THE UNIVERSITY OF MELBOURNE

Sustainability Report 2020

About this report

The Sustainability Report 2020 ('the Report') outlines the University's performance against the 41 targets and 83 priority actions of the Sustainability Plan 2017 - 2020 ('the Plan') to the end of the 2020 calendar year.

The body of the Report overviews progress against Plan targets by each University activity area (research; teaching and learning; engagement; campus operations; governance and investments) and includes illustrative case studies. The appendix provides a detailed summary of progress against priority actions.

The Global Reporting Initiative Standard (GRI Standards) and the United Nations Sustainable Development Goals (SDGs) informed the development of and disclosures within this Report.

The Plan – and therefore this Report – is focused on the environmental aspects of sustainability, including the social impacts inherent in the environmental. It does not emphasise aspects or issues of social sustainability, which are covered in other University strategies and policies including the Reconciliation Action Plan, Diversity and Inclusion and Health and Safety policies. Where applicable, the Report references other University publications and information to provide a holistic picture of the University's sustainability endeavour.

A note on the Sustainability Plan 2017-2020

While 2020 marks the end point of the current Plan period 2017-2020, the existing Plan will rollover for an additional year into 2021 in light of the operational challenges arising from the COVID-19 pandemic and to enable sufficient consultation and development of a subsequent Plan.

To provide feedback on this Report, please contact sustainable-campus@unimelb.edu.au

For more information about University of Melbourne sustainability, see sustainablecampus.unimelb.edu.au

Executive summary For a summary version of this Report, visit the Sustainability at Melbourne page.

Message from the Vice Chancellor
Duncan Maskell

The University of Melbourne's recent sustainability goals, as reflected in its first Sustainability Plan (2017-2020), have been met with great success. That success is highlighted in this, the University's Sustainability Report 2020.

In delivering on the Plan, the University is in a good position to advance in coming years in playing an even stronger role in sustainability leadership on the national and global stage.

The Sustainability Report 2020 affirms that the University will reach its target of net zero emissions from electricity in 2021, which is a significant step to achieving carbon neutrality before 2030. With electricity formerly our largest source of emissions, this is a commendable achievement, and enables us to sharpen our focus as we re-calibrate our ambitions to address the institution's emissions footprint and other environmental impacts, under our next sustainability plan.

There are various other encouraging highlights in this Report. It is pleasing to see that the development of research partnerships in the context of our sustainability agenda ranks highly on our sustainability 'score card', with a breadth of publications and outputs in 2020.

The 2020 appointment of a Sustainability Fellow within the Faculty of Arts, and the launch of the Wattle Fellowship program - which invites students from all disciplines to develop themselves as leaders for sustainability - underscores this commitment to interdisciplinary knowledge and action across all dimensions of sustainability. While more work is required to integrate sustainability in curricula across all Faculties, significant progress has been made since 2019 through the Sustainability Fellows program. As global citizens, change agents and future leaders, our graduates are the University's greatest contribution to meeting the world's sustainability challenge.

Notable also in 2020 was the University's continued commitment to convening critical conversations on global sustainability policy, community and ecological resilience. Despite the logistical challenges presented by the COVID-19 pandemic, this activity continued apace at a time when the complexity of these issues was writ large through the impact of the pandemic itself. Similarly, we saw continued commitment from sustainability teams, across the University, to helping students and staff to maintain momentum in this area through virtual sustainability tours and 'at home' action.

Looking to the future, there is little doubt that sustainability will be a major strategic focus for the University, in many ways. With climate change and many other sustainability challenges being experienced around the world, our education and research will be increasingly geared to meeting this growing need. This will be a thread that unites our people – students and staff members – across all our faculties and schools.

In line with this aspiration, in 2020 planning began for the Melbourne Climate Futures (MCF) research initiative to provide an elevated and more holistic approach to the University's climate change research agenda, drawing on the full breadth of cross-disciplinary expertise.

At the same time, the University is developing its next sustainability plan, informed by an extensive consultation process that took place in the second half of 2020 to gauge the thoughts, beliefs and ideas of our students and staff as we face the future with continued determination and concern for our planet.

I warmly thank all staff members and students, past and present, for the many great efforts made during 2020, and in previous years, that have contributed to our emerging sustainability vision.

Yours sincerely

DUNCAN MASKELL
Vice Chancellor,
University of Melbourne

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Get in touch online

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- sustainablecampus.unimelb.edu.au
- about.unimelb.edu.au/priorities-and-partnerships/sustainability
- fb/unimelb

OTHER CASE STUDIES

2020 Sustainability performance at a glance

Governance

Advancing Melbourne

The University released its Advancing Melbourne 2030 strategic plan, outlining institutional aspirations and priorities, structured around five intersecting themes.

UNPRI Signatory

The University signed up to the United Nations Principles for Responsible Investment.

Sustainability Plan from 2022

Development of the new Plan underway to deliver the aspirations of *Advancing Melbourne*.

Engagement

First Virtual Sustainability Tour

Virtual campus sustainability tour launched to support student and staff communities across the globe.

SDGs Cities + Climate Change Symposium

The Faculty of Architecture, Building and Planning (ABP) hosted the inaugural virtual ABP Symposium, focusing on the United Nation's Sustainable Development Goals (SDGs).

Staff and Student Sustainability Survey

The biennial survey measured sustainability-related awareness, engagement and participation across the University community (see case study).

Performance and status of targets

The Sustainability Plan 2017 - 2020 has 41 targets. The table to the right overviews the number of targets by status at the end of 2020. The status of individual targets is detailed in the report.

**end-date not yet reached*

Exceeded or met target	24
On track*	4
Partially met	11
Not met	2

Core activities

The Wattle Fellowship

This University-wide sustainability and leadership development program secured funding and was developed in 2020 for commencement in June 2021.

Joining Melbourne Module

Sustainability module developed for implementation with a cohort of 2021 first-year undergraduate students.

Melbourne Climate Futures

Melbourne Climate Futures (MCF), a proposed initiative to lead on the global challenge of climate change, was agreed for launch in 2021.

Operations

Green Star ratings

6 Star ratings achieved for Western Edge Biosciences and Werribee Teaching & Learning buildings.

Sustainability interns

Commencement of a sustainability internship program to support student learning and development (see case study).

Zero net emissions

On track for net zero emissions from electricity by 2021 target, through renewable energy power purchase agreements (PPAs) approximating the University's total electricity demand.

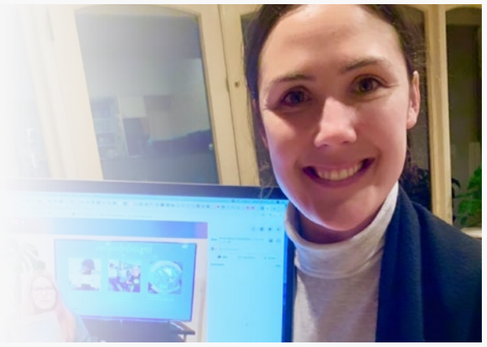
2020 Sustainability awards showcase

Learning and Teaching Building (Werribee campus redevelopment)

Six star Green Star rating

The building received a six star Green Building Council of Australia (GBCA) 'Design and As Built' rating, representing world leadership in building design and construction.

'Eco Heroes' from the Early Learning Centre



Engagement Innovation for Green Impact

The 'Eco Heroes' Green Impact team won in the Engagement Innovation category of the 2019 Green Impact Australasia Awards at the online ceremony in July 2020. Student and Project Assistant George He was also a finalist in the Student Champion category.

Old Quad Redevelopment

Sustainable Architecture Award

The building, designed by Lovell Chen, received the Sustainable Architecture Award in the Australian Institute of Architects 2020 Victorian Architecture Awards. The Ian Potter Southbank Centre, the new home of the Melbourne Conservatorium of Music, was shortlisted in the 'Educational Architecture' category.

The Future Park Competition

2020 AILA Victoria Landscape Architecture Award for Research, Policy and Communications

Presented by the University of Melbourne and the Australian Institute of Landscape Architecture (AILA), the Future Park competition challenged participants to speculate on new park possibilities for a future Melbourne.

The jury commended the Future Park competition for bringing public and political visibility to big issues and bold ideas for public space, raising awareness of its importance for the health of Australian cities and centres.

The Australian Rainforest Boardwalk

2020 AILA Landscape Architecture Award in Small Projects in both the Victorian and National awards

The 60 metre long boardwalk design, located within Parkville campus' System Garden, offers a small scale nature walk and education space. It sits lightly above the forest floor and offers space for respite and pause. The seating elements take inspiration from the Brachychiton tree located within the garden, highlighting its pink foliage during the summer months. (see case study)

The Living Pavilion

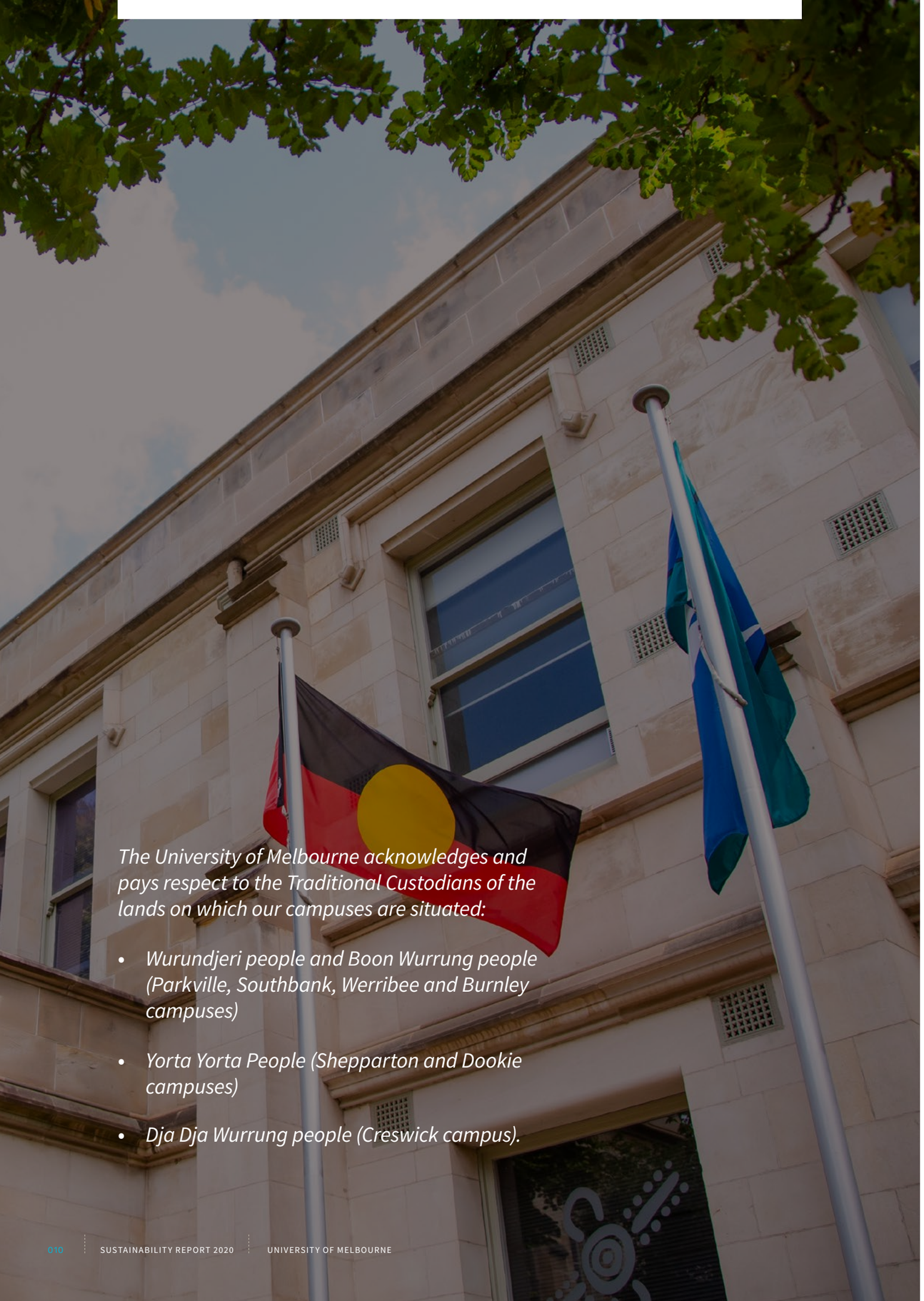
2020 AILA Victoria Award of Excellence for Community Contribution in the Victorian awards and Landscape Architecture Award at the National awards

The Living Pavilion was a transdisciplinary, regenerative placemaking project that celebrated Indigenous knowledge, ecological science and sustainable design through participatory arts practice.
A living laboratory and temporary event space, it revealed the cultural significance and hidden ecologies of the University's Parkville campus and demonstrated the potential for ephemeral urbanism techniques to reveal and celebrate past, present and future landscapes, ecologies and cultures.

WEBs north wing (Western Edge Biosciences Stage 1)

Six star Green Star rating

The building received a six star Green Building Council of Australia (GBCA) 'Design and As Built' rating, representing world leadership in building design and construction.



The University of Melbourne acknowledges and pays respect to the Traditional Custodians of the lands on which our campuses are situated:

- *Wurundjeri people and Boon Wurrung people (Parkville, Southbank, Werribee and Burnley campuses)*
- *Yorta Yorta People (Shepparton and Dookie campuses)*
- *Dja Dja Wurrung people (Creswick campus).*

Introduction
About the University

The University of Melbourne was established by an Act of the Victorian Parliament in April 1853, and is now governed by a Council and Academic Board under the authority of the University of Melbourne Act 2009. The University is managed by a Vice-Chancellor and senior leadership team.

In 2020, the University community comprised 52,151 students[1] and 9,189 staff,[2] based at the main campus in Parkville, seven campuses throughout metropolitan Melbourne (Southbank, Werribee, Burnley, Hawthorn) and regional Victoria (Shepparton, Dookie and Creswick), and through remote learning and working. A new campus is currently under development at Fishermans Bend on the outskirts of the Melbourne CBD.

The University aspires to be one of the finest universities in the world, contributing to society in ways that enrich and transform lives. Success has been measured by the ten strategic goals articulated in the University's institutional strategy, Growing Esteem 2015 – 2020. Throughout this period Growing Esteem framed the University's ambitious aspirations for teaching, learning and the student experience, and for research which is globally recognised for its quality and impact.

In May 2020 a new strategy was released to guide the University through the coming decade to 2030. *Advancing Melbourne* reflects the University's aspirations as a world-leading and globally connected Australian university, with students at the heart of everything we do. The strategy is organised around the themes of Place, Community, Education, Discovery and Global, through which sustainability provides a common thread.

Operating environment

The higher education sector exists within a dynamic operating environment, where traditional practices are continually challenged to respond to rapid societal change and evolving expectations of the role of a university. This dynamic change has never been as stark as in 2020, with the emergence of the COVID-19 pandemic and its impact on the way we study, work and live. The rapid and pervasive social shift from March 2020 was preceded by the similarly unprecedented scale and severity of bushfires across much of Australia's eastern coastal regions.

What remains constant through these most challenging of times is the University's deep engagement with students, staff and partners, working towards sustainable and resilient futures for our communities locally, nationally and on a global scale.

The University's deep commitment to a sustainable future engages our whole community and is central to the Melbourne experience.

Associate Director, Sustainability, Clare Walker

1 Equivalent full-time administered student load (EFTSL).
2 Total staff full-time equivalent (FTE) including continuing, fixed-term and casual staff.

Governance
Trust and values

In May 2020 the University released its new 10-year strategy, *Advancing Melbourne*, outlining its aspirations and direction for the next decade. The *Advancing Melbourne* strategy covers five key focus areas – PLACE, COMMUNITY, EDUCATION, DISCOVERY and GLOBAL – and was developed after extensive consultation with staff, students, alumni and key stakeholders.

Sustainability is integral to all the University's activities, and the structures and processes that support sustainability are regularly reviewed to ensure best practice and alignment with University strategy.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Governance
Performance

Target	Status	Comment
Ensure that sustainability remains enshrined at the highest level of University strategies	Exceeded or met	*Advancing Melbourne* provides the framework for the University's strategic direction to 2030. Released in 2020, *Advancing Melbourne* articulates the enduring purpose of the University as "to benefit society through the transformative impact of education and research". A commitment to Place is reflected in the aspiration to "be leaders for a sustainable future - through education and research, through our campuses and their operations, through partnerships and in the development of precincts intertwined with the city". Responsibility for sustainability at the University sits with the Vice-President (Administration & Finance) and Chief Operating Officer (COO).
Report annually and publicly on the University's sustainability impacts and performance using global best practice standards	Exceeded or met	The University has released a Sustainability Report annually since 2015. This report is the University's sixth Sustainability Report and the fourth under the Sustainability Plan 2017-2020.
Uphold the principle of stakeholder inclusiveness in our reporting and decision-making processes	Exceeded or met	Extensive consultation with University students, staff and alumni occurred from August to November 2020, marking the first phase of development for the new Sustainability Plan. The key purpose of consultation activity was to inform development of the next Plan in ways that are meaningful to, and supported by, the University community. The University community was invited to provide feedback on performance under the Sustainability Plan 2017-2020, as part of this process. Findings are captured in the Sustainability Community Consultation Report. The Sustainability Report 2020 was prepared through data gathering and consultation with University portfolios responsible for the respective activity areas of the Plan. Data and content for this Report is also sourced as part of the University's annual reporting process.

