

# 2023 Sustainability Impact Report



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# Acknowledgment of Country

Federation University Australia acknowledges the Wotjobaluk, Wergaia, Jupagalk, Jadawadjali, Jaadwa, Wadawurrung, Dja Dja Wurrung, Djab Wurrung, Boonwurrung and Gunai Kurnai, Barkindji, Mutthi Mutthi and Jagera peoples as the Traditional Custodians of the lands and waters where its main campuses, centres and field stations are located, and pay our respects to Elders past and present.

We extend our respect to all Aboriginal and Torres Strait Islander peoples. Federation University seeks to provide a learning and working environment that promotes values of diversity and offers equality of access and opportunity. This commitment to Aboriginal and Torres Strait Islander peoples is embedded in policy, strategy and the University's 'living' values. Seated in the practicalities of teaching, learning, research and community engagement that comprise the daily business of Federation, we are proud to work closely with all Aboriginal and Torres Strait Islander communities in supporting the continuation of knowledge and learning that is central to their peoples, cultures, lands and histories.

Respecting and understanding the longest continuous cultures on earth is crucial in realising who we are as a nation, our role as a university, what we have done, and where we are going. Federation has built strong partnerships with local Aboriginal and Torres Strait Islander communities to support the development of cultural inclusivity and immersion of Aboriginal and Torres Strait Islander cultures, history, and knowledge systems into the whole of university environment. This has included investing in the naming of various buildings and rooms, the acquisition of Aboriginal and Torres Strait Islander art pieces and signage totems at each campus. We are committed to meeting or exceeding a 3% Aboriginal and Torres Strait Islander workforce, and to achieve a balance across both professional and academic positions, to renew and strengthen our Aboriginal and Torres Strait Islander Peoples Workforce Strategy. We will do this by developing our targeted and identified recruitment campaigns, academic and professional recruitment strategy, cadetships, graduate programs and traineeships.





# Message from the Vice-Chancellor

I am proud to present Federation University Australia's *2023 Sustainability Impact Report* which highlights the university's significant contributions to environmental, social, and economic sustainability, both locally and globally. The report aligns with the United Nations Sustainable Development Goals (SDGs), a global agenda for sustainable development by 2030 aiming to end poverty, protect the planet, and ensure peace and prosperity for all by 2030.

Federation University is deeply embedded in our regions, with campuses in Victoria across Ballarat, Berwick, Gippsland, and the Wimmera. We are a diverse community with over 18,500 domestic and international students, 1,650 staff, and 118,000 alumni across Australia and the world. As a regional university, we serve one-third of Australians who live outside our largest cities in regional, rural, and remote Australia. We play a vital role in driving the sustainability agenda of our regional communities in partnership with our students, staff, industry, government, and communities.

We pride ourselves on inclusivity, enrolling the country's highest proportion of first-in-family students and ranking #1 in Australia for access and equity. By providing high-quality education to otherwise hard-to-reach students, Federation University helps reduce poverty and inequality, fostering intergenerational change through education. Educational attainment has a profound impact on an individual's prospects, leading to higher rates of employment, productivity, and lifetime income premium increases. Specifically, individuals with a bachelor's degree have a 60% higher lifetime income compared to those whose highest level of education is year 11 or below.

Federation University's Co-operative (Co-op) education model promotes decent work and economic growth by allowing students to earn while they study and providing a pipeline of skilled graduates to address critical skills shortages in regional areas. The university collaborates with government and industry to ensure its programs meet workforce demands

in fields such as teaching, nursing, allied health, and engineering

We partner with industry, government, and community to provide innovative solutions to contemporary challenges through education, training, and research. This includes our world-leading research in health and wellbeing, where Federation researchers are upskilling regional and rural healthcare workers to manage and prevent chronic diseases using behavioural change techniques. It involves supporting our regions with the transition to affordable and clean energy and partnering with global renewable energy companies through our Asia Pacific Renewable Energy Training Centre to meet the skills demands of the rapidly growing wind energy sector. It also means helping to build sustainable cities and communities through our Future Regions Research Centre, through research on successful mine rehabilitation and long-term stable environment rehabilitation.

Our [Campus Vision 2022-25](#) focuses on our own footprint, setting out a plan to transform our campuses into places that are agile, integrated, and responsive to the needs of those we serve. Our Campus Vision is a model for what a modern university can and should be – a strong, sustainable, vibrant, and thriving university that will transform lives and enhance communities for generations to come. We have a significant responsibility to deliver this transformation sustainably.

This report is only a snapshot of what we are delivering in partnership with our communities. We will continue to work collaboratively together to further the social, economic and cultural prosperity of our regions and the communities we serve in Australia and around the world.

