TARGETS 2017-2021

All targets use a 2014 baseline

Culture
>
Increase awareness of sustainability on campus measured via a biennial student and staff survey

Buildings
>
100 per cent of all Building Custodians, or equivalent, trained in environmental building management principles by 2021
>
100 per cent of major new buildings and refurbishments to be assessed using an Australian accredited tool by 2021
>
All contracts to meet the environmental objectives in the Campus and Building Requirements Manual

Energy and Emissions
>
Reduce energy use per person by 20 per cent by 2021
>
Reduce energy use per gross floor area by 20 per cent by 2021
>
Decrease total carbon emissions by 30 per cent by 2021
>
Increase renewable energy generation by 50 per cent by 2021

Recycling and Waste Management
>
Increase the recycling rate to 85 per cent by 2021
>
Recycle 95 per cent of e-waste by 2021
>
National best practice level for recycling of construction waste
>
Reduce waste to landfill by 20 per cent per person by 2021

Pollution Prevention
>
Reduce emissions of key pollutants by 25 per cent by 2021
>
Achieve and maintain full compliance with all legislative and regulatory requirements
>
Conduct environmental audits for high risk facilities to monitor compliance and environmental improvement

Water
>
Reduce water use per person by 50 per cent by 2021
>
Reduce potable water use by 20 per cent by 2021
>
Reduce use of potable water in landscape irrigation

Transport
>
Increase sustainable commuting to 80 per cent by 2021
>
Offset 100 per cent of vehicle fleet emissions by 2021
>
Increase the bicycle fleet by 10 per cent by 2021
>
Offset 100 per cent of air travel emissions by 2021
>
Reduce vehicle fleet emissions by 20 per cent by 2021

Landscapes and Biodiversity
>
No degradation of water quality in Sullivans Creek between when it enters and exits the Acton Campus
>
Achieve and maintain full compliance with all environmental legislative requirements and regulatory requirements
>
Increase community awareness of campus landscapes and biodiversity conservation
>
Ensure relevant ANU policies are adhered to in all buildings and landscape projects, including the Campus Building Requirements Manual and Landscape Protection Guidelines
>
Conservation of all protected ecological communities, habitats and species on campus

Heritage
>
Increase awareness of the Indigenous, historic and natural heritage values of all ANU campuses, measured through the ANU culture survey and participation in heritage related activities and events
>
Develop Heritage Management Plans for all ANU campuses, and individual listed and highly significant places
>
Maintain and exceed compliance with all statutory requirements
>
Complete the identification and assessment program of heritage places on ANU campuses
Creating an organisational culture which supports sustainable thinking is essential for implementing the EMP. The first step towards this was the creation of the ANU Environment Policy in 1999. This commitment by the ANU has been noted in the Staff Enterprise Agreement (EA) with acknowledgement that the University and staff work together to create a culture of environmental sustainability. The ANU EA specifies that the University will:

- Develop and support locally based programs to improve individual and departmental environmental behaviour
- Establish professional development programs to improve staff understanding of campus environmental issues
- Construct buildings and campus infrastructure consistent with Ecologically Sustainable Design principles
- Develop strategies to minimise the environmental impact of University-related travel and commuting trips to the University by staff, students and visitors
- Develop strategies to reduce water consumption in the landscape and buildings

**KEY ACTIONS**

- Implement the Green Star Communities Tool by 2020 to manage the planning, design and construction of large scale development projects
- Integration of the Campus Master Plans to guide the physical growth and development of the ANU campuses
- Encourage greater staff commitment to sustainability by incorporating sustainability criteria into Job Descriptions and Performance Development Reviews
- Investigate an annual Vice Chancellor Environmental Awards program to recognise sustainability initiatives achieved by individuals and groups on campus
- Conduct a biennial survey to understand how the ANU community perceives sustainability and heritage
- Improve the level of data which is available to building occupants with a focus on building custodian involvement
- Continue to develop and promote sustainability programs to the ANU community
- Continue to work with student groups to implement sustainability strategies
TARGET

Increase awareness of sustainability on campus measured via a biennial student and staff survey
The ANU manages over 200 buildings on the Acton campus with a diverse and complex building stock. Several of the buildings on the Acton campus are heritage listed or significant buildings. The age, status and functionality of buildings are determining factors in progressing improvements that reduce the environmental impact of their operation.