Governance
Responsible investment

Responsible investment refers to implementing investment strategies consistent with the University's commitment to sustainability and its financial and legal obligations. The University believes that companies which effectively manage their Environmental, Social and Governance (ESG) responsibilities should not experience any adverse impact on investment returns as a result. The University's Sustainable Investment Framework (SIF) was developed in 2017. The requirements in the SIF cover many of the Plan's targets and priority actions.[3]

The University has met its Plan targets for 2020, with implementation of the SIF further progressed throughout the year. Work on Plan targets to be completed by 2021 is in progress. A summary of performance against key SIF criteria and Plan targets is shown in the tables.

In 2020, the University became a signatory to the United Nations Principles for Responsible Investment (UNPRI). The UNPRI encourages investors to use responsible investment to enhance returns and better manage risks. The University will submit its first UNPRI report for the 2021 calendar year.

The six Principles for Responsible Investment under the UNPRI are:

- **Principle 1:** We will incorporate ESG issues into investment analysis and decision-making processes.
- **Principle 2:** We will be active owners and incorporate ESG issues into our ownership policies and practices.
- **Principle 3:** We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- **Principle 4:** We will promote acceptance and implementation of the Principles within the investment industry.
- **Principle 5:** We will work together to enhance our effectiveness in implementing the Principles.
- **Principle 6:** We will each report on our activities and progress towards implementing the Principles.

3 More information on the University's policies towards responsible investment can be found in the Plan and SIF as well as the Environmental, Social and Governance (ESG) policies of the University's primary investment manager, the Victorian Funds Management Corporation (VFMC).

Governance
Performance - SIF criteria

SIF performance criterion [4]	Status	Comment
Fund Managers' performance in integrating climate change risk and opportunity into the investment process[5]	Exceeded or met	Mercer completed its annual review, finding the University's fund manager, Victorian Funds Management Corp. (VFMC), has made significant progress in its approach to climate change, and consequently in its alignment with the SIF. VFMC is now fully aligned with five out of six fund manager requirements.
Listed equity carbon footprint, as measured by the weighted average carbon intensity (WACI) of the portfolio	Exceeded or met	An investment portfolio carbon footprint was undertaken for the University by Mercer in 2020. The results show that the University's investments are on a beneficial trajectory, with the carbon intensity of both its Australian Equity and International Equity portfolios reducing since the last report from Mercer in 2018.
Active Ownership activities, with a specific focus on how the Fund Manager(s) is incorporating climate change into its proxy voting and engagement activities	Exceeded or met	Mercer has assessed the University's Fund Manager(s), VFMC, as compliant with the SIF's active ownership requirements. VFMC continues to consider climate change risk in its stewardship activities and to report on this to University management.

Performance - Plan targets

Target summary [6]	Status	Comment
By 2021, the University's investment portfolio will: **a)** Have divested from, or be in the process of divesting from within a reasonable period, any material holdings that do not satisfy the requirements of the University's sustainable investment framework for managing material climate change risk	On track	**a)** See SIF reporting criteria (table above). The University remains in active engagement with the Fund Manager(s) on the SIF requirements, and not aware of any material holdings that are out of alignment with the SIF.
b) Incorporate a meaningful allocation of impact investments in the strategic asset allocation, potentially in partnership with peer organisations (SIF)	On track	**b)** A proposed Impact Investing Framework was presented to the University's Investment Management Committee (IMC) in late-2020. The IMC determined that more work was required to ensure alignment with University goals.
Establish a separate specific investment fund where a donor wishes to stipulate (subject to certain conditions) investment parameters for their endowment that are not accommodated through the existing portfolio	N/A	No such request has been made.
Become a direct signatory to the UNPRI	Exceeded or met	The University became a signatory to the United Nations Principles for Responsible Investment (UNPRI) in 2020.

4 For the full list, please refer to the SIF
5 VFMC's progress in integrating climate change was found to be acceptable, and therefore an additional climate change risk assessment, as allowed in the SIF, was not required.
6 For the full wording of targets and actions please see the Plan p. 37.

Core Activities
Teaching & Learning

Advancing Melbourne states that the University's enduring purpose is 'to benefit society through the transformative impact of education and research.'

2020 has been a period of consolidation through the second year of the Sustainability Fellows program, which integrates sustainability at disciplinary level. The Wattle Fellowship, launching in mid-2021, has been developed to nurture sustainability leadership in students selected from across all disciplines. Further multidisciplinary breadth subjects and the introduction of a Joining Melbourne Module in sustainability enable students to gain knowledge and skills for a sustainable future as part of their Melbourne experience.

Teaching & Learning
Performance

Target	Status	Comment
By 2020, all undergraduate degree programs can demonstrate (at the course and/or major level) that core and compulsory curriculum enable students to understand and apply sustainability knowledge and values to practice in their field, consistent with the Melbourne graduate attributes	Partially met	The Sustainability Fellows program has been further developed to integrate sustainability into core curriculum, with the addition of a fellow in the Faculty of Arts, and benchmarking of subjects in Architecture, Building & Planning. The Joining Melbourne Module, 'Sustainable Communities & Campuses' was developed and has been integrated into some core (e.g. Discovery) and other undergraduate subjects. The forthcoming Sustainability Plan will propose the development of consistent approaches for both evaluating the extent to which sustainability is incorporated, and facilitating deeper integration of sustainability into a wider range of subjects. These will be responsive to the unique impacts and potential of disciplines, actively drawing upon pedagogical theory.
Increase the number of University of Melbourne graduates who can demonstrate a specialisation in environment and sustainability as defined by the National Learning and Teaching Academic Standards Statement for Environment and Sustainability, thereby contributing to their employability	Exceeded or met	Enrolments into the Master of Environment remained steady despite the pandemic, with 194 students commencing this degree in 2020. This was largely due to high domestic enrolments, while international enrolments decreased. Further specialist courses on offer include Graduate Certificate in Green Infrastructure, Master of Energy Systems, Graduate Certificate in Sustainable Business. Future work in this area will identify, strengthen and promote majors and pathways within existing Bachelors and Masters degrees that enable students to explore and apply transdisciplinary responses to major contemporary and emerging sustainability challenges.
Evidence of increased student engagement with organisations positively contributing to sustainability through work-integrated and classroom activities	Partially met	This target is about enabling students to apply sustainability principles in their future practice by both engagement with organisations positively contributing to sustainability and to also critique organisations they are involve with via work-integrated learning (WIL). In 2020, philanthropic funding from the McCall MacBain Foundation was secured to establish the 'Wattle Fellowship', a sustainability and leadership development program to enhance the leadership and sustainability skills of student leaders from any discipline. The program is grounded in action on sustainability endeavours and a culture of leadership. It includes an element of entrepreneurship,where students will develop an action project in their community. The Faculty of Business & Economics 'Business Innovation Lab' (BIL) enables students to apply theories learned in the classroom to real-life business problems using design thinking with a focus on Subject Matter Experts (SMEs), community and not-for-profit organisations. In 2020, the BIL was linked directly with key University sustainability partners, and a number of student opportunities are proposed for 2021. Future work in this area will include engaging with WIL via teaching academics in the active Network for Experiential Learning (NEL). The work will involve benchmarking the University's current approach to sustainability in WIL, and developing methods for encouraging students to critically reflect on the sustainability of the organisations in which they are placed.

Case Study
SDGs in the Bachelor of Design

There is a range of frameworks that can be used to explore sustainability in teaching and learning. The strengths of the Sustainable Development Goals (SDGs) are that they incorporate a strong social equity element and are endorsed by 193 nations. While not perfect, the SDGs are the current global articulation of a shared understanding, an 'emergent literacy' of what sustainable development is, with targets and indicators providing guidance on how it can be achieved. The value of using the SDGs in curriculum includes: providing students with a contemporary lens with which to critique disciplines' impacts on and potential to contribute to sustainability; building graduates' awareness of the interconnection between people and environment; and building a sense of global citizenship. These factors all increase graduates' employability and sustainability self-efficacy, giving students the confidence to make a meaningful contribution to sustainability in their careers.

Sustainability has been a mainstay of teaching in the Faculty of Architecture, Building and Planning (ABP) for decades. The relatively recent development of the Bachelor of Design (B Des) provides a renewed opportunity to develop emerging professionals' understanding of and expertise in sustainability as defined by the SDGs. The Connected Cities Lab looked at the current level of integration of the SDGs in the five undergraduate B Des majors delivered by the Faculty of Architecture – Building and Planning: Architecture; Construction; Landscape Architecture; Property and Urban Planning – using interviews with pathway coordinators and a survey of all 50 core subjects.

Results showed that, while the goals of the disciplines align with the SDGs, sustainability is covered extensively using other frameworks, with, understandably, SDG 11: *Sustainable Cities and Communities* used most often. Most lecturers, but particularly pathway coordinators, see the value of deeper incorporation of SDGs into curricula as the ability to prepare students as global citizens and to work effectively internationally. Several ideas for ways that this might be achieved were gathered during the study. Using the SDGs to provide a global perspective on day-to-day and discipline-specific sustainability challenges that graduates will be expected to deal with is one. Exploring the ways that disciplines ought to contribute to the achievement of the SDGs is another. Aligning, comparing and contrasting the SDGs with discipline-specific theories and models is a third. One of the most challenging and rewarding will be to encourage students to use their newfound discipline-specific expertise to critique and to push past the shortcomings of the SDGs, and to contribute to evolving them into something even better. At the same time, issues that constrain deeper incorporation include a busy curriculum, some lecturers' unfamiliarity with the SDGs – and on a few occasions – scepticism that using the SDGs, as compared to other sustainability frameworks, would add value.

Image
ABP students in the NExT Lab (top) and Baldwin Spencer Makerspace (bottom).

The work provides a valuable baseline understanding of the extent to which sustainability is currently integrated and consistent with the work of the Sustainability Fellows. It has also led to a number of recommendations that could be implemented in the future. One of these is to work with the Program Director of the B Des to develop a position statement that articulates an appropriate level of SDG integration into the B Des curriculum. Another is to develop 'SDG Basics' professional development material for B Des program and subject coordinators, covering the SDGs' history, intent, strengths and limitations. A third is to develop and promote case studies of the ways the SDGs have been integrated into built environment curricula both at the University of Melbourne and other tertiary institutions. Finally, identifying subjects with content and coordinators that would be open to constructively aligning the SDGs into learning outcomes, teaching, and assessment would also be valuable.

Case Study
MatchTee App: Tinder for T-shirts

It sounds like an unlikely way to fight climate change, but it's the idea that that second-year Bachelor of Commerce student Teresa Chan and her co-founders ran with when they developed MatchTee.

While Teresa is majoring in Finance and Economics, her heart lies in thinking about how business can combat climate change and help save the environment. It is this idea that led to the launch of MatchTee, a project founded by Teresa and her friends Jimmy Chiu, Matthew Kwon, Deborah Lam and Keith Leonardo. Each added their expertise in business and computer science into the mix. It's a simple enough idea, born from thinking about the app-based platforms many of us use every day.

"It's really kind of like Tinder for T-shirts. People post their unwanted clothes, as they might on Facebook Marketplace, but rather than putting them up for sale, our app then matches them with other users. They can then swipe 'yes' or 'no' on clothes they like, and engage in a chat with other users about trading their old clothes, which you can then confirm in the app and swap clothes for free," says Teresa.

"For us, it's really about reducing clothing waste. If we can stop even one item of clothing going to landfill, then I'd say the project has been worthwhile. Melbourne is a great place to launch a project like this as well, there's a real culture of recycling clothing and re-use. I haven't bought any new clothes in the last year, everything I've bought has been from op shops, or from trading."

The idea for MatchTee originally came about as part of an Enactus pitch competition. Now, Teresa and the team have applied to the Catalysr pre-accelerator program and are learning about the realities of launching a startup.

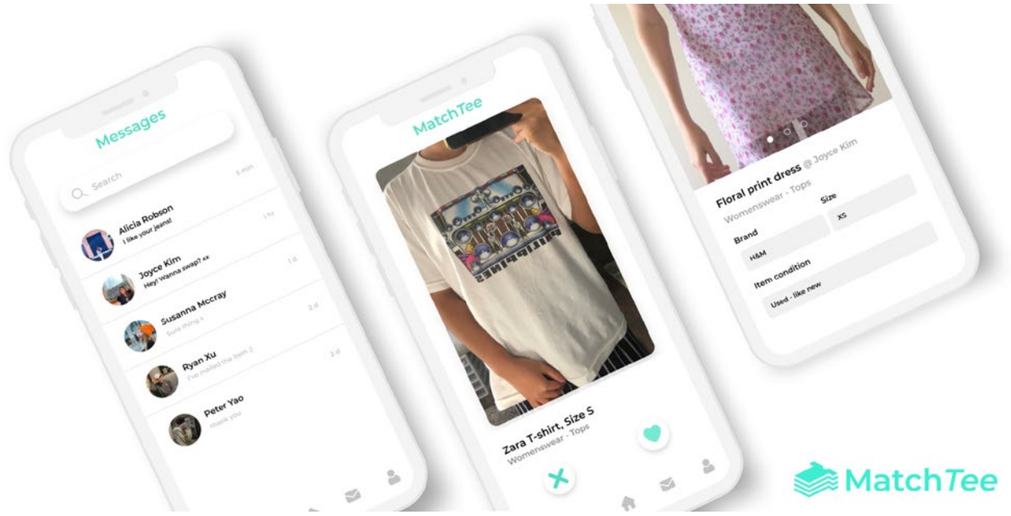
"Because it's a social enterprise, it was important to us that – at the outset at least – MatchTee is free for users. At the moment we've factored that into the first six months of the business, then we're going to look at ways we can finance it. We're not looking at making this into a profit driven enterprise, but we do need to balance costs, such as app development and advertising. Catalysr starts in April, so that will be a chance for us to develop our model and pitch", Teresa says.

Working on MatchTee has also given Teresa and her co-founders the opportunity to hone the skills they've gained through their university studies.

"Working on this project has given me the chance to put a lot of my financial skills into practice, as well as delivering presentations and pitches, analysing data and doing business models. It's also opened my eyes a little bit to other areas of interest. For example, I've done all the UI and UX design for the app and realised that's an area I really love. I've also taken on most of the social media in the lead up to our launch, which I've really enjoyed as well."

The MatchTee app is available on the Apple App Store and Google Play store.

Image
(from left) Joanne Ng, Deborah Lam, Teresa Chan, Matthew Kwon, Jimmy Chiu; and MatchTee app screenshots.



Core Activities
Research focus and impact

The translational impact of the University's research is a foremost consideration of *Advancing Melbourne*. The research strengths of the University will continue to be harnessed across identified 'grand challenges', none more pressing than sustainability and climate change.

In 2020, the University proposed a new initiative to lead on the global challenge of climate change. Melbourne Climate Futures (MCF), developed for launch in 2021, seeks to leverage the breadth and depth of the University's multi-disciplinary climate research, its unique convening power and its collaborative partnerships to make a meaningful and timely contribution to ensuring a sustainable climate future.

MCF will empower the next generation of researchers, students and leaders to strive for a sustainable climate future, and work alongside the University to ensure the institution is a world leader in decarbonisation.

Research focus and impact
Performance

Targets	Status	Comment
Equip ourselves to be a prominent actor in annual global sustainability policy development	Partially met	In 2020, the University launched *Advancing Melbourne*, its ten-year future strategy and vision, with an institutional commitment to shaping safer climate futures as the first research grand challenge. Senior leaders held a 'Grand Challenges' workshop from which emerged a new, holistic approach to climate and sustainability. The new initiative aims to bring researchers from different academic backgrounds together to develop practical outcomes for the challenges ahead, to empower the next generation of researchers and students to strive for a sustainable climate future, and to ensure the institution is a world leader in decarbonisation. By the end of 2020 a proposed initiative, Melbourne Climate Futures (MCF), was agreed for launch in 2021. Key research institutes and initiatives continued their global sustainability work, despite the pandemic. There are 17 Sustainable Development Goals (SDGs), 169 targets and 231 indicators that need to be met by 2030 and the world's ability to meet these goals is even more compounded in our growing cities. The University's Connected Cities Lab continued to advance this work through its leadership of the SDGs Cities Challenge, a collaborative project with local governments across Australia, New Zealand and the Asia Pacific. Implemented in 2020, participating cities undertake a six-month program that brings them together in a collaborative, 'learn-and-do'-style group-training engagement to gain SDG expertise and align their city's goals with the UN's 2030 Agenda. 2020 offered opportunities to creatively engage with domestic and international audiences. The University launched a new web series of conversations titled *Conversations on COVID-19: The Global View*, addressing a range of different impacts from the pandemic, including sustainability. Melbourne Sustainable Society Institute (MSSI) engaged new audiences through delivery of a highly successful climate-focused webinar series *Towards 2030: Climate Action for the Crucial Decade Ahead*. The progress of key initiatives such as these will now consolidate to support the University's holistic approach to climate futures.