Yours sincerely,

Professor Duncan Bentley  
Vice-Chancellor

# Federation University's Impact in 2023

In 2023, Federation University continued to advance our commitment to the United Nations Sustainable Development Goals (SDGs), aligning its activities with the three core objectives in our Strategic Plan 2021-2025: Transform Lives, Enhance Communities, and Build a Strong and Sustainable University and. This report highlights the key initiatives and achievements that underscore our dedication to creating a sustainable future.

## Key Initiatives and Achievements

**Sustainable Campus Operations:** We have implemented various initiatives to reduce our carbon footprint, including energy-efficient building designs, waste reduction programs, and sustainable water management practices. Our Net Zero Plan, although not including water initiatives, focuses on reducing Scope 1 and Scope 2 emissions.

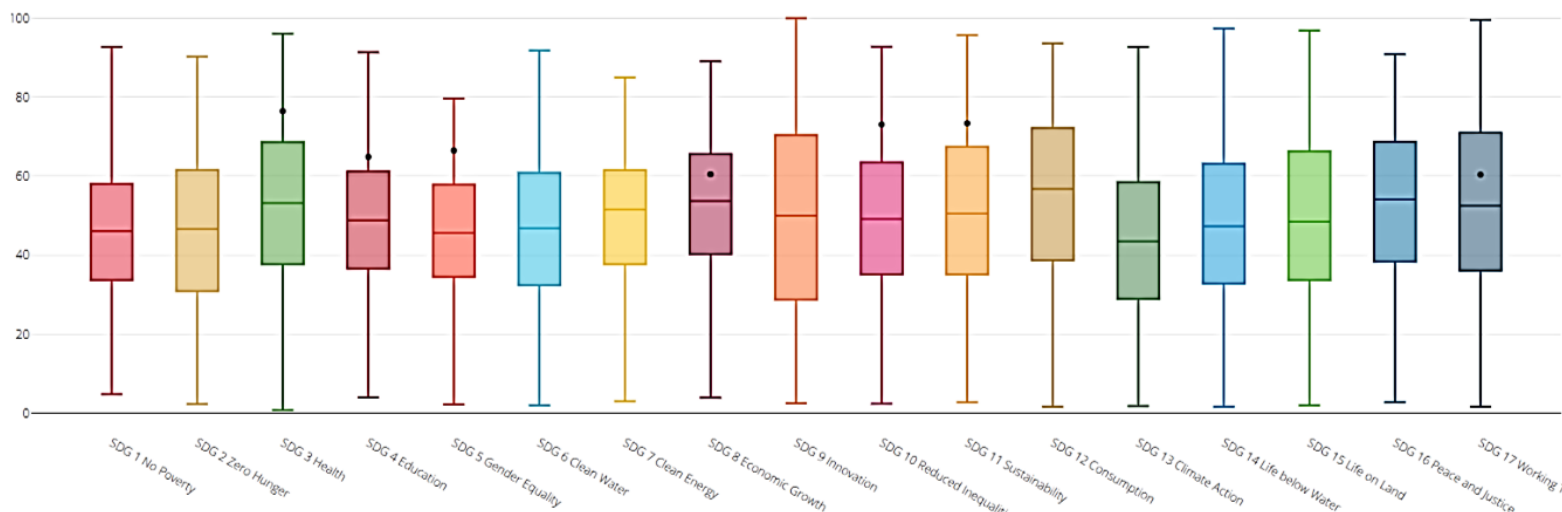
**Research and Education:** Our research projects and educational programs are designed to address global challenges. We have made significant progress in areas such as climate action, clean energy, and sustainable cities. Our commitment to providing accessible education is reflected in our efforts to support students from diverse backgrounds.

**Community Engagement:** Federation University has strengthened its partnerships with local communities, government agencies, and industry. These collaborations have led to impactful projects that promote social equity, economic growth, and environmental sustainability.

## Performance in THE Impact Rankings

In the 2023 Times Higher Education (THE) Impact Rankings, Federation University maintained its position in the 201-300 band, despite an increase in participating institutions. We saw improvement in SDG 17 (Partnership for the Goals), contributing significantly to our overall score. Our top-performing SDGs included SDG 5 (Gender Equality) and SDG 11 (Sustainable Cities and Communities), highlighting our strengths in promoting social equity and sustainable urban development. The table below denotes our performance in the SDGs in which we submitted data for against all other global institutions who entered the rankings.

Federation University's sustainability initiatives in 2023 demonstrate our unwavering commitment to creating a positive impact on the world. By aligning our actions with the Strategic Plan and the SDGs, we are not only enhancing our university's sustainability but also contributing to global efforts to build a better future for all.