The Sustainability and Heritage Office will continue to influence the University to construct buildings consistent with Ecologically Sustainable Design principles and the Campus and Building Requirements Manual, to enable showcasing successful Green initiatives with new builds and benefits of embodied energy in refurbishments.

**KEY ACTIONS**

- Adopt and Implement a sustainable building performance rating scheme for all new buildings and refurbishments and measure its implementation
- Review and approve the ANU Sustainability Specifications and apply to all new buildings and refurbishments
- Incorporate sustainability initiatives into maintenance regimes
- Continue to adaptively reuse historical buildings where appropriate
- Develop and implement training and awareness programs for building custodians, project managers, staff and students about the benefits of green buildings, and how to develop and manage them
- Include environmental standards in contracts for tenants and contractors
100% of all Building Custodians, or equivalent, trained in environmental building management principles by 2021

100% of major new buildings and refurbishments to be assessed using an Australian accredited tool by 2021

All contracts to meet the environmental objectives in the Campus and Building Requirements Manual
3.3 ENERGY AND EMISSIONS

THE UNIVERSITY IS COMMITTED TO SIGNIFICANTLY REDUCING ENERGY USE AND GREENHOUSE GAS EMISSIONS GENERATED BY THE OPERATIONS OF ANU

ANU is one of the largest energy users in the ACT, generating approximately 100,000 tonnes of greenhouse gases per year. Significant growth in campus population and building space provides challenges in reducing total campus energy use. ANU has a large number of energy intensive research facilities including the housing of the National Computational Infrastructure building which consumes approximately 14 per cent of the total electrical energy at the Acton campus.

Energy at ANU is sourced from electricity, gas and onsite renewable energy (photovoltaic arrays and evacuated tube solar hot water). A Carbon Reduction Fund is made available to enable the University to invest in strategic projects aimed at reducing the environmental impact of research and teaching activities.

KEY ACTIONS

> Develop an Energy Master Plan for the University to improve energy efficiency and increase onsite renewable energy generation across all campuses
> Monitor and report on building energy consumption through smart meters which are connected to the University’s Building Management System
> Conduct building tune-ups to fine tune the operation of heating and cooling systems in buildings
> Replace selected air conditioning and heating systems with more energy efficient units
> Install energy efficient lighting technology
> Ensure best-practice energy efficient building design and construction by applying the ANU Sustainability Specifications
> Incorporate renewable energy generation into new building developments
> Implement behavioural change and engagement programs to empower building custodians, contractors, staff and students to contribute to energy and carbon savings
TARGETS

Reduce energy use per person by 20% by 2021

Decrease total carbon emissions by 30% by 2021

Reduce energy use per gross floor area by 20% by 2021

Increase renewable energy generation by 50% by 2021
The first sustainability initiative at ANU was a waste reduction and recycling program which started in 1999. Since then, the waste program has expanded to include office paper, cardboard, commingled waste, construction waste, garden waste and e-waste. ANU also manages a hazardous waste program.

In 2016, ANU recycled 49 per cent of its waste and total waste to landfill has decreased by 19 per cent since 2006. ANU applies best practice in green-waste composting, recycling all of its green waste onsite which is then reused as mulch on the landscape.

A new waste contract commenced in January 2016. The contract has a greater focus on recycling and has the ability to measure waste to landfill and recycling levels, making it easier to improve recycling programs.

**KEY ACTIONS**

> Improve waste monitoring and reporting through the waste contract
> Continue to recycle and compost garden waste onsite
> Create a campus wide e-waste recycling system for computers and other electronic equipment
> Provision and distribution of recycling bins within buildings and across the campus landscape to make recycling a convenient, intuitive and habitual behaviour
> Revive the campus waste education program to complement the new waste contract
> Work with the University Contract and Procurement Office to increase the proportion of recycled products and materials purchased
> Develop a strategy for the reuse or recycling of furniture when refurbishing or demolishing buildings
Reduce waste to landfill by 20% per person by 2021

Increase the recycling rate to 85% by 2021

Recycle 95% of e-waste by 2021

National best practice level for recycling of construction waste

Reduce waste to landfill by 20% per person by 2021
The University has a legal responsibility to prevent or minimise any environmental harm as a result of its activities. The University also has an obligation to ensure a safe and healthy environment for students and staff alike.

The main focus for the Acton campus is to protect Sullivans Creek, one of Canberra’s major urban waterways that leads into the Molonglo Catchment, and its natural bushland environment. With multiple works proposed along and in Sullivans Creek as part of the Union Court Re-development project, riparian protection will be particularly important over the project span.