Research focus and impact

Performance

Targets	Status	Comment
Develop industry partnerships that emphasise our resources for sustainability research including the campus as a living laboratory	Exceeded or met	A wide range of research partnerships continued in 2020, from projects with Melbourne Water to develop a new framework for assessing spill risks to the sewerage network, to a partnership between Melbourne School of Design and AETMOS exploring office buildings' indoor environmental performance during the extreme bushfire season experienced during 2019-2020. Some unique research reports were also published in 2020. A partnership between the Melbourne Law School and the Secretariat of the Pacific Regional Environment Programme (SPREP) resulted in a comprehensive legal review which identified opportunities to develop and strengthen waste management law and policy in 15 Pacific region countries, to reduce environmental, health and economic risks resulting from poor waste management. In September, the World Bank released a flagship publication *Solid Ground: Increasing Community Resilience through Improved Land Administration and Geospatial Information Systems* which was an outcome of the collaborative work undertaken by two University of Melbourne research centres – the Centre for Spatial Data Infrastructure and Land Administration and the Centre for Disaster Management and Public Safety – together with the Global Land and Geospatial Unit of the World Bank. The University also finalised the Melbourne Connect precinct, Australia's newest purpose-built innovation precinct that brings together the digital expertise of industry leaders and the University of Melbourne under one roof. The people, place and programs at Melbourne Connect are designed to help researchers, start-ups, industry, government, higher degree students and the community unlock digitally driven, data-enabled and socially responsible solutions to our most pressing challenges. The Science Gallery within Melbourne Connect is a living lab for exhibitions and ideas, exploring the collision of art and science. Melbourne Connect will accommodate parts of the Faculty of Engineering and Information Technology (FEIT), including the School of Computing and Information Systems, as well as a number of research centres from the faculties of Law, Science and Medicine, Dentistry and Health Sciences. Other partners based at the precinct include the Australia and New Zealand School of Government (ANZSOG), SANE Australia, Clarke-Hopkins-Clarke, and MAXONIQ.

Targets	Status	Comment
Ensure strong research links to campus sustainability operations and planning	Partially met	University operations have continued to draw on research expertise and collaborations with academics to enhance campus infrastructure and experience. As an example, a research project is utilising campus-based operational data to develop a multi-dimensional approach to facilitating the decision-making process for energy master planning of net-zero emission communities, especially focusing on energy supply resilience. The new Fishermans Bend campus is the primary case study for this project. In another example, the University's energy data is being used by masters students within the Faculty of Engineering and Information Technology to evaluate potential applications for on-site renewable energy resources.
Communicate University sustainability research knowledge to the broader community	Exceeded or met	In 2020, the University's research hub went live, providing a new channel to market the University's research, research facilities and collections. It is an important tool in providing research knowledge and outcomes to the broader community, in conjunction with other channels such as Pursuit, Newsroom and Find an Expert. Thirty-four sustainability related stories were published on Pursuit in 2020, and thirty-eight 'science and environments' news stories were also released. The University will be highlighting its new, holistic approach to climate and sustainability research in 2021. In February, the Melbourne Energy Institute's ground-breaking power system security assessment was used by Australian Chief Scientist Dr Alan Finkel in his independent review into the future security of the national electricity market. Dr Finkel directly referenced the work of the Institute in his address to the National Press Club and consequent appearance on ABC's Q&A.

Case Study
Fishermans Bend - bringing research to life

The University's bold new engineering and design campus at Fishermans Bend will bring research to life at an industrial scale. Stage 1 of the campus will be purpose-built for the Faculty of Engineering and Information Technology (FEIT) and the Faculty of Architecture, Building and Planning (ABP). Students and researchers will collaborate with industry to tackle real world challenges with a focus on sustainability, utilising the world class facilities to explore, develop and test innovations in renewable energy, water, affordable and sustainable housing, sustainable transport and more.

The University will work with the Green Building Council of Australia (GBCA) throughout the campus development process, re-imagining the GBCA Green Star rating tool for new buildings through the Green Star Early Access Program. This collaboration will enable industry to evolve to meet the sustainability challenges of the next decade. Campus buildings and operations at Fishermans Bend will be exemplary, recycling water, generating energy and minimising waste. By participating in the GBCA program, the University is extending its impact beyond the boundaries of our new campus, and testing ways for Green Star rated buildings to become even more sustainable in the future.

The campus is already providing research opportunities for University students during the campus development phase. Saeid Charani Shandiz, a PhD student with the Department of Infrastructure Engineering FEIT, is researching the development of a multi-dimensional approach that can facilitate the decision-making process for energy master planning of net-zero emission communities, especially focused on energy supply resilience. The new Fishermans Bend campus is the primary case study of this research project.

Consultation with experts, University facilities management and University sustainability teams have helped gain a deeper understanding of the University's sustainability objectives and its energy system operation. In addition, the University's energy operation and technical data has been used in modelling in order to understand and demonstrate the opportunities and potential implications for Fishermans Bend campus – as well as other, future developments – to become resilient, net-zero emissions communities.

Image
Artist's impression of the University's new campus at Fishermans Bend

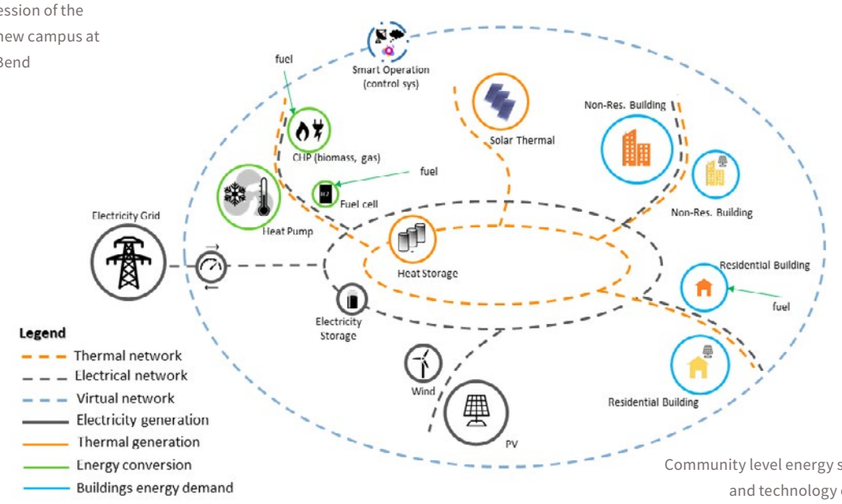


Image
Community level energy systems and technology options

Case Study
Sustainability is not just about the environment

Just imagine a country with zero carbon emissions. A country that recycles all its waste, but it has a minimum waiting time of six hours for patients in the hospital emergency room to be seen by a doctor. When we think about sustainability, apart from aspects of our environment (both the built and natural environment), other aspects such as economy and society should also be taken into account. The integrated nature of these three aspects needs to be considered in any sustainable development.

The United Nations Sustainable Development Goals (SDGs) seek to balance social, economic and environmental aspects. This framework provides a global guide for a truly sustainable future. However, it gets complicated when these aspects can positively or negatively impact each other. In other words, moving closer towards achieving one aspect of sustainability can have a negative or positive impact on other aspects.

For example, improvement in education positively impacts the economy; however, some strategies to combat climate change can compromise that by its trade-offs on the economy. These synergies and trade-offs are the primary reasons why sustainability is complex and complicated to achieve. One possible solution to accelerate sustainability is to identify these relationships and then prioritise policies that exert synergies and minimise trade-offs.

Atie Asadikia, a PhD student with the Centre of Spatial Data and Land Administration (CSDILA) SDGs Research Group, is researching to develop a systematic and holistic decision-making tool to prioritise goals that exert synergies to maximise SDG achievement by 2030. In this research, machine learning and data mining techniques are adopted to identify the pattern among the data and prioritise the synergetic policies to accelerate progress towards meeting goals.

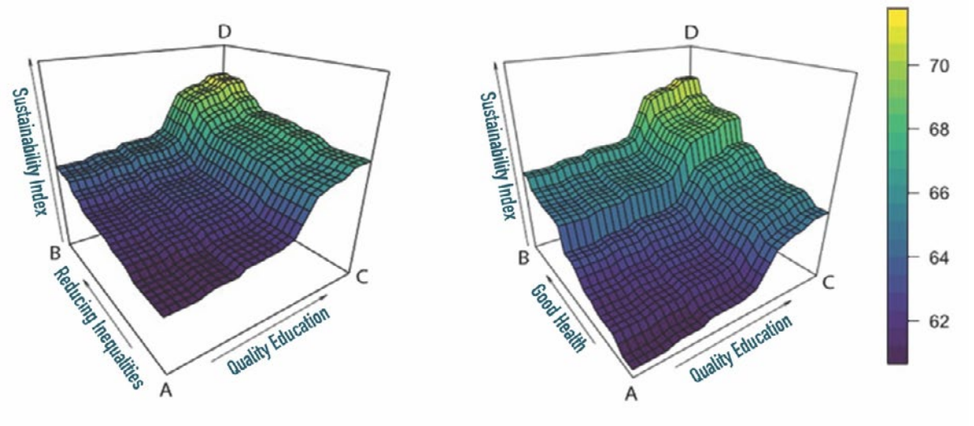


Image
PhD student Atie Asadikia and data outputs of the decision making tool.

The Campus
Built environment and landscape

The commitment to Place in Advancing Melbourne is reflected in the aspiration to be a leader for a sustainable future through the University's campuses and their operations.

The University's Estate Plan guides the design and development of University campuses, to achieve academic and strategic goals. This includes consideration of environmental impact, sustainability, heritage, campus experience and wellbeing, now and into the future.

Buildings Performance

Targets	Status	Comment
Achieve Green Star Communities accreditation for the Parkville campus by mid-2017	Exceeded or met	Achieved a 6-Star rating rather than the 5-Star rating initially targeted.
Maintain minimum 5-Star Green Star 'Design and As Built' rating (or equivalent) for all new buildings, achieving a minimum 6-Star or equivalent by 2020	Exceeded or met	In 2020, the University reinforced its commitment to a sustainable and resilient built environment with: • Green Star ratings achieved on three major projects – 6 Star for Western Edge Biosciences and Werribee Teaching & Learning buildings; 5 Star for the Ian Potter Southbank Centre (Green Star target set prior to Sustainability Plan implementation). • The Fishermans Bend Stage 1 project joining the Green Building Council of Australia Early Access Program to help drive forward the standard for sustainable buildings not just within the University's Estate, but also across Australia.

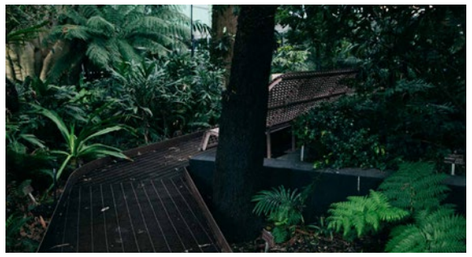
Climate mitigation and resilience
Performance

Targets	Status	Comment
Develop and implement Climate Adaptation Plans for each University campus by 2020	Partially met	The University's understanding of climate-related risk continues to develop, with risk screening completed for all campuses and next steps identified. At project and precinct level, climate adaptation plans have been incorporated in all major infrastructure developments. The University is collaborating with the Victorian Department of Environment, Land, Water and Planning (DELWP) to understand and address the vulnerability of international students to climate-related risks as part of the Government's Greater Melbourne Climate Change Adaptation Strategy. Climate adaptation plans completed for campuses: • Parkville • Fishermans Bend Climate risk screening completed for campuses: • Dookie • Creswick • Burnley • Werribee Climate adaptation plans completed as part of building design and construction: • Southbank: Ian Potter Southbank Centre • Werribee: Werribee Teaching & Learning building • Parkville: Western Edge Biosciences, Melbourne Connect (Office Building and Student Accommodation), Little Hall student accommodation, New Student Precinct Other risk identification and adaptation activities undertaken: • included climate adaptation requirements in building design standards • study into vulnerability of trees at Parkville to higher temperatures • study into how the University can better help students cope in extreme weather • participated in DELWP workshops regarding an adaptation strategy for Greater Melbourne

Biodiversity
Performance

Target	Status	Comment
Publish a University-wide Biodiversity Management Plan by March 2017	Exceeded or met	Plan published in March 2017.
Establish biodiversity baseline data for Parkville and Southbank campuses by mid-2017	Partially met	Biodiversity baseline data collection for all campuses began in late 2019. Seven baseline metrics have been defined for data collection to inform and support a 'no net loss' approach across campus grounds. Work has progressed across all campuses and across all metrics. Three University student interns were engaged in the data collection in semester 2 of 2020, supporting the Biodiversity Officer and the Grounds team. Baseline data collection will continue into 2021 with two new interns and is planned to be finished by end-2021. Level of completion by campus as at end 2020: • Parkville 64% • Southbank 26% • Burnley 53% • Werribee 20% • Creswick 21% • Shepparton 13% • Dookie 18% • Other sites 6%. Baseline data collection was undertaken by members of the Campus Management team, who helped to collect over 4,500 data points which are estimated to represent around 34,000 plants at the Parkville campus.
Establish biodiversity baseline data for the remaining campuses by end-2018	Partially met	See above.
Complete campus-specific plans and commence implementation by the end of 2020	Not met	Campus-specific plans have not been drafted. The 2017-2020 Biodiversity Management Plan will be reviewed in 2021, at which point a new plan for 2021-2025 will be developed. The new plan will include campus specific direction.

Case Study
System Garden Rainforest Boardwalk



Images
Top image by Wade Travean, bottom images by Tajette O'Halloran.

The Australian Rainforest Boardwalk, located within the Parkville campus System Garden, won the 'Landscape Architecture Award' in the Small Projects Category at the 2020 Australian Institute of Landscape Architects (AILA) awards at both the Victorian and National award levels.

The University worked with architect SBLA Studio and builder Stokes Rousseau Construction over twelve months to design and build a boardwalk that protected the three mature trees in the area and showcased their beauty.

The raised boardwalk allows visitors to navigate the rainforest while leaving it free from the impact of human footsteps for the first time. An educational hotspot for biodiversity at the University, the unique plant collection also offers a space for relaxation and reflection.

The AILA awards quality design in public open spaces that work towards building stronger communities and greater environmental stewardship. To view the other award winners visit the Victorian winners and National winners galleries.

Jury citation:

Providing access to a somewhat mysterious space within the University of Melbourne's Parkville campus, the System Garden Rainforest Walk uses a light touch and outstanding detailing to make the insertion into the landscape appear effortless. It solves complex site issues in a visually simple and economical way, with its site-responsive raised path of steel mesh, which makes this space more inviting and useable, improving definition and protection. It allows opportunities for myriad unusual plants to be seen up close, while keeping them free from the impact of human footsteps.

For more information about the University's unique plant collections visit the System Garden.

Case Study
Collecting biodiversity baseline data

Considerable work was undertaken in 2020 to retrospectively progress Sustainability Plan targets *4.5.2; Establish biodiversity baseline data for Parkville and Southbank campuses by mid 2017*, and *4.5.3; Establish biodiversity data for the remaining campuses by end of 2018*. Collection of biodiversity baseline data proved to be considerably more resource intensive than first predicted when the Plan was first published, however the project made significant progress in 2020 through a dedicated project officer aided by student interns.

Collection of baseline data for seven biodiversity metrics began across the University's entire property portfolio, including all seven campuses, in late 2019. Significant progress in measuring each metric was made when three student internships were created for semester 2 to assist with the project. A further two internship opportunities were created in the 2021 summer semester following the success of this trial.

The students received course credit for their contributions as part of direct learning through a University of Melbourne internship subject and gained direct and meaningful work experience implementing sustainability on campus. All students have since secured employment in related fields following their experience.

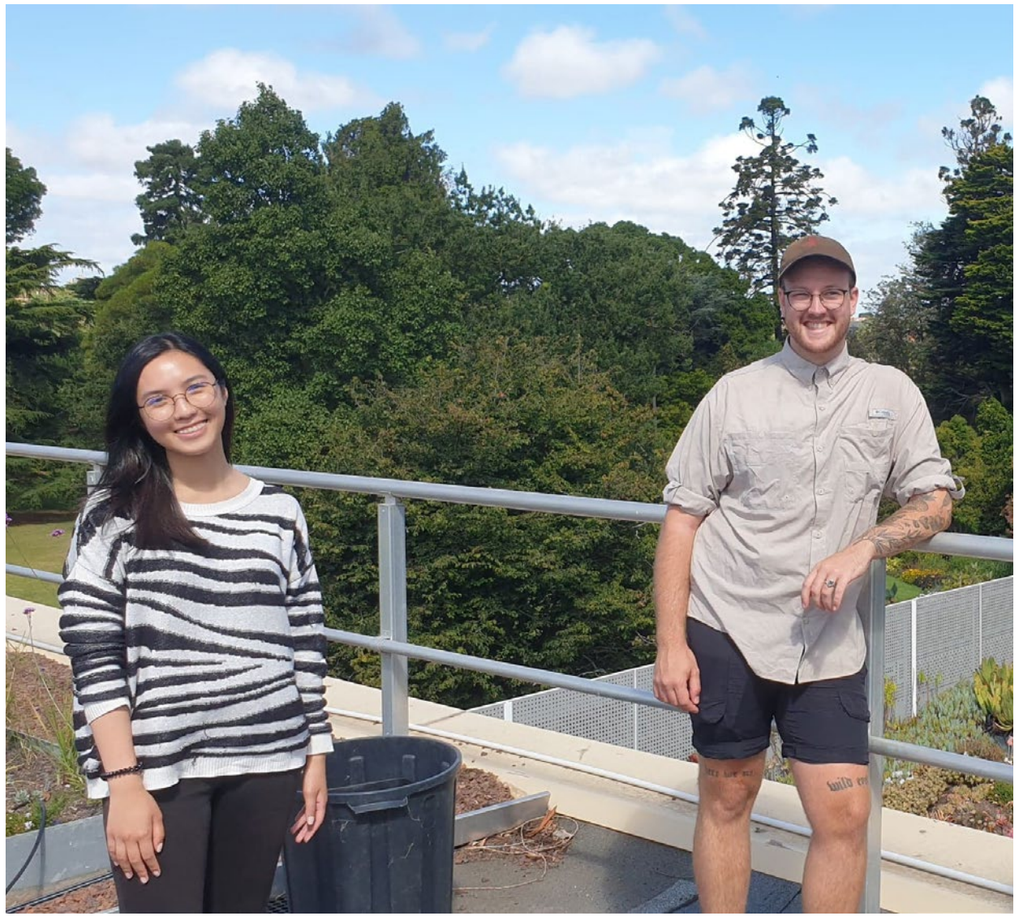
Collection of all biodiversity baseline data is expected to be completed by the end of 2021.