# Strategic Plan and Living Values

Federation University's Strategic Plan 2021-2025 is supported by our Living Values – a set of guiding principles that reflect the university's commitment to fostering a positive and inclusive environment. These values are designed to promote a culture of excellence, innovation, and collaboration within the university community.

## STRATEGIC AND VALUE ALIGNMENT WITH THE SDGS

		STRATEGIC PLAN			LIVING VALUES				
		TRANSFORMING LIVES	ENHANCING COMMUNITIES	SUSTAINABLE UNIVERSITY	INCLUSION	INNOVATION	EXCELLENCE	EMPOWERMENT	COLLABORATION
SUSTAINABLE DEVELOPMENT GOAL									
	NO POVERTY				★				★
	ZERO HUNGER	★			★				★
	GOOD HEALTH AND WELL-BEING	★	★	★	★	★	★	★	★
	QUALITY EDUCATION	★	★	★	★	★	★	★	★
	GENDER EQUALITY	★	★	★	★			★	★
	CLEAN WATER AND SANITATION	★	★		★	★			★
	AFFORDABLE AND CLEAN ENERGY	★	★	★	★	★	★	★	★
	DECENT WORK AND ECONOMIC GROWTH	★	★	★	★	★	★	★	★
	INDUSTRY, INNOVATION AND INFRASTRUCTURE	★	★	★		★	★		★
	REDUCED INEQUALITIES	★	★	★	★	★	★	★	★
	SUSTAINABLE CITIES AND COMMUNITIES	★	★	★	★	★	★	★	★
	RESPONSIBLE CONSUMPTION AND PRODUCTION		★	★		★	★		★
	CLIMATE ACTION	★	★	★	★	★	★	★	★
	LIFE BELOW WATER	★				★	★		★
	LIFE ON LAND	★				★	★		★
	PEACE, JUSTICE AND STRONG INSTITUTIONS			★		★			★
	PARTNERSHIPS FOR THE GOALS	★	★	★	★	★	★	★	★



Federation University contributes to SDG 1 through its commitment to providing accessible education opportunities for all, regardless of socio-economic background. We partner with government and industry to raise aspirations and provide paid opportunities for students to work while they study through our Co-operative (Co-op) Education model.

Federation University is ranked #1 in Australia for first-generation enrolments according to the Good Universities Guide and #1 for Access and Equity in the Australian Financial Review Best Universities Ranking.

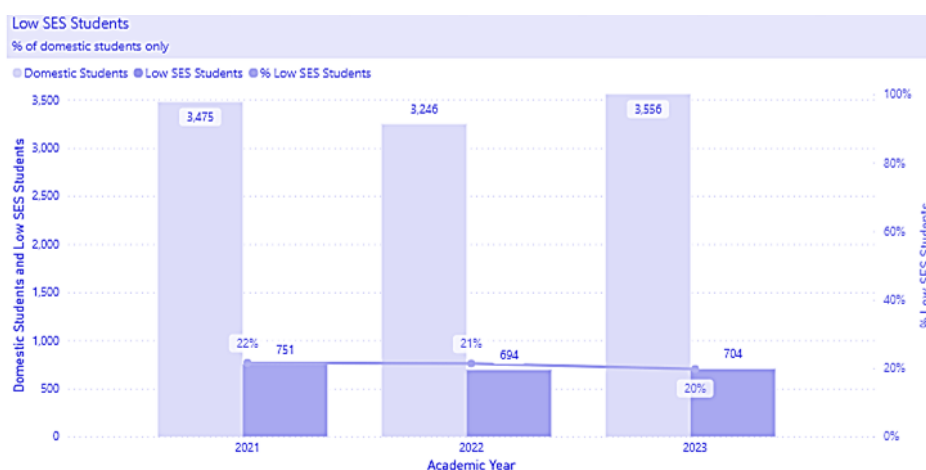
## 1.1 Institutional Equity Targets

Federation University's Strategic Plan 2021-2025 outlines our journey to be Australia's leading regional university and we aim to do this by Transforming Lives, Enhancing Communities, and being a Strong and Sustainable University. Our first objective is to deliver **World-class multi-sector education available to all**, is one of the Success Measures we use to measure this with a target of 20% of students coming from low Socio-Economic backgrounds.

Based on institutional data, 61% of Federation University students meet the definition of equity students. Our student profile (2023 full year) includes:

- 20% from low SES backgrounds
- 48% from inner regional, outer regional, remote and very remote areas
- 44% first in family to access higher education
- 1.5% First Nations Australians
- 16.6% People with disability.