The University has implemented an in-house Chemical Management System to register and track chemicals and ensure their safe handling, storage and responsible disposal. This has been implemented at the Acton Campus in 2016 and will be progressively introduced across all ANU campuses by 2021.

**KEY ACTIONS**

> Ensure staff, students, tenants and contractors are aware of their obligations and comply with relevant legislation
> Incorporate environmental incident reporting into the Workplace Health and Safety Incidents register to demonstrate best practice due diligence reporting
> Continue reporting under the National Pollutant Inventory and the National Greenhouse Energy Reporting Scheme
> Incorporate environmental auditing into quarterly Workplace Health and Safety inspections
> Ensure the updated Chemical Management System is adopted and implemented across all ANU campuses
> Continue community engagement and awareness raising outreach events such as clean-up workshops
> Ensure periodic servicing of pollutant traps and sedimentation ponds along Sullivans Creek at the Acton Campus
TARGETS

Reduce emissions of key pollutants by 25% by 2021

Achieve and maintain full compliance with all legislative and regulatory requirements

Conduct environmental audits for high risk facilities to monitor compliance and environmental improvement

1 Pollutants to be chosen with reference to the National Pollutant Inventory chemicals
OUR OBJECTIVE IS TO REDUCE POTABLE WATER CONSUMPTION WITHIN BUILDINGS AND REDUCE POTABLE WATER USE ON THE LANDSCAPE THROUGH EFFECTIVE DESIGN

ANU is one of the largest water users in the ACT. Managing water consumption is imperative to ensuring the University can continue to maintain the landscape and provide world class facilities. Since 2006, total potable water use has declined by 9.5 per cent and water use per person has reduced by 36 per cent.

KEY ACTIONS

- Utilise the ANU online water monitoring and reporting tool to identify leaks and high water usage
- Install data loggers on all water meters
- Reduce the demand for water in the landscape through water-sensitive design and by planting drought-tolerant plants
- Increase the water efficiency of amenities and infrastructure through sustainable design and by implementing the ANU Sustainability Specifications
- Implement behavioural change programs to reduce water consumption in buildings, focusing on high water consumers such as laboratories and student accommodation
- Continue to install rainwater tanks for use in research and teaching labs, toilets and landscapes
TARGETS

Reduce water use per person by 50% by 2021

Reduce potable water use by 20% by 2021

Reduce use of potable water in landscape irrigation
ANU actively encourages the use of sustainable transport for commuting and University-related travel. Over 60 per cent of staff and students travel to the Acton campus via bus, carpooling, walking or cycling based on the 2015 commuter audit data.

**VEHICLE FLEET**

Minimising vehicle fleet emissions is a key priority to reducing our carbon emissions intensity by 2021. Over the past thirteen years, there has been a 30 per cent reduction in fleet vehicles and a 55 per cent reduction in fuel consumption. The addition of a bicycle fleet in 2006, now consisting of over 100 bicycles, and the increase of more fuel efficient cars, has seen a 57 per cent reduction in carbon emissions generated by campus vehicles.

ANU Carshare was launched in 2016 resulting in a number of ANU pool vehicles being replaced with more fuel efficient vehicles. ANU Carshare is available to staff and students for business and private use, reducing the need for car ownership and further contributing to the reduction in campus vehicle emissions.

**AIR TRAVEL**

Business air travel is estimated to be a major contributor to the overall carbon emissions of the ANU. Through the development of a program to accurately record air travel, by 2021, all air travel emissions will be offset using Australian and International Gold Standard Offset projects. Ways to avoid air travel, such as teleconferences, are a key action to help reduce overall campus emissions.

**STUDENT AND STAFF COMMUTING**

ANU is committed to reducing the environmental impact of University-related travel by better understanding how staff, students and visitors commute to the ANU. The ANU has no operational control on commuter choice to the University, but there is still an opportunity to significantly influence sustainable transport commuting. Forty per cent of students and staff live within seven kilometres of the Acton campus, a distance that can be cycled within twenty minutes. By focussing on active transport infrastructure, better transport planning, and engaging with the university community, relevant institutions and the ACT Government, the ANU will have a positive impact on people’s commuter choice.