The data and subsequent analysis will be used to inform biodiversity-related targets and indicators in the new Sustainability Plan and Biodiversity Management Plan 2021–2025. This information will enable the University to improve the management of the campus grounds, informing future landscape design, species selection and priority areas for new vegetation to support biodiversity. A complete set of baseline data will also serve as a valuable teaching and learning resource for staff, students and the general public.

Progress highlights:

In 2020, collected Parkville plant inventory data increased to 81% completion. Across the year, the Parkville Grounds staff collected a staggering 4,504 records representing an estimated 34,200 plants. 89% of plantable area data on the Burnley campus was collected by a Master of Spatial Engineering intern. The student helped to convert and update a nearly 20-year-old map of the Burnley campus grounds to create three preliminary datasets of garden beds, lawns and ponds.

Collection of fauna and fungi data increased to 72% completion in 2020. A Master of Environmental Science intern extracted citizen science observations from the *Atlas of Living Australia* to screen our campuses for sightings of endangered fauna and fungi. Over 1,000 unique fauna and fungi were found to previously and/or currently reside on University campuses, with 47 of these threatened by extinction.

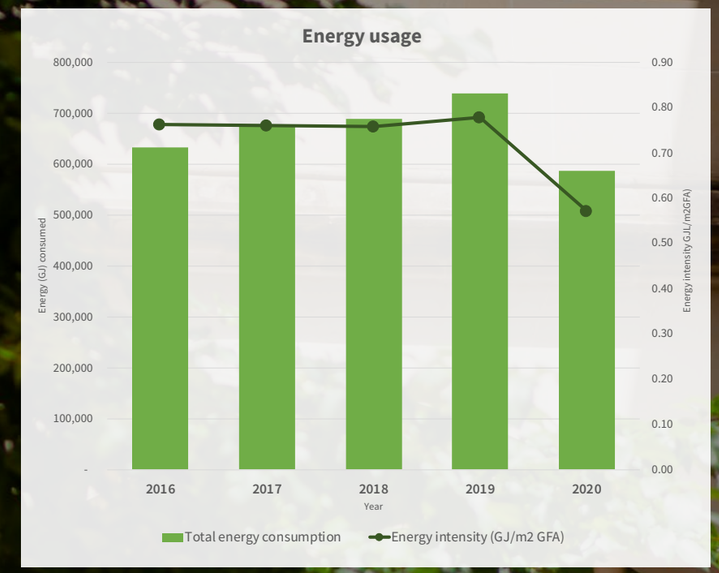


Images
Sustainability interns out in the field collecting data and some of the wildlife they encountered.

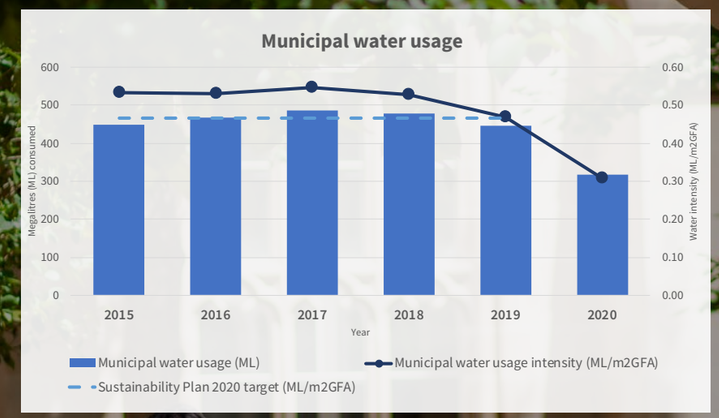
The Campus
Resource use in operations

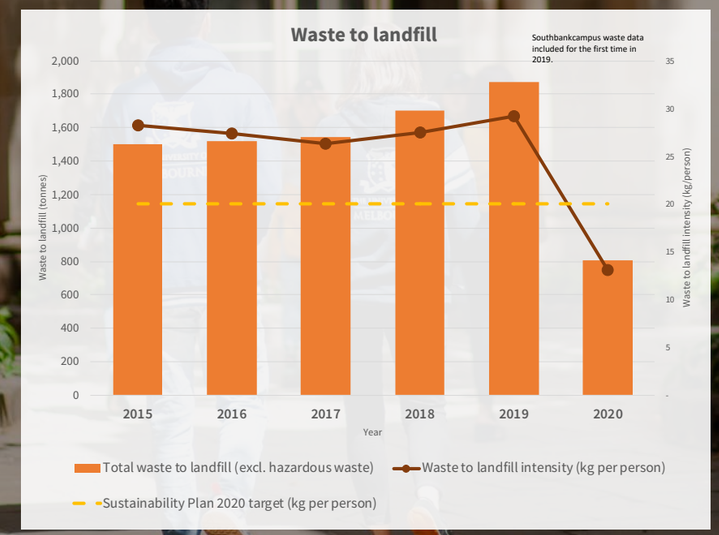
In 2020, the move to a virtual campus for much of the year due to the COVID-19 pandemic resulted in a significant reduction in resource use.

As staff and students return to campuses, resource use is expected to increase relative to 2020 levels. Nonetheless, the University remains fully committed to sustainable operational practices and the minimisation of resource use across all campuses and activities.



Note: energy includes electricity, natural gas, LPG and steam





Note: waste intensity is based on total staff ETF and student EFTSL

Energy, carbon, waste and water
Performance

Target	Status	Comment
Achieve carbon neutrality before 2030	On track	The University continued mapping its pathway to carbon neutrality in 2020. This work was paused due to the COVID-19 pandemic and will be completed in 2021.
Achieve zero net emissions from electricity by 2021	On track	The University's two renewable energy Power Purchase Agreements (PPAs) (MREP and Murra Warra) will enable this target to be met. Electricity is the largest source of emissions for the University, at over 60%
Reduce electricity demand by 18,350 megawatt hours per year by 2020 through on-campus energy projects[7]	Partially met	Planning for net-zero emissions electricity in 2021 through renewable energy PPAs has taken precedence over electricity demand reduction projects. Nonetheless, the University has achieved significant reductions in electricity demand through on-campus projects. The Clean Energy Finance Corporation (CEFC) projects are continuing to deliver electricity savings of 3GWh per year. The Smart Campus Energy Upgrades (SCEU) program was scaled back in 2020 due to the COVID-19 pandemic with only contracted projects progressing. The program will resume in 2021. During 2020 the program spent $2.08 million anticipated annual savings of 1,841 MWh through Solar PV, HVAC and LED lighting projects across twelve buildings expected to result in $350,000 annual savings. The LED lighting project in the Eastern Precinct car park at the Parkville campus resulted in energy savings of 61%. In 2021 the SCEU program will develop a large-scale HVAC project centred in the Baillieu library that spans seven buildings and upgrades aged infrastructure. Significant energy savings are expected.
Reduce mains water usage by floor area by 12% from 2015 baseline by 2020	Exceeded or met	Water consumption across the University reduced by approximately 33% in 2020, the result of significantly less staff and students on campus due to the COVID-19 pandemic. This corresponds to a reduction of 42% from the 2015 baseline. The University is continuing to focus on reducing water intensity within new infrastructure, and developing water harvesting and reuse projects. Water reduction technologies will continue to be prioritised and implemented in new buildings.

Target	Status	Comment
Reduce waste to landfill to 20kg per person by 2020	Exceeded or met	Waste to landfill reduced significantly in 2020, largely due to the move to a virtual campus as a result of the COVID-19 pandemic. The significant reduction in the number of staff and students on campus resulted in 13.2kg of waste to landfill per person (across all staff and students) over 2020. This result is significantly below the Plan target of 20kg per person, although it does not take into account the reduced numbers of people on campus Overall in 2020, waste from offices and retail outlets reduced, while medical and research waste increased. The flagship Choose to Reuse Plate Program was launched in 2019, with the Choose to Reuse Events Service launched in early 2020. Both programs were paused from March 2020 due to the move to a virtual campus. Throughout 2020 there was considerable work undertaken to embed waste reduction into leases for retailers and contractors, reduce waste at source through a review of single use disposable items, investigate options for organics collection and increase reuse options. Waste reduction principles have also been embedded into new capital projects such as the New Student Precinct.

Supply chain and procurement
Performance

Target	Status	Comment
Develop and implement a Supplier Code of Conduct together with Social Procurement Framework and response to Modern Slavery	Exceeded or met	Supplier Code of Conduct has been developed and is available on the University's website for all suppliers to review. A Social Procurement Framework was developed in 2019 and sets out a five-year spend target.
Achieve commitments under the University's Fairtrade certification	Exceeded or met	In 2018 the University moved to 100 percent Fairtrade kitchen consumables.

7 The original Plan target to reduce emissions by 20,000 tCO_2-e per year was updated to reflect the equivalent energy reduction.

Case Study
2020 Greenhouse Gas Inventory and working from home

The University has committed to achieve carbon neutrality before 2030, zero net emissions from electricity by 2021 and significantly reduce energy-related emissions through on-campus energy projects. To support these goals, the University's greenhouse gas emissions have been calculated and reported in a Greenhouse Gas Inventory (GHGI) since 2016 (see Table 1).
The GHGI covers:

- **Scope 1:** direct emissions from sources controlled by the University
- **Scope 2:** indirect emissions from the generation of purchased energy
- **Scope 3:** indirect emissions that occur in the value chain, as a consequence of the University's activities

The University's GHGI was prepared internally for 2020. The disruption to 'business-as-usual' due to the COVID-19 pandemic had a significant impact on our emissions profile. Gross GHG emissions in 2020 reduced to 140,875 tCO_2-e, down from 211,796 tCO_2-e in 2019, primarily due to reduced utilities usage (electricity, gas, water) and staff travel (flights, hotel accommodation). Carbon intensity reduced from from 0.22 tCO_2-e/m2GFA in 2019 to 0.14 tCO_2-e/m2GFA in 2020.

To better understand the impact of COVID-19 on emissions, the Scope 3 emissions category 'working from home' was added to the GHGI. These emissions were estimated based on a simplified version of the methodology produced by EcoAct[8]. Input data was limited, so the result is indicative only, however it has been included to illustrate that while the impact of the pandemic resulted in reduced operational emissions on campuses, other emissions sources increased.

From campus attendance data on the Smart Campus Dashboard for April to Dec-2020[9], it was estimated that approximately 88% of staff worked from home, while 12% commuted to campuses. Using the EcoAct methodology estimate for electricity usage of 150 W/hr per desk for office equipment and lighting, greenhouse gas emissions from working from home in 2020 were calculated at 2,150 tCO_2-e.

The above estimate is simplistic, and could be enhanced in future by sourcing data on the following:

- **Incremental home heating and cooling.** While it is likely that home heating and cooling demand increased as a result of staff working from home, the heating and cooling would have already been active in some homes, and the lockdown period encompassed some mild months that would have required little or no heating/cooling.
- **Increased use of videoconferencing.** Significant emissions were saved by reducing staff commuting and travel in 2020. Incremental emissions were generated, however, by the corresponding increase in videoconferencing. In a paper published in 2021, Obringer et al. estimate that a standard videoconferencing service has a carbon footprint of 157 gCO_2/hr[10]. Turning off the video, however, can reduce these emissions by up to 96%. Due to data limitations, this was not included in estimates for 2020.

The first figure above shows the expected trajectory of greenhouse gas emissions in 2021, as the University progresses its carbon reduction targets and pathway to carbon neutrality before 2030. The illustrative emissions estimate for 2021 shows the impact of zero net emissions electricity and offsetting all staff flight emissions. This is expected to reduce the University's emissions by approximately 75% from 2019 levels, and over 60% from 2020 emissions.

Operational Boundary	Associated Inventory/Service	2016 (tCO_2-e)	2017 (tCO_2-e)	2018 (tCO_2-e)	2019 (tCO_2-e)	2020 (tCO_2-e)
Scope 1	Natural Gas, Transport Fuels, Stationary Fuels	15,872	15,197	14,743	17,532	13,108
Scope 2	Purchased Electricity	119,483	118,517	119,113	114,986	89,990
Scope 3	Equipment, Flights, Third Party Services, Employee commuting/working from home, Off-site Waste Disposal, Transmission & Distribution losses, Fuel Extraction, Production & Distribution losses, Other Utilities	68,067	66,336	74,118	79,276	37,777
	Gross Total	203,422	200,050	207,975	211,794	140,876
Offsets	Other offsets (to fully offset fleet emissions and offset 50% of flight emissions in 2018, 100% of flight emissions from 2020)	-765	—	-15,748	-1,710	-3,136
Net total (1, 2 & 3)		202,657	200,050	192,227	210,084	137,740
Scope 1 & 2		135,355	133,714	133,856	132,518	103,099
Emissions Intensity	(tCo_2-e/m2 ext GFA)	0.23	0.22	0.23	0.22	0.14

Note
Offsets for 2019 have been corrected from the 2019 Sustainability Report figure of -16,000 tCO_2-e. Due to budget restrictions as a result of the impact of the COVID-19 pandemic, a planned purchase to offset 2019 flights did not go ahead. 2020 flight offsets were purchased prior to report publication.

8 EcoAct Home Working Emissions Whitepaper
9 Data unavailable prior to April 2020
10 Obringer et al. 2021. 'The overlooked environmental footprint of increasing Internet use', Resources, Conservation and Recycling, 2021; 167: 105389 DOI: 10.1016/j.resconrec.2020.105389

Case Study
New Student Precinct social procurement

A diverse and inclusive supply chain generates social, sustainable and responsible outcomes by providing a mechanism for linking and integrating social and economic agendas. Social procurement is the process of generating social value above and beyond the cost of the goods, services and/or construction being procured. It should be considered as a key element in the value-for-money assessment; a balanced judgment of financial and non-financial factors relevant to procurement outcomes. Whilst there has been success in awarding goods and services business to Indigenous and social enterprise organisations, there was significant opportunity for the University to increase focus in construction projects.

The Student Precinct Head Contract ($160M construction cost) was seen as a significant opportunity to include social procurement outcomes for the first time in the University's major projects. With a clear strategy and collaborative approach significant spend has been awarded to social enterprises and Indigenous businesses to help deliver the project, resulting in additional social value and an uplift in social procurement capability for both the University and its partners.

The tender process highlighted industry shortfalls around addressing social procurement outcomes. The successful contractor had experience, and – more importantly – agreed to plan, collaborate, share and learn with the New Student Precinct project team. The NSP social procurement targets include a percentage of spend to be awarded to Indigenous businesses and social enterprises, and a separate target for training and employment opportunities for minority groups. Reporting and governance were an important factor to ensure accountability, transparency, and focus; however, the approach was to spend more time planning, collaborating, and discussing lessons learned as opposed to "hitting the targets". The collaborative approach was aimed at ensuring both parties gained an increased understanding of market capability and to ensure that Indigenous businesses, social enterprises and minority groups were provided the opportunity to participate in the project.

The compound effect of targets in a major project are significant and the social benefits are expected to last beyond the project. Contractors leverage a significant supply base to procure materials and trades to deliver construction projects, and the inclusion of targets provide the mechanism and the need for the contractor to create new relationships within their existing supply base and their sub-contractors to self-educate, address diversity gaps and leverage opportunities in their own businesses. The contractor and the University both gained an increased awareness and capability in social procurement, and social and Indigenous businesses gained new connections, experience and potential for future work on other projects.