Many of our students face a range of complex barriers to entry, success and completion of study. The majority are female (60%) and mature age (56%) and more than half (53%) study part-time. Federation's model of education is designed to support students from disadvantaged backgrounds to enter, succeed at, and transition from higher education to employment.



In 2023, Federation was ranked #1 in Australia through the Financial Review Best Universities Ranking, in Equity and Access. Equity and Access uses Australian government information on the five groups of disadvantaged students: non-English speaking background, disability, Indigenous, low socio-economic status and regional/remote. The information centres on the participation of these students, the success of these students relative to others, and completion of degrees relative to others. Thus, university performance on access, retention, and completion is measured, including the provision of services to accommodate diverse cohorts of students.

## 1.2 Course Completions for students from Low Socio-Economic backgrounds

The University is particularly focused on improving retention and success rates ensuring our courses have entry and exit pathways to enable all students to leave with a meaningful qualification.

We have set up dedicated teams focused on retention and are seeing a marked improvement. In 2022 our attrition rate <sup>1</sup> was 26.9% (commencing domestic UG and PGCW). Our lead indicators show that this should be closer to 22% in 2024.

Table 1: Federation University commencement and success rates.

Equity cohort	Commencement rate	Success rate <sup>2</sup>
All students		89%
Low SES	20%	86.4%
Inner regional, outer regional, remote and very remote area	48%	81.9%
First in family	41%	89%
First Nations Australians	1.8%	80.1%
People with disability	24.5%	86.6%

<sup>1</sup> Attrition rate, defined as the portion of students who commenced a course in year(x) who neither complete in year(x) or year(x+1) nor return to study in year(x+1)

<sup>2</sup> Success rate: compares EFTSL of units passed to the EFTSL of units attempted.



## 1.3 Financial Aid for students

The [Federation University Australia Foundation](#) exists solely for the purpose of enhancing access to high-quality educational opportunities, supporting and engaging our students, our business and industry partners, our Indigenous affiliations and our local, national and international communities to assist in building a strong, resilient future for the University.

In 2023, we awarded 222 Foundation Scholarships to the total value of \$753,966 with individual values ranging from \$500 to \$10000. These scholarships were awarded to higher education and TAFE students who demonstrated a strong commitment to study and had experienced economic disadvantage. Without this financial support, many of these students would not have been able to continue their studies and for many, it is the first time anyone has expressed belief in them.



## 1.4 Access to free and low-cost services for the community

Federation University Institute of Health and Wellbeing offers a range of services to the community through [FedCare](#) Psychology services, Health and Exercise clinical center, Primary care clinic, and Physiotherapy clinic across our campuses and into remote communities like Ararat and Ripon where these critical services are otherwise unavailable.

In 2023, FedCare Psychology Services to 905 individuals. Of those 452 were children and adolescents and 453 were adults delivered over 7196 sessions.

The FedCare School Outreach program provided psychological services to 120 primary school-aged students across six schools. The School Outreach program creates access to psychological services to children and families who would otherwise have limited access to mental health services.

Of this program, Ryan Oliver, Principal, Dana St Primary School has said:

*This partnership has enabled us to receive targeted psychological supports for students in desperate need. The FedCare programs have supported students with complex needs such as trauma, cognitive impairments, social skill supports, emotional regulation and a range of other needs, which would not have been possible without this incredibly valuable partnership. Dozens of students have benefited from this program.*

## 1.5 Local start-up support

### Ballarat

Deakin University and Federation University Australia have partnered to launch the ManuFutures 'Ignite' program, aimed at boosting innovation in Ballarat's manufacturing sector. This free 12-week workshop program is designed to support entrepreneurs and start-ups in developing sustainable manufacturing solutions. Participants gain skills in accelerating business ideas, creating strategies, and preparing products for commercialisation and investment.

The workshops, held at Federation University's SMB campus in Ballarat, include interactive activities like group work, case studies, and role-plays. The partnership will foster innovation and support the local business community.

### Gippsland

In Gippsland we are proud to have invested in bringing to life the Morwell Innovation Centre in 2021. Its primary purpose is to welcome ideas and collaboration across all levels of education and training, higher-level technology research and businesses interested in accessing the skills of all

founding partners for commercial development. The Morwell Innovation Centre hosts a mix of private sector commercial tenants, industry project teams focused on transitional or transformative projects, and university research teams.