**KEY ACTIONS**

- Increase the proportion of fleet vehicles that meet low emission standards
- Prioritise active transport infrastructure on campus
- Report on University-related air travel emissions
- Investigate opportunities to reduce air travel
- Explore the feasibility of electric vehicles in the fleet and electric vehicle infrastructure on campus
- Create a culture that chooses active transport for travel across campus
- Advocate for better public transport provisions allowing better connections to the ANU
- Provide greater sustainable transport choices for students, staff and visitors
- Continue to reduce the number of ANU pool vehicles
TARGETS

Increase sustainable commuting to 80% by 2021

Offset 100% of vehicle fleet emissions by 2021

Increase the bicycle fleet by 10% by 2021

Offset 100% of air travel emissions by 2021

Reduce vehicle fleet emissions by 20% by 2021
The University is required to manage landscapes and biodiversity under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. In 2015, a draft Biodiversity Management Plan was completed as required by legislation.

Over the past 20 years, the University has practiced sustainable landscape management techniques which include minimising the use of water and pesticides and not planting weed species. The Acton campus is situated in a bushland environment and contains an impressive landscape of 10,000 trees and over 140 species of animals. The focus of landscape management at the Acton campus has been on the critically endangered Old Canberra House Grassy Woodlands and the riparian zone along Sullivans Creek. The University is expanding every year, particularly at the Acton Campus, and striking a balance between conservation and development will become increasingly important as the demand increases for more campus facilities in the future.

**KEY ACTIONS**

> Incorporate landscapes and biodiversity as natural heritage elements into existing and new Heritage Management Plans for each campus, and protection of all listed ecological communities/habitats and species on campus through establishing Biodiversity Management Zones\(^2\) or similar
>
> Conduct an ecological survey of the Acton campus every 5 years using relevant ecological indicators such as birds and frogs
>
> Establish dedicated resources for conservation of key ecological communities/habitats and/or species
>
> Active participation in planning stages of all projects to minimise unnecessary building or landscape alterations following project completion
>
> Enhance habitat quality by increasing structural complexity and use native species for landscaping where appropriate
>
> Continue community engagement and awareness raising outreach events such as birdwatching workshops and grassland tours
>
> Identify and restore significant ecosystems such as the Old Canberra House Grassy Woodlands and Sullivans Creek Riparian Corridor
>
> Plant native understory below significant trees to attract insect eating birds and encourage natural pest control, minimise soil compaction and enhance nutrient recycling

\(^2\) As listed in the Biodiversity Management Plan
No degradation of **water quality** in Sullivans Creek between when it enters and exits the Acton Campus

Achieve and maintain **full compliance** with all **environmental legislative and regulatory requirements**

Increase **community awareness** of campus landscapes and biodiversity conservation

Ensure relevant ANU policies are adhered to in all **building and landscape projects**, including the Campus and Building Requirements Manual and **Landscape Protection Guidelines**

**Conservation of all protected ecological communities, habitats and species on campus**
3.9 HERITAGE

ANU has a rich and diverse history across its various sites, managing places with Indigenous, historic and natural heritage values. ANU is responsible for ensuring places with identified heritage values are conserved and managed as required by the Environment Protection and Biodiversity Conservation Act 1999 and in line with the industry best practice guideline – the Australia ICOMOS Charter for Places of Cultural Significance: The Burra Charter. ANU has developed a Heritage Strategy and a suite of strategic documentation, as well as working collaboratively with all areas of the University community in the conservation, management and interpretation of its heritage places and their values.

KEY ACTIONS

- Complete the identification and assessment program for all places under ANU ownership or control
- Complete new and update existing Heritage Management Plans for all Commonwealth Heritage listed sites and those of exceptional or high heritage value (as identified in the ANU Heritage Study)
- Ensure active participation in planning stages of all projects to minimise impacts on heritage values
- Conduct Heritage Impact Assessments in response to development proposals
- Update the 2012 ANU Heritage Study to ensure the values of the campus at current are well articulated and understood
- Identify and implement opportunities for innovation in the way heritage places and values are conserved, managed and interpreted
- Consult with the Indigenous community prior to undertaking new developments on all campuses in line with the Ask First guidelines
- Develop innovative interpretation, communication and engagement products for ANU and wider audiences
TARGETS

Increase awareness of the Indigenous, historic and natural heritage values of all ANU campuses, measured through the ANU culture survey and participation in heritage related activities and events.

Develop Heritage Management Plans for all ANU campuses, and individual listed and highly significant places.

Maintain and exceed compliance with all statutory requirements.

Complete the identification and assessment program of heritage places on ANU campuses.
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