University of Melbourne

The social procurement targets included in the New Student Precinct Head Contract alongside governance and reporting frameworks, helped to keep visibility and drive real outcomes and social benefits. Some examples of these benefits on the project are:

- 100% of custom outdoor furniture procured through social enterprises and Indigenous businesses
- 60% of furniture fixtures and equipment precinct-wide have been sourced or will be sourced through social enterprises and Indigenous businesses
- Indigenous labour hire for site establishment, demolition works and site preliminaries
- Indigenous business supplying personal protective equipment and safety equipment for workers
- Social enterprise provided waste removal services, supporting workers with disabilities
- Social enterprises providing fruit, milk and consumables to site workers
- Indigenous labour hire for surveying, mechanical, electrical works and painting
- Ongoing discussion and education about social procurement, benefits, lessons learned, and continued increase in understanding market capability
- Contractor led conversations and self-generating ideas on additional social procurement opportunities

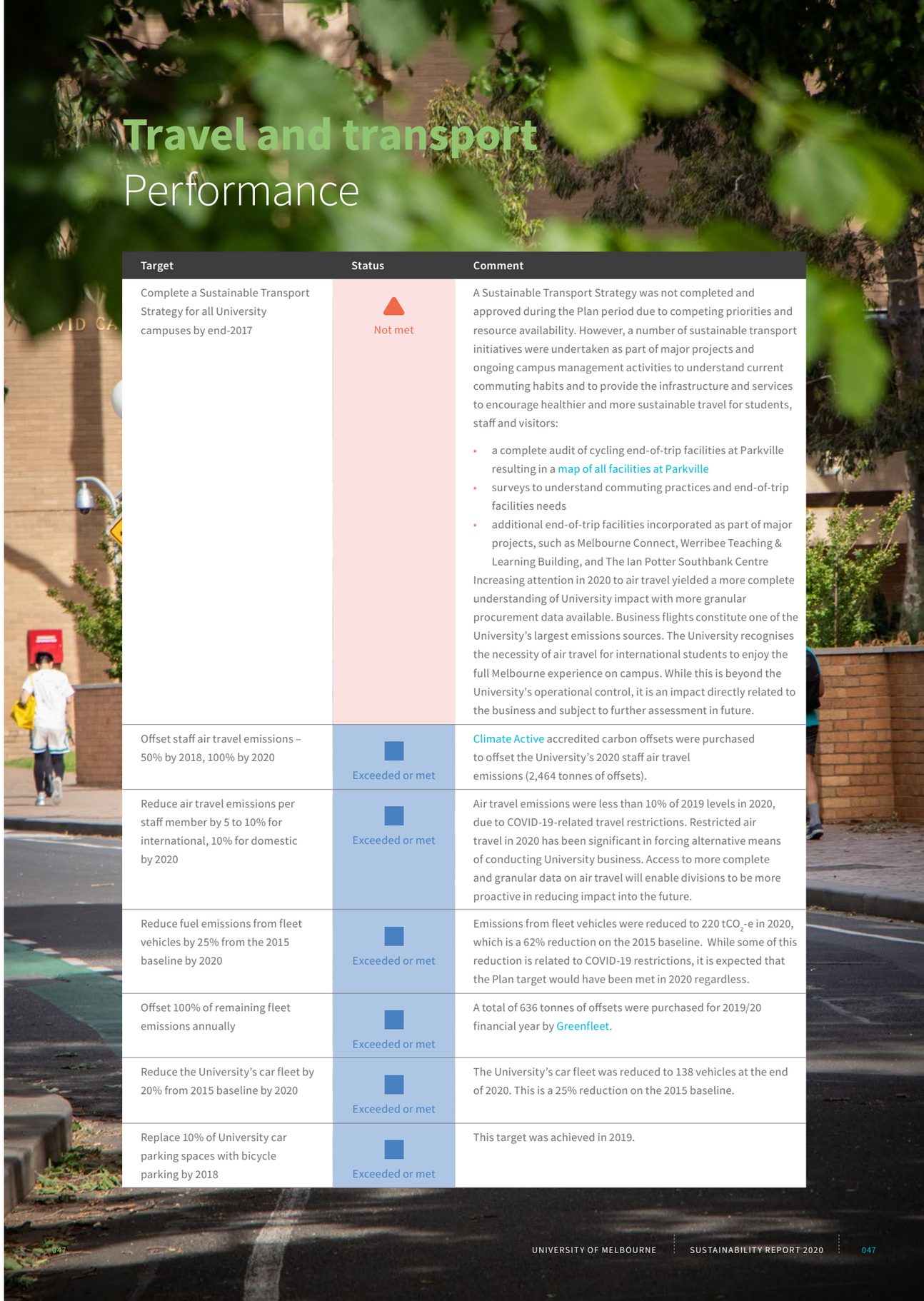
Images
Artists impression of various rooms in the Student Pavilion in the New Student Precinct.

The Campus
Travel and transport

‘Travel and transport’ encompasses the commuting behaviours of staff and students, together with the travel of staff on University business.

Addressing travel and transport has the dual benefit of reducing congestion and environmental impacts while providing positive health outcomes.

Enabling more sustainable travel options is an important consideration in the planning and design of University campuses.



Travel and transport
Performance

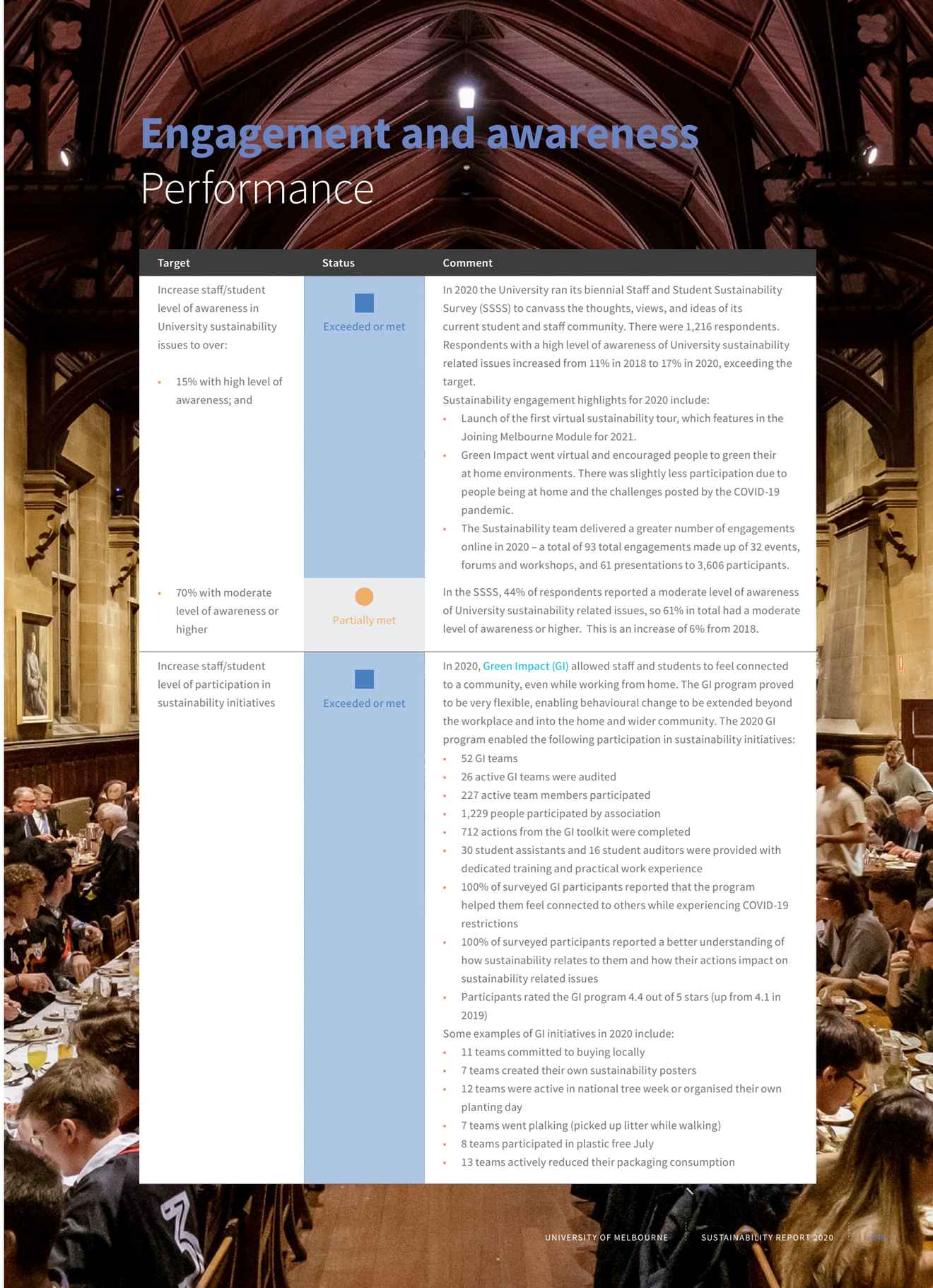
Target	Status	Comment
Complete a Sustainable Transport Strategy for all University campuses by end-2017	Not met	A Sustainable Transport Strategy was not completed and approved during the Plan period due to competing priorities and resource availability. However, a number of sustainable transport initiatives were undertaken as part of major projects and ongoing campus management activities to understand current commuting habits and to provide the infrastructure and services to encourage healthier and more sustainable travel for students, staff and visitors: • a complete audit of cycling end-of-trip facilities at Parkville resulting in a map of all facilities at Parkville • surveys to understand commuting practices and end-of-trip facilities needs • additional end-of-trip facilities incorporated as part of major projects, such as Melbourne Connect, Werribee Teaching & Learning Building, and The Ian Potter Southbank Centre Increasing attention in 2020 to air travel yielded a more complete understanding of University impact with more granular procurement data available. Business flights constitute one of the University’s largest emissions sources. The University recognises the necessity of air travel for international students to enjoy the full Melbourne experience on campus. While this is beyond the University's operational control, it is an impact directly related to the business and subject to further assessment in future.
Offset staff air travel emissions – 50% by 2018, 100% by 2020	Exceeded or met	Climate Active accredited carbon offsets were purchased to offset the University’s 2020 staff air travel emissions (2,464 tonnes of offsets).
Reduce air travel emissions per staff member by 5 to 10% for international, 10% for domestic by 2020	Exceeded or met	Air travel emissions were less than 10% of 2019 levels in 2020, due to COVID-19-related travel restrictions. Restricted air travel in 2020 has been significant in forcing alternative means of conducting University business. Access to more complete and granular data on air travel will enable divisions to be more proactive in reducing impact into the future.
Reduce fuel emissions from fleet vehicles by 25% from the 2015 baseline by 2020	Exceeded or met	Emissions from fleet vehicles were reduced to 220 tCO_2-e in 2020, which is a 62% reduction on the 2015 baseline. While some of this reduction is related to COVID-19 restrictions, it is expected that the Plan target would have been met in 2020 regardless.
Offset 100% of remaining fleet emissions annually	Exceeded or met	A total of 636 tonnes of offsets were purchased for 2019/20 financial year by Greenfleet.
Reduce the University’s car fleet by 20% from 2015 baseline by 2020	Exceeded or met	The University’s car fleet was reduced to 138 vehicles at the end of 2020. This is a 25% reduction on the 2015 baseline.
Replace 10% of University car parking spaces with bicycle parking by 2018	Exceeded or met	This target was achieved in 2019.

University Community

Engagement and awareness

Engaging our community of students and staff in sustainability activities on campus has positive social and environmental benefits. During COVID-19 restrictions, engagement was a priority to raise awareness around sustainability, to encourage individuals to take action from home and to keep people connected and motivated.

Sustainability-related engagement and awareness is measured through our biennial Staff and Student Sustainability Survey (SSSS), which was undertaken during 2020.



Engagement and awareness
Performance

Target	Status	Comment
Increase staff/student level of awareness in University sustainability issues to over: • 15% with high level of awareness; and	Exceeded or met	In 2020 the University ran its biennial Staff and Student Sustainability Survey (SSSS) to canvass the thoughts, views, and ideas of its current student and staff community. There were 1,216 respondents. Respondents with a high level of awareness of University sustainability related issues increased from 11% in 2018 to 17% in 2020, exceeding the target. Sustainability engagement highlights for 2020 include: • Launch of the first virtual sustainability tour, which features in the Joining Melbourne Module for 2021. • Green Impact went virtual and encouraged people to green their at home environments. There was slightly less participation due to people being at home and the challenges posted by the COVID-19 pandemic. • The Sustainability team delivered a greater number of engagements online in 2020 – a total of 93 total engagements made up of 32 events, forums and workshops, and 61 presentations to 3,606 participants.
• 70% with moderate level of awareness or higher	Partially met	In the SSSS, 44% of respondents reported a moderate level of awareness of University sustainability related issues, so 61% in total had a moderate level of awareness or higher. This is an increase of 6% from 2018.
Increase staff/student level of participation in sustainability initiatives	Exceeded or met	In 2020, Green Impact (GI) allowed staff and students to feel connected to a community, even while working from home. The GI program proved to be very flexible, enabling behavioural change to be extended beyond the workplace and into the home and wider community. The 2020 GI program enabled the following participation in sustainability initiatives: • 52 GI teams • 26 active GI teams were audited • 227 active team members participated • 1,229 people participated by association • 712 actions from the GI toolkit were completed • 30 student assistants and 16 student auditors were provided with dedicated training and practical work experience • 100% of surveyed GI participants reported that the program helped them feel connected to others while experiencing COVID-19 restrictions • 100% of surveyed participants reported a better understanding of how sustainability relates to them and how their actions impact on sustainability related issues • Participants rated the GI program 4.4 out of 5 stars (up from 4.1 in 2019) Some examples of GI initiatives in 2020 include: • 11 teams committed to buying locally • 7 teams created their own sustainability posters • 12 teams were active in national tree week or organised their own planting day • 7 teams went plalking (picked up litter while walking) • 8 teams participated in plastic free July • 13 teams actively reduced their packaging consumption

Engagement and awareness
Performance (continued)

Target	Status	Comment
Increase staff/student personal undertaking of sustainability initiatives	Exceeded or met	While the COVID-19 pandemic meant a reduction in people actively participating in Green Impact, it did enable participants to further personalise their sustainability commitment by transferring their sustainability skills and knowledge into their home and family environment. The 2020 SSSS results showed that personal undertakings for most sustainable activities remained constant from 2018 to 2020, despite the pandemic. There was an increase in people recycling organic waste and choosing ethical products such as FairTrade, while the percentage of participants disposing of waste correctly and switching off lights and appliances was slightly reduced from 2018.
Increase staff/student sustainability satisfaction with University efforts	Exceeded or met	In the 2020 SSSS, participants were asked for the first time to rate their satisfaction with the University's efforts to increase awareness, participation and personal undertaking of sustainability activities. The results (shown in the case study) were: • 41% satisfied with the University's efforts to increase personal undertakings in action on sustainability • 37% satisfied with the level of University community awareness of sustainability issues • 35% satisfied with the level of University community participation in sustainability initiatives The SSSS also polled satisfaction in some specific areas of institutional action on sustainability which can also be seen in the case study and the SSSS report.

Case Study
Sustainability Staff and Student Survey

The biennial Student and Staff Sustainability Survey (SSSS) is voluntarily completed by current staff and students at the University. Its purpose is to gauge student and staff views, awareness and behaviours towards sustainability relative to the University's sustainability targets and objectives. The results are used to evaluate the University's existing sustainability initiatives and the development of future initiatives, ultimately informing the priorities and targets of the University's new Sustainability Plan.

In 2020 the fifth SSSS was promoted and completed online while most students and staff worked and studied remotely due to COVID-19 related restrictions. The full report can be found here.

Key findings include:

1. Awareness of sustainability-related issues has increased both in general and within the University context. Staff are significantly more likely than students to be aware of the University's sustainability initiatives/events, and staff participate in initiatives/events in significantly higher numbers than students.
2. Just over half of respondents believe that sustainability is a 'top priority' for the University. Fewer students than staff believe that the University sees sustainability as a top priority.
3. Reducing the University's carbon footprint and reducing waste outputs remain top priorities for improving sustainability at the University.
4. Although staff and students are motivated to improve campus sustainability, they experience similar key barriers to personal participation: convenience, expense and a need for more information and/or technical support.
5. 1,078 suggestions were made about how the University can improve engagement and environmental practices across all campuses. Suggestions for improvement centred around improving reach of sustainability-based communications, embedding sustainability across all University activity and providing resources and infrastructure to encourage participation in sustainability activities.

Suggestions

"Embedding the strategy more deeply in division-specific activities, develop local strategies and find innovative ways to engage different disciplines in sustainability issues/initiatives." **– Staff member**

"The University should keep sustainability at the forefront of their curriculum, research, values, culture, community." **– Student**

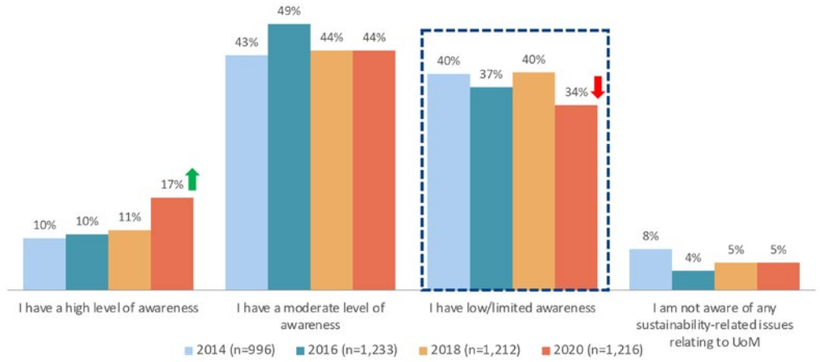
"Improve student understanding through application of cross disciplinary sustainability information integration for all students, and provide incentives and resources for students to partake." **– Student**

"Clear and consistent messages about what staff and students should be doing. Most communications are to raise general awareness but we receive little and poor communication about what to do." **– Staff member**

"Create collaborative project between different faculties and departments, encouraging a multidisciplinary action that is visible to as many students and staff as possible." **– Staff member**

Awareness of University sustainability-related issues (Year on year)

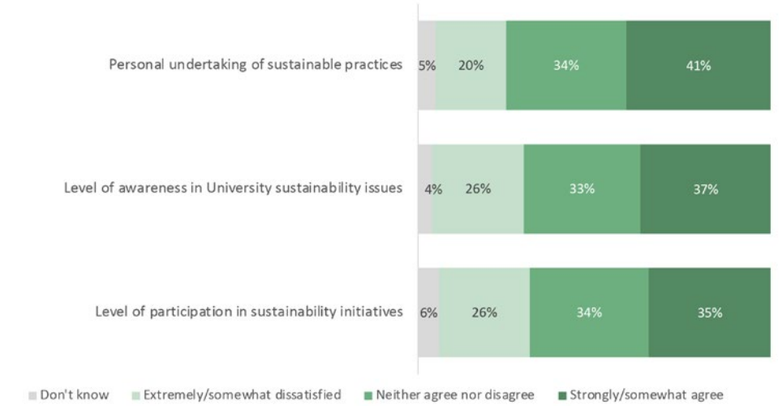
Furthermore, there has been an increase in high level of awareness and a decrease in low level of awareness on sustainability issues at the University.