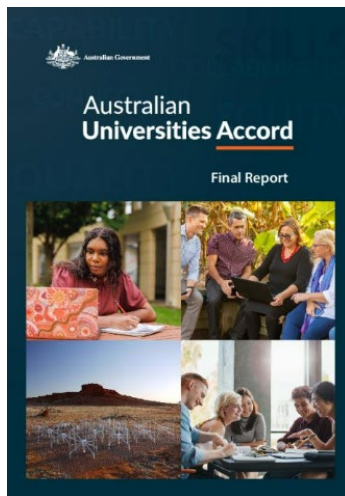
By providing these programs and initiatives at a free cost it enables innovative grassroots organisations to leverage their entrepreneurship and connect with resources and stakeholders within the community.



## 1.6 Research into Poverty

The Mobile Community Connectors (MCC) Program Customer Journey Mapping Project: [Access to Health Services for Social Housing Residents](#) was completed by Federation University researchers as a commissioned project for Ballarat Community Health, funded by the Department of Families Fairness and Housing. The purpose of this research project was to develop a deeper understanding of the barriers and enabling factors faced by residents of social housing in Ballarat to improve health literacy and access to medical, dental, and mental health services. The project utilised customer journey mapping to engage with twelve social housing residents, drawing on their lived experience to identify practice and policy recommendations. Complex service systems were found to prevent timely access to vital health services, with significant social, emotional, and financial costs. The research recognised the relationship between poverty, poor health, homelessness and precarious accommodation, and contact/further contact with the criminal justice system.

## 1.7 Participating in government policy

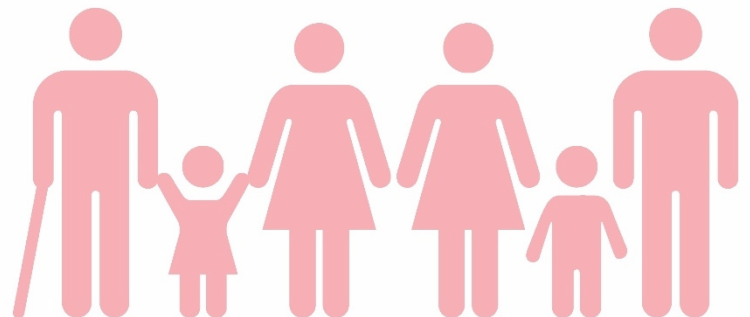


Federation University has been strongly advocating to Government to increase support for students from disadvantaged and equity backgrounds to participate in tertiary education. We provided submissions to the Federal Government review of the Australian Universities Accord – supporting measures to relieve financial pressure on students and to ensure that underrepresented groups have equitable access to vocational and higher education. The Accord Interim Report was released in 2023, outlining a vision for the future of Australia's higher education system. The Report reflects high-quality, thoughtful submissions and extensive engagement with a wide range of stakeholders.

The Interim Report contained five recommendations for priority action and raised issues for further discussion to inform the Review's Final Report, which acknowledges the importance of regional education following the advocacy and recommendations we made directly and through the Regional Universities Network (RUN) in which we are a member.

Section 3.3.5 of the report – Improving affordability for students, relates to SDG1 – No Poverty, and discusses how to ensure that student contributions are fair and affordable, debt for education is manageable for students, repayments are not overly burdensome, HELP debt forgiveness, student loan fees on FEE-HELP loans and considers a new funding model and considers a new funding model based on student attributes rather than student numbers.

# 1 NO POVERTY



## 2 ZERO HUNGER



The university supports SDG 2 by conducting research in sustainable agriculture and food security, delivering Student and staff-led initiatives to make our campuses sustainable and equitable.

### 2.1 Combatting student hunger



In 2023 we established the Nourishment Nook on all of our Campuses to provide a confidential and free service for students which are experiencing food insecurity. Partnering together with foodbank to deliver fresh produce to students is addressing the cost-of-living crisis students are facing.



### 2.2 Sustainable food on Campus

Federation University provides a mix of low-cost food on campus for staff and students. There is a mix of Vegetarian, Vegan and Halal options.

Our Campus Student Accommodation, Fedliving, has sustainability, recycling and waste guidelines for students to learn and practice how small changes can make a big difference.

Fedliving recognises that small changes can make a big difference and strives to be a sustainable community by asking students to:

- Limit **single-use** and disposable products and choose alternatives that can be used again.
- **Recycle** waste where possible.
- **Compost** instead of putting this waste in rubbish bin
- **Conserve resources.** Take shorter showers. Turn off the lights.
- **Engage with the container deposit scheme.** This scheme rewards Victorians with a 10-cent refund for every eligible can, carton and bottle they return.



## 2.3 Recycling organic waste on campus



Federation TAFE's bakery department is embracing sustainability by working with a local Ballarat business, Kilderkin Distillery, to reduce food waste, utilising botanicals and fruits first used in the distiller's gin production process to produce a delicious range of artisan baked treats.