Q4. How would you rate your level of awareness of sustainability-related issues relating to the University of Melbourne? [SR]
Base: All respondents n=1216

Satisfaction with the University's efforts

Over a third of staff and students are satisfied with engagement efforts by the University to increase awareness, participation and personal undertaking of sustainability issues. However, a portion of them are either unsure or dissatisfied with the University's efforts, indicating this should continue to be a key focus area for the University.



Q9. How satisfied or dissatisfied are you with the University of Melbourne's efforts to increase staff and students'...
Base: All respondents n=1216

Case Study
Sustainability during lockdown

Keeping sustainability alive

From March 2020 when COVID-19 restrictions prevented the University community from meeting on campus, the Sustainability Team pivoted engagement programs and activities to online delivery. This included taking Green Impact – the University's flagship sustainability behaviour change and engagement program – to an online format, producing a virtual Sustainability Tour of the Parkville campus, and collecting valuable community feedback on sustainability topics and initiatives.

Green Impact from home

Moving Green Impact to an online format brought a new level of accessibility to the program, allowing staff and students from all locations, faculties and departments to participate with more flexibility. A total of 446 people across 52 teams were signed up to the 2020 program, with 26 teams audited and 227 active team members.

The program supported staff and students to stay engaged with sustainability from home, helping them to positively influence friends and family to make sustainable changes while maintaining social connections with peers and colleagues. This extended the program's impact to a wider audience than ever before. A total of 1,229 colleagues of participants engaged with the program in some way while a total of 712 sustainable actions were recorded. All surveyed participants reported that the program helped them to feel connected to others during COVID-19 restrictions, to better understand how sustainability relates to them, and to better understand how their actions impact on issues connected to sustainability.

Virtual Tour

As campus activities transitioned online, new demand for a way for staff and students to connect to campus was identified. Based on the popularity of on-campus sustainability and biodiversity tours, the Sustainability Team developed an online platform through which users can explore sustainable initiatives, services, and infrastructure on the Parkville campus remotely. Users can navigate 13 stops across the online map, with experts across the University explaining each stop through an embedded video.

The map provides an opportunity to showcase a broad range of sustainability activities from around the University to new audiences, including international and interstate students, organisations, alumni, prospective students and industry partners. The stops are diverse and include sustainable operations, research, student-led programs and broader community engagement initiatives. The platform has since evolved into a valuable teaching and learning resource and is being used in the newly developed Joining Melbourne Module. There are plans to expand this to other campuses.

University of Melbourne

Image Green Impact from home actions: backyard composting/gardening.

Energy savings from building de-operationalisation

With COVID-19 restrictions significantly reducing the number of staff and students frequenting campuses, the University took action to save energy and emissions through de-operationalisation of Parkville buildings with significant ongoing energy demand. Approximately 4.95 million kWh of energy was saved (a 36% reduction from baseline energy consumption), resulting in financial savings of over $630,000.
The energy saved from de-operationalising these eight buildings is equivalent to 5,050 tonnes of carbon or the energy required to power 678 houses for a year.

Listening to our community

During the slowing of on-campus activities due to the pandemic, the University took the opportunity to gather feedback from staff and students on sustainability across the organisation.
The Sustainability Team conducted the biennial University-wide Sustainability Survey online between May and June (see case study). More in-depth and interactive consultation with the wider University community, as part of the development of the new Sustainability Plan, occurred online over a 14-week period in late 2020. Across 12 feedback sessions and an anonymous online form, 439 students, staff and alumni shared their views on the priorities they would like to see reflected in the next Plan. Feedback and recommendations from both consultation processes are being used to evaluate the University's existing sustainability initiatives and to inform the priorities and targets of the University's new Sustainability Plan.

Positive news in a year of uncertainty

Sustainability was given excellent visibility in 2020 with both the Vice Chancellor and Chief Financial Officer promoting the survey, consultation opportunities and Green Impact program to staff and students. This welcomed a broader section of the community to express their views, engage with sustainability issues and participate in sustainable activities.

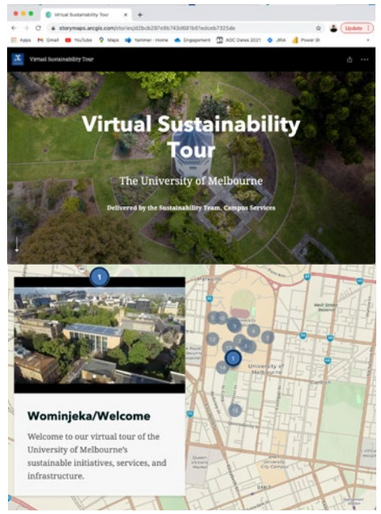


Image (from top) Sustainability Team virtual tour, biodiversity collection data, Green Impact Awards Ceremony 25 November 2020.

Case Study
Sustainability Student Internship Program

Four internship positions with the Sustainability Team were made available to students completing a University internship subject in semester 2, 2020. The opportunities were designed to give students a meaningful experience in a professional setting, while ensuring their contributions to sustainability projects had a positive, tangible impact on University operations. After this successful trial, the Student Sustainability Internship Program was continued into the 2021 summer term and semester 1, 2021.

During semester 2 2020 and semester 1 2021, a total of 15 students from a diverse range of courses including the Bachelor of Science, Master of Environment, Master of Environmental Science, Master of Landscape Architecture, Master of Spatial Engineering, Master of Marketing Communications and Master of Management (Marketing) completed an internship. All students received course credit for their contributions through a University-endorsed subject.

Internships have supported the implementation and continuous improvement of sustainability-based projects and initiatives across the operational areas of waste, biodiversity, transport, engagement, communications, and energy. Linking teaching and learning with University operations not only contributes to students' overall tertiary experience but allows the University to hear students' feedback and ideas in a collaborative setting.

Staff Testimonials

"Being able to contribute to the education of our students is absolutely invaluable, and something that was in high demand from students for a long time. We saw an opportunity to support students in their desire for professional work experience, while providing a link between their academic studies and solutions to real world challenges faced through running a sustainable campus. It also allows us to harness the creative and aspirational nature of students who bring such welcomed diversity to our team."

Sue Hopkins | Manager-Environmental Sustainability, Campus Management

Image
Sustainability student interns.

Student Testimonials

"The internship allowed me to work collaboratively with people of different expertise, which has helped me expand my knowledge beyond design and into plants and ecosystems. Working on the Tree Canopy Cover project helped me improve my critical thinking skills as a landscape architect and enhanced my understanding of sustainable practices. I gained valuable practical skills in surveying, mapping, data analysis, and report writing and am so grateful that the friendly team was always happy to provide me with support and guidance, making me more confident and prepared for entering the workplace."

Cherry Lai, Master of Landscape Architecture – Biodiversity Intern in the 2021 summer semester

"Coming into the internship at the beginning of the Master of Environment helped me clarify future career path and outlined my strengths and weaknesses as a professional. Working on implementing the System Garden Composting Program was the highlight of my internship as I was able to apply my project management and stakeholder engagement skills while experiencing the reality of introducing a new resource recovery program. I had the opportunity to work on multiple projects within the team and with other departments, which gave me the chance to step outside my comfort zone. I gained so much knowledge and experience in the short time I spent there and created friendships that extended outside of the internship."

Hariz Ahmad, Master of Environment – Waste Minimisation Intern in the 2021 summer semester

External Relationships

Partnerships, policy and community

The University of Melbourne nurtures mutually beneficial external relationships which connect staff, students and research work with local, national and global communities and across sectors.

Sustainability is an underpinning element through which the University demonstrates its public value through enterprise, outreach and leadership of public policy and debate.

External relationships

Performance

Target	Status	Comment
Ensure the University's convening power is used to bring together policy leaders, industry and academic experts to advance issues of sustainability	Partially met	The University regularly convenes conversations with policy leaders, industry and academic leaders in a range of forums that address issues of social cohesion, international diplomacy, economic, cultural and environmental sustainability. The University' academic community contributes widely to the shaping of national and international public policy. In addition to research output, academics take on a wide range of public appointments to support high quality public policy application and review. In 2020: • The University ran two web series that tackled some of the major coronavirus issues facing the world. Both series were moderated by Assistant Vice-Chancellor (Health) and Medicine, Dentistry and Health Sciences Dean Professor Shitij Kapur. The series convened multidisciplinary discussions to inform, educate and contribute to the global conversation, and drew on questions from University students and staff, as well as the general public. • The University, in collaboration with King's College London, the University of Chicago and Nous Group, published the *Advancing University Engagement Report* in July 2020. The report recommends that the societal impact of universities should be measured, resourced and recognised through prominent channels such as global university rankings. Two of the proposed engagement indicators had a sustainability focus: socially-responsible purchasing and carbon footprint. • In April 2020, the University of Melbourne and the Group of Eight (Go8) presented the Federal Government with a national *COVID-19 Roadmap to Recovery* report to help guide Australia out of the pandemic. The report, produced by a special Go8 taskforce co-chaired by University of Melbourne's Dean of the Faculty of Medicine, Dentistry and Health Sciences and Assistant Vice-Chancellor (Health) Professor Shitij Kapur, identified pathways forward for the nation to recover from the COVID-19 pandemic. Convening a multidisciplinary group of over one hundred researchers from across Australia, the report identified and discussed two options for how Australia could respond to the COVID-19 pandemic – an Elimination Strategy and a Controlled Adaptation Strategy. The University of Melbourne supported the project with 21 of our experts and provided the Hunt Laboratory for Intelligence Research SWARM's team and Collaborative Reasoning platform to facilitate the online collaboration reasoning process to generate the Roadmap.

Target	Status	Comment
Deeply embed sustainability considerations within the six University-wide Keystone Engagement Programs of the Engagement Strategy	Partially met	The University embedded sustainability into a number of initiatives related to the Keystone Engagement Programs, including: • The Pathways to Politics Program for Women, which continues to strengthen the presence of women in elected office. In 2020, 17 Pathways to Politics for Women Program alumnae ran in the Victorian council elections. Six were successful, a success rate of 35%. This brings the number of Program alumnae elected across State, Federal and Local Government to 13 in five years. • The University's Community Partnerships and Business Services team collaborated with local community agencies in Carlton to donate the University's 'end of life' computers (with several years of good service) to the Carlton Housing Estate. Over 90 computers were delivered to families from Carlton Primary School. This included fast tracking when it looked likely that the Carlton Housing estate would go into a 'hard lockdown' due to COVID-19 pandemic restrictions. • The Community Partnerships Team developed a Goulburn Valley Action plan. The five priorities that were identified in collaboration with the region include Sustainable Agriculture (which includes being a 'driver of sustainable agricultural innovation through education, research and leadership'), Water ('Establish Water research, education and thought leadership to address critical climate and water challenges') and Health and Wellbeing (which includes 'convene and collaborate for innovation, leadership and sustained outcomes and impact in the region'). • The University launched the Cultural Commons initiative in 2020 to provide access to a unique group of museums, galleries, theatres, collections and knowledge to the general public. • A 2019 assessment of the University's commitment to reconciliation showed 21 of 25 target measures in the University's Reconciliation Action Plan, with a target timeline of 2018 or that require annual reporting, had been met or exceeded. The remainder are in progress. However, the University notes that more work is required to deeply embed to deeply embed sustainability considerations into the keystone engagement programs, resulting in a partially met status for this target.

Image
Students undertaking 3D printing work at MSD's New Experimental Technology (NeXT) Lab.

Case Study
SDG Climate Change and Cities Symposium

How can our future cities be more sustainable, healthy and liveable? And what do we need to do now to navigate towards these visions for the future? After more than six months of a global pandemic, these questions took on added dimensions, and perhaps even more urgency. The 2020 Faculty of Architecture Building and Planning (ABP) symposium provided us a timely and important opportunity to sit, listen and interact with some of the world leaders in sustainable development.

Over three days we listened to what had been hoped for cities of the future from the United Nations Sustainable Development Goals (SDGs), and what those cities of the future now may look like as a result of COVID-19. There is hope, optimism and a lot of hard work to achieve what those goals set out to do. Guided by Symposium co-hosts the Connected Cities Lab, the event curators (Cathy Oke, Judy Bush and Anna Hurlimann) designed this year's ABP Symposium to follow in the footsteps of the two previous Symposiums[11], continuing a focus on unpacking solutions for sustainable development in our ever growing cities.

This year's symposium was held across three days in September and October 2020, with an additional two-day pre-symposium intensive workshop associated with the SDGs Cities Challenge, making it a five day event. The virtual workshop and symposium format provided a platform for 773 delegates to listen and interact with some of the world's leading voices in urban sustainability and action on climate change, including case studies of responses to the COVID-19 pandemic. It featured pre-recorded keynote addresses and responding interactive panel discussions, interactive workshop sessions, breakout rooms and opportunities for delegates to connect together across time zones, disciplinary and research boundaries. The Sustainable Development Goals, Climate Change and Cities Symposium allowed an excellent platform for all urban actors – from academia, business, industry, civil society and government (students and professionals) – to look at partnering across disciplines and jurisdictions to deliver just, safe and climate resilient cities. **– Student writing group**

Reflections on the virtual symposium

When COVID-19 emerged at the start of the year, we first considered postponing our symposium, hoping we could hold a face-to-face event a few months later. Realising the enormity of the pandemic, we did indeed seriously consider cancelling the event entirely, but decided to proceed with a virtual symposium, an experiment to see how we could run an event that could still provide opportunities for rich discussions, meaningful connections and collaborative learning. Indeed, listening to Theresa's keynote address reinforced why it is essential that we continue to find ways to connect, to share, to encourage, to remember, and to plan. We look no further than JT Productions team for their huge efforts to pivot to an online event, and to our speakers and event team colleagues for evidence of resilience in the face of a global health crises. Living the values SDG 11 espouses. **– Editors/Curators**

11 listening to and working with the design knowledge from Indigenous custodians of our cities (*2018: Go Back to Where You Came From - Past | Present | Future | Indigenous Design Symposium*) and fore fronting the strong women leaders in urban practice (*2019: Transformations: Action on Equity Symposium*)

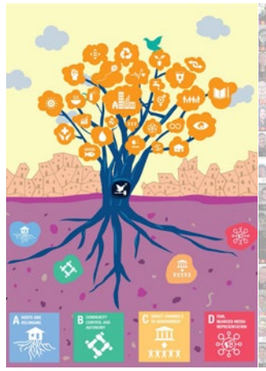


Image
(from top) MSDx SDG poster, Symposium Editors/Curators: Cathy Oke; Judy Bush; Anna Hurliman, Localising the SDGs – Session 2D: Communication and Engagement with the SDGs breakout with Dante Di Paolo, Leah Hyland, Sabareesh Suresh, Amelia Leavesley and Jeremy McLeod.

Reflections on student participation

It was really inspiring to see how Symposium ambassador students grabbed the opportunities to participate and actively contribute! Students commented on how empowering it was listening to panel discussions, and particularly Cities' practitioners discussing the implementation of the SDGs, as this demonstrated how the knowledge and theories learned in classes and courses are actively being implemented daily in cities around the world. The SDGs stepped out of the tutorial and the lecture theatre and made practical difference, had practical influence in real world contexts globally. **– Editors/Curators**

Student Reflections

Engagement methods should be diverse and inclusive to capture as many voices as possible, in line with SDG "No one left behind." Making people feel empowered is particularly productive because it ensures that outcomes are closely aligned with expectations. It was fascinating to hear about the child-friendly city project in Dehradun, as it foregrounded a critical point about the different ways that the same city can be experienced by diverse stakeholders (in this case, children, who mind map the city according to different landmarks than their adult counterparts).

It is fascinating to see the intergenerational difference in perspectives and the ability of people to respond entirely differently to exactly the same situation. Pairing conversations around Dehradun's Child Friendly City with discussions about the New Student Precinct allowed for simultaneous conversation about the positioning of university students and how this affects their interaction with design and their engagement with planning.

All three speakers engaged with their stakeholders through learning institutions such as schools and universities. Interesting to hear mentions of plant-based and vegan lifestyles in the discussions too.

– Ariana Dickey, Alexandra Whitmore and Spencer Nash (with Leah Hyland and Dante Di Paolo)

Recorded sessions are available publicly as an important ongoing educational tool, please visit MSD SDG Cities.