Certificate III Baking students have been challenged to think differently about how the spent fruit and Australian botanical by-products including juniper, coriander seed, lemon myrtle, cinnamon myrtle, aniseed myrtle, and lilly pilly berries, could be given new life.

## 2.4 Research

### 2.4.1 Food Security and Wellbeing Project

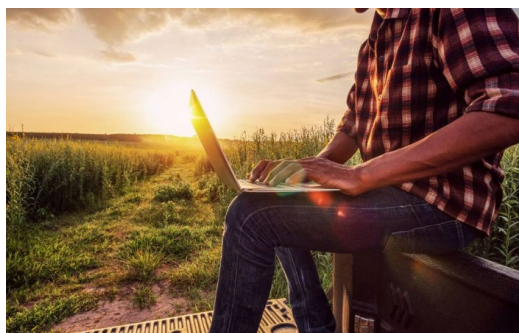
Federation University's Collaborative Evaluation and Research Centre (CERC) has supported the Morwell Neighbourhood House (MNH) to address food security in the Latrobe Valley. MNH Food Bank provides emergency food relief without restrictions on postcode or healthcare card status, supported by St Vinnies Morwell and various community organisations. Demand for the Food Bank has grown, especially during the pandemic. The People's Kitchen, a project initiated in 2019, ensures clients receive nutritious meals daily.

A study by the CERC explored MNH's holistic approach to food security, involving stakeholders, staff, volunteers, and service users. Data collected from 2022-2023, along with a comprehensive literature review, highlighted the benefits, barriers, and future suggestions for MNH's operations in addressing food security in the Latrobe Valley region.

### FOOD SECURITY & WELLBEING PROJECT EVALUATION



## 2.4.2 Food Agility Cooperative Research Centre



Data Policy Manager at Federation's Centre for eResearch and Digital Innovation (CeRDI) Gabi Ceregra is working with the

National Farmers Federation (NFF) and the **Food Agility Cooperative Research Centre** on two complimentary projects to develop and promote data-sharing initiatives to support Australia's food security.

The collaboration with the NFF has seen work to update the body's Farm Data Code – a code of conduct for technology providers to ensure agricultural data is managed according to farmers' wishes. The project, Food Security Data Challenges: Data Sharing Initiatives, is supported by the Australian Data Research Common's Food Security Data Challenges program.

## 2.5 Driving change in our regions

Supporting Zero Hunger for our regional communities is a priority for Federation university which is why we have partnered with FoodBank in Ballarat to bring the Nourishment nook to campus but also provide a referral service to shop the

[supermarket style food hub](#), a trial to offer a 'free supermarket' at Foodbank's distribution center to feed vulnerable students. Students can also receive transportation to the Hub if needed.



## 3 GOOD HEALTH AND WELL-BEING



### 3.1 Health Education at Federation University

Federation University is the destination of choice for many students in regional Victoria when choosing to study health.

As our biggest institute, the **Institute of Health and Wellbeing (IHW)** at Federation University focuses on delivering industry-relevant health courses through teaching, research, collaboration, and engagement with the health sector. They emphasize practical learning with clinical placements and workplace opportunities, ensuring students can apply their knowledge in real-world settings.

IHW's staff conduct impactful research that supports evidence-based practices on local, national, and international levels, while also considering the unique needs of rural and regional areas. The institute offers flexible study options and various pathways from undergraduate to postgraduate levels, aiming to support students in building or advancing their health careers.

Their teaching approach is student-centered, providing high-quality learning experiences that align with contemporary health needs. The courses are nationally accredited, contributing to high employment rates for graduates.

Many of our students studying within the health field complete practical placements with local health organisations. In 2023 we had 5137 health placements contributing 594,938 hours of student placement to these organisations.





Not only are we specialists in educating in health but we prioritise it for our staff and students.

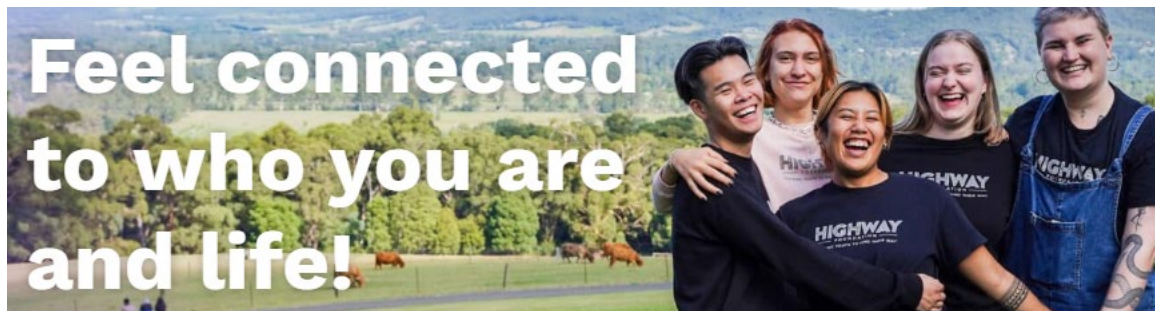
This exists across an array of initiatives that mean coming to campus is the best place to be.

Federation University offers a comprehensive range of support services to help students succeed both academically and personally. Key services available include:

- **Counselling Services:** Professional counselling is available to support students with personal, academic, or mental health issues.
- **Health Services:** On-campus health services provide medical care and advice.
- **Disability Support:** Assistance for students with disabilities to ensure equal access
- **Financial Support:** Scholarships, grants, and financial advice
- **Accommodation Services:** Support with finding and securing both on-campus and off-campus housing.
- **International Student Support:** Dedicated services to help international students adjust and thrive.
- **Chaplaincy:** Spiritual support and guidance for students of all faiths.
- **Student Advocacy:** Assistance with academic and administrative issues.
- **Safer Campuses:** Initiatives to ensure a safe and inclusive environment.
- **Clubs and Groups:** Opportunities to join various student clubs and groups to enhance social connections and skills

These services are designed to create a supportive and enriching environment for all students.

## 3.2 Highway Foundation



Federation University has partnered with the Highway Foundation to offer a unique program aimed at helping students find their authentic selves and gain clarity in their lives and relationships. This program, facilitated by Youth Facilitators, brings young people together in small groups to explore important personal topics, develop self-awareness, and build empowerment to solve problems.

The program is free for Federation University students and is available to anyone aged 25 or under. It involves weekly online sessions over four weeks, where participants can share their stories and make meaningful connections in a supportive environment

## 3.3 Staff Support

Much like our students, every member of staff is unique, so there is no one size fits all to promote a healthy working environment. Wellbeing and support services available to our staff include:



- **Employee Assistance Program (EAP):** Offers free, confidential counselling available 24/7 for personal or work-related issues. Staff can access up to four free sessions per year
- **Health and Wellbeing Resources:** Includes access to health services, mental health support, and initiatives to promote physical and mental wellbeing
- **Flexible Work Options:** Policies to support work-life balance, including flexible work arrangements
- **Training and Development:** Opportunities for professional growth and development through various training programs
- **Safety and Wellbeing Services:** Comprehensive health, safety, and wellbeing services to ensure a safe and supportive work environment

These services aim to create a supportive and healthy workplace for all staff members.

## 3.4 Driving change in our regions

### 3.4.1 Latrobe Regional Hospital



The Collaborative Evaluation and Research Centre (CERC) at Federation University Gippsland partnered with Dr Anita Raymond at Latrobe Regional Hospital (LRH) to provide an evaluation of The Wellness Centre which was set up post COVID as a way to combat staff burnout in response to a staff survey. CERC were commissioned to explore the activities of the LRH Wellness Centre, gaining an insight into how the Centre supports the holistic wellbeing of the staff within the organisation.

There were very few instances where a program like the LRH Wellness Centre were implemented, let alone in remote regional communities demonstrating that it was a pioneer in this space. A need for the Centre was identified, with a solution-focussed model implemented to help manage this need. It was acknowledged by all staff and clients utilising the service that the Wellness Centre was a program that should be continued and scaled within the organisation.

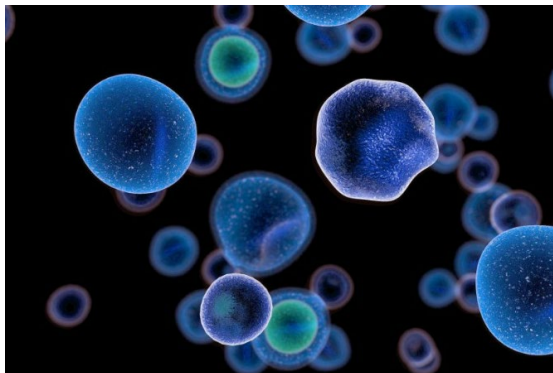
### 3.4.2 Addressing a Gap in Regional Areas



Nursing careers are now more accessible in Bass Coast and South Gippsland with the help of Bass Coast Health (BCH) and Federation University.