Appendix 1

Plan priority actions

Appendix 1 : Plan priority actions

Governance

Trust and values

Priority action	Status	Comment
Integrate sustainability principles and practices with Academic Division business planning	Partially met	The faculty-based Sustainability Fellowships program has been very successful, with five Fellows currently in place and further appointments expected in 2021. Beyond this curriculcum work the integration of sustainability into business planning has been at the discretion of divisions. Central advocacy is required to support a University-wide approach to embedding sustainability as a strategic priority at divisional level.
Ensure through periodic reviews that the governance structure remains fit for purpose	Exceeded or met	The Sustainability Executive is to be reviewed in 2021 to deliver the sustainability mission of *Advancing Melbourne*.
Ensure effective coordination for sustainability across the whole University	Partially met	Since early 2020 the Associate Director, Sustainability role has reported directly to the COO, enabling greater visibility across University activities and in strategic development. Consultation through 2020 for the next Plan has triggered closer collaboration of sustainability staff and other key internal stakeholders. With the release of *Advancing Melbourne* and its developing performance framework, organisation of sustainability will be further reviewed in 2021.
Incorporate the UN Global Compact principles and Sustainable Development Goals into strategies, policies and procedures	Partially met	The SDG framework is an important measure for the future progress of *Advancing Melbourne* and our approach to the research grand challenges. In August 2020, University was the only university signatory to the GCNA letter to Federal Government for an SDG-led COVID-19 recovery. The Connected Cities Lab, hosted in the Faculty of Architecture,Building and Planning, focuses on urban dimensions of the SDGs and has led a collaborative project with City of Melbourne incorporating the SDGs into strategic decision making; together with the SDGs Cities Challenge localising the SDGs through local government authorities across Asia-Pacific. The Sustainability Fellows are using the SDGS to measure the integration of sustainability into curriculum. The University is an active member of the Sustainable Development Solutions Network (SDSN).
Maintain appropriate memberships and relationships with leading organisations in the sustainability field	Exceeded or met	The University is a member and active participant in many organisations, including: • International Sustainable Campus Network (ISCN) • Australasian Campuses Towards Sustainability (ACTS) • Property Council of Australia • Green Building Council of Australia (GBCA) • Tertiary Education Facility Management Association (TEFMA) • Universities Climate Alliance • Sustainable Development Solutions Network • Global Compact Network Australia

Trust and values (continued)

Priority action	Status	Comment
Ensure there are appropriate mechanisms for students and staff to raise sustainability issues	Exceeded or met	Extensive community consultation from August to November 2020 enabled students, staff and alumni to provide feedback on the University's sustainability performance and what issues were of most importance to them. The biennial Staff and Student Sustainability Survey was undertaken in 2020. Ongoing opportunities to raise issues include the Sustainable Campus mailbox, Sustainability Advocates Forum and through student groups such as Postgraduate Environment Network and the UMSU Enviro Collective.
Ensure appropriate data monitoring and collection	Partially met	Campus Management has focused on developing complete and robust processes for tracking and timely reporting of operational data, which will be further developed beyond 2020. Progress on the University's Research Capability Mapping (RCM) tool through 2020 has resulted in data now updated every three hours, drawing on information from both University systems and external scholarly databases. The University is a signatory to the San Francisco Declaration on Research Assessment (DORA) with RCM being developed to align with those principles. The second year of the Sustainability Fellows program has enabled a greater degree of measuring and benchmarking of sustainability integration into the curriculum.
Work collaboratively across the University to ensure effective communication of sustainability information	Partially met	Communication of sustainability work to the University community through 2020 was undertaken virtually yet effectively, updating progress on sustainability in campus development and operations and enabling students and staff to adopt home-based sustainable practices. The virtual work and study arrangements necessitated an increased emphasis on communicating sustainability updates and information through all channels - website, email, social media and the numerous online events conducted. A sustainable events guide was developed for launch in 2021 to support activities online and for the return to campus.
Involve the University community in decision-making during the periodic reviews of the Sustainability Plan	Exceeded or met	Extensive community consultation was undertaken from August to November 2020 for the development of the new Sustainability Plan.
Strengthen the link between the Sustainability Advocates Forum and the Sustainability Executive to improve two way communication and transparency	Partially met	The Sustainability Advocates forum and the Sustainability Executive were placed in a holding pattern in 2020 due to the COVID-19 pandemic. Prioritising stronger collaboration will recommence in 2021. This will also be explored further with the development of the new Sustainability Plan.

Appendix 1 : Plan priority actions

Governance

Responsible investment

Priority action (summary)[12]	Status	Comment
Develop and implement a Sustainable Investment Framework (SIF)	Exceeded or met	The Sustainable Investment Framework has been implemented. See Sustainable Investment Framework (SIF) reporting in the Responsible Investment section.
The process for developing the framework will be determined and communicated at the latest by the end of quarter 1, 2017	Exceeded or met	Complete.
Actively engage with fund managers regarding the appropriateness of their climate risk management	Exceeded or met	Action is included in the SIF. See Sustainable Investment Framework (SIF) reporting in the Responsible Investment section.
Enhance reporting on climate change risk	Exceeded or met	Action is included in the SIF. The University has committed to report publicly on its performance in the annual Sustainability Report. The industry has moved away from reporting on exposure to the CU200, hence the University has focussed on other measures. See Sustainable Investment Framework (SIF) reporting in the Responsible Investment section.
Conduct scenario analysis on the potential impact of climate change on the investment portfolio	Exceeded or met	Climate change scenario analysis was undertaken for the University portfolio in 2020. The analysis shows that the University's portfolio is expected to have positive return impacts under a 2°C temperature increase scenario in the next 10 years to 2030. As the industry has moved away from reporting on exposure to the CU200, divestment cost of these companies was not measured.
Reflect the University's climate-related investment beliefs in the Statement of Investment Objectives and Policy (SIOP)	Exceeded or met	Complete. Statement of Investment Objectives and Policy (SIOP) updated to the Statement of Investment Management and Principles (SIMP) to reflect the adoption of the SIF.
Engage specialist advisors to provide on-going advice on the management of climate change risk	Exceeded or met	Complete. Specialist advisors Mercer Investments have been appointed.
Investigate integrating impact investments into the University's strategic asset allocation	Exceeded or met	The proposed Impact Investment Framework was presented to the Investment Management Committee (IMC) in late-2020. The IMC determined that more work was required to ensure alignment with University goals.
Work with peer organisations to build strategic partnerships and increase the aggregate influence of the group	Partially met	The University engaged with a number of groups, including university peers, industry and superannuation funds, throughout 2020.

12 For the full wording of targets and actions please see the Plan p. 37.

Core Activities

Teaching & Learning

Priority action	Status	Comment
Chancellery will:		
Ensure appropriate leadership of the project *('the project' means Education for Sustainability at the University for the period of the Plan 2017-2020)*	Partially met	Good progress has been made at faculty level despite COVID-19. More work is needed to champion the integration of sustainability in curricula. Recommendations for the next Plan are for the Sustainability Fellows to have dedicated hours, research assistance, formalised convening of the Fellows' Community of Practice and an agreed approach to lead integration of sustainability in curricula into 2021 and beyond.
Establish baseline knowledge by mapping current teaching and learning courses and subjects that develop sustainability values and knowledge	Exceeded or met	Sustainability Fellows have conducted research with subject and course coordinators to establish a baseline understanding of sustainability integration into undergraduate coursework in respective disciplines. Several faculties are now identifying opportunities for deeper integration, commensurate with the nature of each discipline.
Make sustainability curriculum innovations a priority area for teaching and learning innovation and engagement grants	Exceeded or met	The annual University Excellence Awards have included an 'Award for Excellence in Education for Sustainability' since 2018. This was offered but not awarded in 2020. The Learning and Teaching Initiatives (LTI) grant scheme is offered annually and provides the opportunity to support innovative initiatives driving excellence. Over the Plan period, the Melbourne Centre for the Study of Higher Education (CSHE) offered a number of professional development opportunities for academic staff focussing on Education for Sustainability. The Student Engagement Grant program supports student-led engagement which addresses important social, economic, environmental and cultural issues, encourages interdisciplinary collaboration and develops students' social and civic responsibilities.
Support faculty-based Education for Sustainability leaders and activities	Exceeded or met	The Sustainability Fellows group has grown from four to five in 2020, and more engagement, leadership and formal, central coordination are needed to sustain Fellows in each of the ten academic divisions. Recommendations for the Sustainability Fellows in the next Plan will include dedicated hours, research assistance, convening of the Fellows' Community of Practice and an agreed approach and guidance by which integration of sustainability in curricula will occur.

Priority action	Status	Comment
Academic Board will:		
Ensure all formal course proposal and review processes require Academic Divisions to identify how graduate attributes relevant to sustainability are developed through teaching and learning	Exceeded or met	Graduate Attributes are explicitly addressed in all course proposals and review processes. In the future, it is recommended that all three attributes are elevated and that sustainability – emphasised in the 'Active Citizenship' attribute – is elevated in reviewing the attributes under *Advancing Melbourne*.
Encourage graduate attributes, including leadership for sustainability, to be documented in students' Australian Higher Education Graduation Statements	Not met	All students can receive recognition of their sustainability activities, such as participation in the Green Impact Program, through the Leaders in Communities Award (LiCA), with more sustainability activities being added progressively to the award program.
Centre for the Study of Higher Education will work with Academic Divisions to:		
Communicate a clear vision of how knowledge and values for sustainability can be practically incorporated in diverse curricula	Partially met	The CSHE website has information on the vision and examples of practices within curricula and was to provide academic support for the Sustainability Fellows cohort. Due to the COVID-19 pandemic and some ambiguity around roles and responsibilities, this support has slipped. The forthcoming Sustainability Plan will further articulate this vision.
Provide annual professional development opportunities for Education for Sustainability	Exceeded or met	CSHE offered various professional development opportunities for academic staff focusing on Education for Sustainability. Guidance and instructional material will be developed for Sustainability Fellows and for professional development for subject coordinators on methods for integrating sustainability into the diverse curricula of disciplines.
Recognise and reward good practice through establishment of a named award for excellence in advocacy and innovation in Education for Sustainability	Partially met	The Melbourne CSHE 'Award for Excellence in Education for Sustainability' has recognised outstanding contributions in advocacy and innovation since 2018. It was not awarded in 2020.
Academic Divisions will:		
Ensure mechanisms are in place to enable integration of sustainability in curriculum	Partially met	A suite of activities is supporting the integration of sustainability in curriculum: • Faculty-based Sustainability Fellowships program launched in semester 2, 2019. New Fellow from Arts faculty in 2020. Some supporting mechanisms, such as coordination, resourcing and reporting need more attention moving forward. • The Wattle Fellowship co-curricular program developed in 2020 commences in June 2021. • Multi-disciplinary sustainability breadth subjects developed: Master of Environment, Master of Law and Development and Grad Cert in Green Infrastructure are some examples. Courses such as the Master of Public Health and Master of Urban Planning have an existing strong sustainability focus that can be strengthened, with their practices applied to other programs moving forward.

Appendix 1 : Plan priority actions

Teaching & Learning (continued)

Priority action	Status	Comment
Ensure Associate Deans (Teaching and Learning) and Directors of Teaching have responsibility for Education for Sustainability and work with staff and students to advocate and lead action for embedding sustainability in teaching and learning in courses	Partially met	There has been positive interaction at Dean and Director level in divisions where a Sustainability Fellow is in place. In the future, there will be recommendations for systematic reporting mechanisms.
Review course level curriculum to ensure sustainability values and knowledge are fostered through core and compulsory curriculum, and in ways that are relevant to the profession or discipline	Partially met	These aspects are covered by the work of the Fellows, Academic Board and course accreditors.
Initiate and support development of teaching and learning support packages (see following page) and the potential for new dedicated units that enable a wider range of undergraduate and graduate students to apply sustainability knowledge and values to practical, campus-based problems	Partially met	The faculty-based Sustainability Fellowships program provides support for integrating sustainability into teaching and learning. It is recommended that additional supporting mechanisms, like centralisation, resourcing and reporting need more attention moving forward to cover formal, non-formal, and informal learning. The use of campus sites and infrastructure (such as PV solar arrays, landscape treatments etc) for teaching is evident. Looking forward, Fellows will survey subject coordinators in a similar way to that which has been conducted by FBE to document case studies of students addressing campus base problems.
Identify course pathways and options, either through distinct majors or recommended elective and breadth sequences, to allow all bachelor degree students to study the environment and sustainability, and to promote these specialist options to potential and current students and to employers	Partially met	Most bachelors and many masters degrees have major programs that enable students to deeply explore the sustainability aspects of that discipline. Examples include The Bachelor of Science 'Environmental Science' major, and the Master of Environment's 'Environment and Public Health', or 'Education and Social Change' specialist streams. Other specialist degrees such as the Master of Energy Systems draw upon existing subjects, complemented with new and tailored energy system subjects to train specialists capable of responding to the challenges of this specific area. Additionally, work currently underway such as curriculum mapping in the Department of Engineering, will enable course coordinators to identify the ways that new programs that prepare specialists to respond to contemporary and emerging sustainability challenges can be built and promoted.
University Services will:		
Support student awareness of environmental and sustainability specialist pathways through dedicated marketing and course advising materials and events	Exceeded or met	This can be found through the OEP and Wattle Fellowship websites. In July 2020, the online UNAA international careers event engaged a large number of University graduate students and alumni to explore opportunities in development and humanitarian aid, government relations, communications, trade and finance, and diplomacy.

Appendix 1 : Plan priority actions

Priority action	Status	Comment
Assist with development of teaching and learning support packages	Partially met	The Joining Melbourne Module: *Sustainable communities & campuses* was developed in 2020 for integration into a number of Discovery and other undergraduate subjects in 2021. The forthcoming Sustainability Plan will propose the development of consistent approaches for both evaluating the extent to which sustainability is incorporated, and facilitating deeper integration of sustainability into subjects. These will be responsive to the unique impacts and potential of disciplines, actively drawing upon pedagogical theory.
Investigate provision of student record software that will enable documentation of curricular and extracurricular activities demonstrating graduate attributes such as sustainability leadership	Exceeded or met	The Leaders in Communities Award (LiCA) enables students to gain the most benefit from volunteering activities, developing professional skills and recognition on academic transcripts. Future work will look at closer alignment with LiCA and the mix of programs (formal, informal and non-formal), such as Work-Integrated Learning, placements and volunteering that encourage students to participate in and critically evaluate such activities for their sustainability credentials. Completion of the Wattle Fellowship, commencing in 2021, will be recognised on academic transcripts.

Core Activities

Research focus and impact

Priority action	Status	Comment
Chancellery will:		
Develop methods and metrics to measure research outcomes and positive impacts relating to sustainability	Partially met	Under *Advancing Melbourne* there is a renewed emphasis on research translation and impact, which has seen the University agree to progress a research impact framework. We acknowledge it is critical for the University to have the right systems and enablers in place to properly support, recognise and reward different forms of impact and translation. In 2020, as part of the lead up to this activity, the University continued leveraging and supporting existing communities of practice such as REIN (Research Engagement and Impact Network). In recognising the different forms of research impact, Melbourne also became the first Australian university to sign up to DORA, an initiative aimed at shifting assessment of research performance from numerical assessment to peer review. The objective of the San Francisco Declaration on Research Assessment (DORA) is to create a culture where numerical measures are no longer the primary determinant of promotion and research funding. Signed by more than 15,000 individuals and 1,800 institutions, we sit alongside the Australian Academy of Science and the Australian National Health and Medical Research Council in registering our support.

Research focus and impact (continued)

Priority action	Status	Comment
Chancellery will:		
Promote and support University of Melbourne research initiatives, institutes and entities that deliver partnerships and sustainability policy advancement	Exceeded or met	In response to the challenges of 2020, some interdisciplinary and Hallmark research initiatives shifted to support creative and critical research projects with key seed funding. The Melbourne Sustainable Society Institute (MSSI) supported a range of projects, exploring ecoanxiety, regenerative agriculture, transformative stormwater management and the use of complex social-ecological systems to address intersecting sustainability-related issues including climate, health, economy and natural resources. Projects focused on sustainability more broadly also progressed. The BioInspiration Hallmark Research Initiative offered seed funding to four innovative projects, including developing sustainable building material using mushrooms, and developing the world's first protective bioinspired cellular structure. Our Creativity and Wellbeing initiative entered into a partnership with Belgium Avenue Neighbourhood House to tackle community development and wellbeing through playground design. The Future Food Hallmark Research Initiative continued to fund a range of ongoing projects (first launched in 2019) that explore the use of alternative proteins with environmental, economic and nutritional advantages. In addition, the Melbourne Energy Institute co-sponsored research to examine organisational determinants of the uptake and performance of energy efficiency initiatives.
Continue to share and communicate the University's sustainability research to the broader community and key policy influencers, for example through collaboration and engagement, effective policy advocacy and evidence-based input to government processes, and circulation of publications covering our research such as the Sustainability at Melbourne brochure	Exceeded or met	In 2020, the University's Research Hub went live, providing a new channel to market the University's research, research facilities and collections. Thirty-four sustainability related stories were published on Pursuit in 2020, and thirty-eight 'science and environments' news stories were also released. In February, the Melbourne Energy Institute's ground-breaking power system security assessment was used by Australian Chief Scientist Dr Alan Finkel in his independent review into the future security of the national electricity market. Dr Finkel directly referenced the work of the Institute in his address to the National Press Club and subsequent appearance on ABC's Q&A. Despite the challenges of 2020, the University continued its advocacy efforts including detailed policy submissions on the following government consultations: • *Make it Happen: The Australian Government's Modern Manufacturing Strategy*, arguing the disruption caused by the pandemic represents an opportunity to reset the strategic approach taken to Australia's manufacturing sector. • The Department of Education Skills and Employment's Consultation Paper on the National Priorities and Industry Linkage Fund (NPILF).

Priority action	Status	Comment
Chancellery will:		
(continued from previous)		• The Technology Investment Roadmap Discussion Paper, where the University put forward a series of recommendations, such as the need for stronger consideration of building social acceptability and testing feasibility of new technologies in future stages of Australia's low emissions technologies planning. We also recommended that investment frameworks should incentivise low-carbon technologies as well as investments in grid reliability and resilience, and the need to recognise economic and workforce planning and industry development for communities impacted by technology transition.
Academic Divisions will:		
Promote these targets, where appropriate to disciplinary context, to extend and deliver on research in sustainability	Not met	The absence of a practical definition of 'sustainability' research hinders the ability of Academic Divisions to appropriately complete this action in ways relevant to each discipline. The development of the Melbourne Climate Futures initiative for launch in 2021 will strongly address this action.
Consider the sustainability impacts of research activities, pursuing sustainable alternatives where possible	Not met	It is unclear to what extent the academic divisions are considering the sustainability impacts of research activities. An area requiring University-wide collaboration in the coming years will be carbon emissions associated with air travel. The development of the Melbourne Climate Futures initiative for launch in 2021 will strongly address this action.
Work closely with alumni and partners to connect our research in sustainability to action and outcomes	Partially met	Alumni Relations communicates regularly to the alumni community on sustainability issues and opportunities. Over 7,000 alumni currently participate in mentor programs. Alumni donors also contributed to research projects in 2020. University of Melbourne alum and artist Yandell Walton began her research project in 2020, as the inaugural recipient of The Philip Hunter Fellowship. The Fellowship allowed Yandell the crucial time and space required to conduct in-depth research on the impact humans have had on the ecological shifts in Australian forests since the Industrial Revolution. It also enabled the opportunity for Yandell to collaborate the opportunity to collaborate with a PhD graduate in Ecosystem and Forest Sciences to look at environmental aspects of her topic, including learning about Light Detection and Radar (LIDAR) technology. Thanks to the generosity of donors who contributed to the University's COVID-19 Research Response Fund, researchers designed a personal ventilation hood for hospital beds to help contain the droplet spread of coronavirus in intensive care units. Applied research from Faculty of Engineering and IT academics protected frontline health-care workers with a prototype that uses readily accessible components at a low cost, making it suitable for use in developing countries and primary health settings.

Research focus and impact (continued)

Priority action	Status	Comment
University Services will:		
Support and identify opportunities for 'campus as a laboratory' in support of research activity	Partially met	In 2020, the University identified the need for a new Estate Plan as a priority. An agreed plan was disrupted by the events of the year, but within the agreed core objectives of a future Estate Plan there is a commitment to link to the academic missions of research and teaching. Two distinct, but related, sub-plans will underpin the Estate Plan, with the intent for a living labs approach to become a core theme embedded across the University's activities. The proposed Campus Development Framework (CDF) will give physical form to the Estate Plan Strategy, taking into consideration how we want each campus to look and feel. The Strategic Asset Management Framework (SAMF) will establish the processes by which the Estate Plan's strategic direction, given form by the CDF, is made tangible.
Develop actions informed by our research	Not met	With the impact of the pandemic, planning for a stronger systemic approach to sustainability informed by research was halted. A proposed new climate initiative agreed in 2020, Melbourne Climate Futures, also aims to support the University's approach to sustainability in its operations, ensuring we become a leader in sustainability and decarbonisation practices, and helping translate that knowledge across the tertiary sector.

The Campus

Sustainable Buildings and Communities

Priority action	Status	Comment
Embed Environmentally Sustainable Design (ESD) principles throughout project lifecycles	Exceeded or met	Design standards have been updated and relevant sustainability subject-matter experts are involved in projects from business case stage.
Investigate leading global standards applicable to precinct-level design and development	Exceeded or met	The Fishermans Bend project has joined the Green Building Council of Australia's (GBCA's) Early Access program and the University has a staff member on the GBCA's Technical Advisory Committee, both helping to shape the next generation of Green Star rating tools.
Review and update the University's Design Standards to enable integration of sustainability commitments	Exceeded or met	As part of updating the design standards, the University has identified how sustainability initiatives align with and support other desirable outcomes, such as academic strategy and campus experience.

Priority action	Status	Comment
Develop guidelines for ESD standards for both major and minor refurbishments	Exceeded or met	Included as part of updating the University's Design Standards.
Apply 'zero emissions-ready' approach to all campus development projects	Partially met	'Zero emissions-ready' means not using gas in a building. This has been feasible on new buildings, such as the Ian Potter Southbank Centre, that are stand-alone for utilities. Redevelopments within the boundary of the traditional Parkville campus are more challenging. For the New Student Precinct, the heating hot water distribution network has been designed to enable the central gas boilers to be readily replaced with electricity heat pumps in the future.

Biodiversity

Priority action	Status	Comment
Adopt a 'no net loss' approach to arrest the decline of the number of trees on campus	Partially met	A 'no net loss' policy definition was developed and incorporated into the University's Design Guidelines for Projects in 2019. This approach is still to be integrated into business-as-usual activities.
Integrate biodiversity considerations in campus planning and design	Partially met	The Sustainability & Campus Management teams are involved in capital works planning processes. An improved focus on stakeholder integration will improve this further.
Maintain or increase the number of species to ensure the health of ecosystems and aid in resilience to climate change	Partially met	An insect hotel has been built in Parkville's System Garden, in a disused doorway of the Botany Building, to encourage pollinator species to the campus. A small revamp of the System Garden is planned for 2021, including the introduction of indigenous plants. Completion of biodiversity baseline surveys will enable clear measurement of progress in this area.
Establish a 'Research Action Partnership' to integrate ecological and biodiversity research findings and expertise with the BMP	Not met	No formal partnerships have been established as yet. This will be a key focus of the next Biodiversity Management Plan (2021-2025).
Share outcomes of developing and implementing the BMP with our community, other universities and organisations	Exceeded or met	There have been presentations to and discussions with two Australian universities, University of Sydney and University of Western Australia (UWA), to share experiences of the development and implementation of the Biodiversity Management Plan 2017-2020.

Appendix 1 : Plan priority actions

Energy and emissions

Priority action	Status	Comment
Further develop and implement the Carbon Neutrality strategy	Partially met	Work on mapping the University's pathway to carbon neutrality before 2030, in line with the Climate Active Carbon Neutral Standard, began in 2020, but was paused as a result of COVID-19 resource constraints. This work will be completed in 2021.
Model off-campus renewable energy supply options	Exceeded or met	Complete. wind farm power purchase agreements signed.
Complete a full energy audit across all campuses by end 2017	Exceeded or met	Completed in collaboration with Melbourne School of Engineering (MSE).
Develop new buildings on campus with 'zero emissions-ready' approach	Partially met	'Zero emissions-ready' means not using gas in a building. This has been feasible on new buildings that are stand-alone for utilities. Redevelopments within the boundary of the traditional Parkville campus are more challenging due to space constraints (heat pumps typically require more space than gas boilers) and the interconnected nature of the heating network.
Complete Greenhouse Gas Inventory by mid-2017, to be included in annual Sustainability Report	Exceeded or met	Reported annually since 2016.
Monitor and report energy intensity	Exceeded or met	Reported annually in this Sustainability Report.
By end 2020, a pathway to NCOS certified carbon neutrality is scoped and activities mapped across Scope 1, 2 and significant Scope 3 emissions	Not met	Work on mapping the University's pathway to carbon neutrality before 2030, in line with the Climate Active Carbon Neutral Standard (previously NCOS), began in 2020, but was paused as a result of COVID-19 resource constraints. This work will be completed in 2021.

Water

Priority action	Status	Comment
Complete annual report and review of Water Management Plans for each campus	Not met	This action has not been prioritised due to its relatively low impact and opportunity for improvement.
Commission the existing Parkville purple pipe network to facilitate use of harvested water	Partially met	The purple pipe has been commissioned, however its use is limited due to operational issues.
Implement infrastructure to monitor all harvested water usage	Not met	This action has not been prioritised due to its relatively low impact.

Appendix 1 : Plan priority actions

Waste and recycling

Priority action	Status	Comment
Ensure waste minimisation considerations are incorporated into procurement decisions	Partially met	In 2020 there was considerable work to embed sustainability considerations into leases for retailers and contractors at Parkville's Union House and new projects such as the New Student Precinct at Parkville. The aim is to reduce waste at source and increase reuse. These contracts will be implemented from 2021 and 2022, and include the removal of single use plastic bottles for beverages. There are also plans for wider implementation of reuse across the University's campuses, for example within the University's IT deployment.
Maximise recycling rate by enhancing bin labelling and placement	Partially met	New outdoor bin signage was rolled out across the Parkville campus in early 2020. A full indoor bin audit of Parkville was due to be completed in 2020 however due to the COVID-19 pandemic was put on hold until 2021, and will now include other campuses. Also in development is a new 'bin it right' video to support and educate the University community on how to dispose of their waste correctly.
Expand the Reuse Program to include recovery of all equipment and furniture	Exceeded or met	The Furniture and Equipment Reuse Centre continued to provide a service throughout 2020 however, due to COVID-19-related restrictions and the move to a virtual campus, the volume of furniture made available for reuse by staff dropped sharply. However, the first three months of 2020 saw a 20% increase in reuse compared to the same period in 2019. For the whole year 3,482 pieces were reused. This equates to 55 tonnes of waste diverted from landfill (a reduction of approximately 50% relative to 2019) and is valued at $1.4 million. The Choose to Reuse Plate program saw unprecedented use in the first quarter of 2020, with an estimated 68,620 items saved from landfill. The service was closed in March 2020 as the Parkville campus closed due to the COVID-19 pandemic.. Collectively the service has washed 335,000 items since July 2019. In March 2020 a Choose to Reuse Events service was launched to support reuse across the University. These reuse services will be reinstated in 2021.
Investigate broader scale organics recycling options	Partially met	The recycling of organic waste across campuses continues to progress. In late 2020 three new compost bins were constructed in the System Garden on the Parkville campus. This complements compost bins in the Community Garden and a 200kg food waste processor in Parkville's Union House for retailers, as well as numerous department-owned worm farms. Organics bins and a food waste processor will also be included in the New Student Precinct, due to open in early 2022. The feasibility of a University-wide organics recycling solution is still being assessed.
Measure waste data by disposal method daily, with regular reporting	Partially met	A new dashboard has been developed by the Campus Management team to collect, analyse and display waste collection data. Waste data and trends are tracked and reported on a monthly basis, with information sourced from our multiple contractors.
Improve contractor management to ensure effective waste disposal	Partially met	Contractor management processes are in place. This will be improved upon in a new waste tender to go to market in 2021.

Appendix 1 : Plan priority actions

Travel and transport

Priority action	Status	Comment
Report air travel emissions derived from University business, starting 2017 calendar year	Exceeded or met	Air travel emissions have been reported as part of the Greenhouse Gas Inventory since 2016.
Investigate opportunities to reduce air travel through enhanced teleconferencing facilities and other means	Exceeded or met	COVID-19 restrictions in 2020 resulted in the rapid uptake of teleconferencing facilities, including Zoom, Teams and Skype.
Optimise composition and management of vehicle fleet and increase pooling of vehicles	Partially met	Overall the University has less vehicles now than it has over previous years. This is due to the background work to increase pooling of vehicles and reduce the overall passenger fleet. Future targets will be set to further increase the pooling of vehicles and decrease overall fleet size.
Improve the pool car booking system and automated pickup process to facilitate higher utilisation	Partially met	The University has increased its pool vehicles using an automated pickup process from 10 to 30 over the last three years. This has helped improve utilisation and reduce the administration burden, allowing further reductions in fleet size.
Review the University Fleet Vehicle policies to promote timely uptake of sustainable vehicle options (eg. hybrid and electric vehicles)	Partially met	The University is currently in the middle of a review of its fleet procurement model. This will conclude mid-2021 and will coincide with the review of the fleet policy. The University's Sustainability team has been heavily involved in this review and will assist with these changes to ensure alignment with the University's targets.
Prioritise pedestrian and bicycle transit and end of trip facilities as a strategic priority across our campuses	Partially met	Planning at the Parkville campus is for a vehicle-light campus. Installation of additional end-of-trip facilities was paused due to COVID-19.
Provide greater sustainable transport choices for students, staff and visitors	Exceeded or met	The University community has a wide range of sustainable transport choices available, including public transport, walking and cycling. The 2019 commuting survey conducted by Pangolin Associates determined that sustainable transport was utilised for over 90% of staff commuting passenger kilometres.
Actively manage staff and student incentives that contribute to transport emissions	Partially met	A staff commuting survey was conducted at the end of 2019 to better understand staff commuting choices and motivations. The impact of the COVID-19 pandemic meant that this action did not progress in 2020.

Supply chain and procurement

Priority action	Status	Comment
Review implementation and governance of the University's Procurement Policy, ensuring procurement processes fulfil the University's social and environmental obligations established through the Sustainability Charter and Plan	Exceeded or met	Procurement Policy updated in 2018. Reviews are ongoing.

Appendix 1 : Plan priority actions

Priority action	Status	Comment
Review existing procurement contracts and practices, relative to supply chain and product life cycle sustainability requirements	Partially met	This is part of a much broader initiative to ensure sustainable procurement practices as part of new legislations (e.g. The Modern Slavery Act).
Procure only certified tea and coffee products as listed by the University's supplier	Exceeded or met	University Executive committed to 100 per cent Fairtrade consumables in office kitchens.

University Community

Engagement and awareness

Priority action	Status	Comment
Build community capacity and engagement through the number and quality of engagements (through events, programs and online) and key programs: Sustainability Advocates; Sustainability Advocates Forum; Fair Trade Steering Committee; Engagement Working Group, and C16Hack	Exceeded or met	The Sustainability team delivered a total of 93 online engagements in 2020, with 3,606 participants. This is a significant increase from 2019 and covered 32 events, forums and workshops and 61 presentations. These figures include the University community consultation process for the new Sustainability Plan which comprised 429 interactions over 12 workshops or via online form submissions. The Sustainability team released a new Sustainable Events Guide in February 2021. The Fairtrade Steering Committee and the Sustainability Advocates Forum were placed on hold in 2020 due to COVID-19, however both groups will be re-engaged 2021.
Facilitate on-campus research opportunities by working with the University community to promote a living laboratory and to lead Australia in terms of categorisation, evaluation and implementation of the Campus as a Living Lab – utilising the campus as a test bed for research projects and teaching and learning opportunities	Partially met	COVID-19 restrictions limited the University's opportunity to progress Campus as a Living Lab activities in 2020. Nonetheless, a number of initiatives such as Fishermans Bend campus energy master planning (see case study) and the new insect hotel (see biodiversity section) still demonstrated the value of utilising the campus in this way.

Engagement and awareness (continued)

Priority action	Status	Comment
Promote behaviour and policy within the University community towards more environmentally sustainable ways of studying and working	Exceeded or met	The Green Impact program continues to engage a wide range of staff and students in sustainability related-activities. The Sustainable Events guide was developed in 2020 and published in early 2021 with a new training module scheduled for development during 2021. The Choose to Reuse Events service is also available for all staff and students that organise on campus events at Parkville. New sustainability clauses have been included in new vendors contracts for the New Student Precinct and Union House. A new 'single use disposable items' standard for the University has been developed and will be included in all new vendor contacts to help eliminate single use plastics from campus.
Utilise the University's academics and their expertise to create best-practice University operations	Partially met	The University's Sustainability team continues to utilise academics and their expertise on an ad-hoc basis to inform operations. In 2020 and 2021, academic expertise is being utilised to inform the next iteration of the new Sustainability Plan. The community consultation phase of Plan development included academic experts and took place in late 2020.

External Relationships

Community engagement

Priority action	Status	Comment
Position the University at the centre of one of Australia's most influential public policy precincts, enabling us to advance policy discussion and debate on important social and environmental challenges	Partially met	The development of plans for a distinct public policy precinct were paused during 2020. The pandemic also slowed progress on developing the Melbourne Innovation Districts (MID) during the year.
Explore the potential for an advanced leadership program to assist established professionals to transition their careers toward areas of public priority, including those redressing complex social and environmental challenges	Not met	The development of advanced leadership programming remained on hold and therefore did not meet the target by the end of 2020.

Priority action	Status	Comment
Make publicly accessible the University's sustainability expertise and resources, engaging the public in our work to address sustainability challenges	Partially met	A partnership between the City of Melbourne and the University of Melbourne that started midway through 2020 is working to integrate the United Nations Sustainable Development Goals (SDGs) into the City's strategic planning environment. This applied research project, led by the University's Connected Cities Lab, is 'localising' the UN's 2030 Agenda to provide a holistic, evidence-based approach to prioritising resourcing and policy development for the municipality as it recovers from COVID-19. This will set out the sustainable development framework for the City of Melbourne through to 2030, in line with national, regional and global efforts. The fourteenth annual Kids Teaching Kids (KTK) Conference was held virtually on 30 November 2020. The environment and sustainability focused conference engaged more than 500 primary and secondary school students from 50 schools across Australia. The COVID-19 pandemic limited the University's ability to offer our sustainability expertise and to engage the public to address sustainability challenges. The return to campus in 2021 provides the University with the opportunity to meet this goal in 2021.
Articulate a social compact that expresses the University's commitment to developing relationships with communities of place and interest, providing a framework for engagement and setting core principles for developing mutually beneficial, multilateral partnerships	Not met	This initiative has been revised and is no longer an area of specific focus within the Engagement at Melbourne 2015-2020 strategy. The *Advancing Melbourne* Strategic Framework expressed the University's commitment to Place and community. The Community Partnerships team are developing frameworks and principles for developing mutually beneficial relationships in key areas of interest for the University in Melbourne, the Goulburn Valley and Arnhem Land.
Develop a framework for understanding and reporting on the value and impact of strategic partnerships for the University and its partners	Exceeded or met	Research, Innovation and Commercialisation (RIC), Chancellery and Advancement developed a Strategic Partnerships Framework for the University in 2020.
Establish a Sustainability Excellence Award open to students and staff	Exceeded or met	The Melbourne CSHE Excellence in Education for Sustainability Award was offered again in 2020, though there was no award announced for the year. The Award will be offered again in 2021.