BCH has welcomed the first Federation University Nursing students in an exciting partnership that will see Bachelor of Nursing students undertake their educational learning activities at Wonthaggi Hospital – now a flexi-campus of FedUni. The nursing program is located in the BCH Learning and Development team's tutorial room and clinical skills lab. Students can also attend the Bass Coast Country Universities Centre in Wonthaggi to receive study assistance and access online lectures and tutorials.

## 3.5 Research



*Gamma-delta T cells are seen as an attractive target for immune-based therapies.*

### 3.5.1 World leading research in health and wellbeing

Federation University is renowned for its world-leading research in health and wellbeing. The IHW focuses on impactful and translational research aimed at improving the health and wellbeing of individuals and communities across their lifespan. This research is conducted in collaboration with industry and community partners, ensuring that it addresses real-world challenges and contributes to policy and industry changes.

The Health Innovation and Transformation Centre (HITC) at Federation University brings together local, national, and international researchers to tackle complex healthcare questions. The centre focuses on six research streams aimed at improving health and wellbeing on a global scale.

In 2023, [15 researchers from Federation University were ranked in the top two per cent in their respective fields](#) in a list of the world's top academics compiled by Elsevier, a global leader in information and analytics, and the prestigious Stanford University. Disciplines included Cardiovascular System & Hematology, General & Internal Medicine, Sport Sciences, Nursing and Public Health.

### 3.5.2. Advancements in immunology

An international research team, including Federation University's Professor of Immunology Stuart Berzins, has made a significant discovery about immune cells that could pave the way for new treatments. The study, published in *Science Immunology*, reveals how different populations of immune cells, specifically gamma-delta T cells, develop and reside long-term in the skin. These cells play crucial roles in the immune response, with some specialized in attacking tumors and viruses, while others are effective against bacteria and wound healing.

The research identified two distinct pathways that control these immune cells, which could be targeted to treat various conditions. For instance, targeting the pathway associated with bacterial immunity and wound healing could help manage chronic conditions like psoriasis without affecting the cells that fight off bacteria. Conversely, enhancing the pathway that boosts immune responses could improve treatments for cancers and viral infections.

This breakthrough highlights the potential for developing therapies that selectively target harmful immune cells while preserving protective ones, offering hope for more effective treatments for skin diseases, cancers, and other serious conditions. The study underscores the importance of collaboration between regional and metropolitan research centers in achieving world-class scientific advancements.

## 4 QUALITY EDUCATION



Federation University's mission is to deliver SDG 4 by providing quality education to its students. The university's Mission-Based Compact with the Commonwealth Government outlines our commitment to delivering quality, industry-informed and job-relevant education, delivered locally and featuring wrap-around support, as key to engaging cohorts of hard-to-reach students.

At the heart of our strategic priorities is a recognition that highly relevant, placed-based, skills enriching programs are critical to serving our regional communities, enabling the intergenerational change that only education can deliver, and meeting the skilled workforce needs of industries that are critical to sustaining and growing regional economies.

As a dual sector university, Federation delivers higher education programs, including undergraduate and postgraduate degrees, as well as vocational education and training (VET) courses through our TAFE. This approach enables students to transition seamlessly between different levels of education and gain practical skills alongside academic knowledge.

In 2023, Federation had 13,253 students enrolled in higher education courses and 5,228 in TAFE.

### 4.1 Student experience

Federation provides a high-quality, inclusive, and supportive learning environment for all students. Student support is a critical service provided by the university, and comprises academic support, wellbeing and leadership opportunities/professional development.

Federation has several programs to provide support to students across different domains with a specific focus on equity and inclusion.

#### 4.1.1 Academic Support

##### Learning and Academic Skills Success (LASS)

Federation University offers the following Learning and Academic Skills Success (LASS) programs and services:

- **Studiosity**, a free 24/7 online service for students to refresh their study skills and ask real-life expert tutors about anything related to study and learning.
- **Peer-assisted Study Sessions (PASS)** bring students together to consolidate their understanding of course content and develop their study skills.
- **Learning skills advisors (LSAs)** are professional educators who are available to meet with students online and on campus.
- **ASK Desk** is run by student academic leaders who can provide online or in-person assistance on a range of topics including academic writing, exam preparation and general study skills.
- **FedReady** is a short, non-award course to help commencing and continuing students develop the academic skills they need to get started at university. FedReady covers a range of topics, such as time management and writing and submitting assessment tasks.

Across each LASS program, students who engaged with these services had better academic outcomes than their counterparts who did not engage. This is demonstrated by higher success rates, improved average grades and better progression rates. This pattern held for different student cohorts including first in family students and those from Indigenous, low-SES and regional/remote backgrounds.



### 4.1.2 Student retention

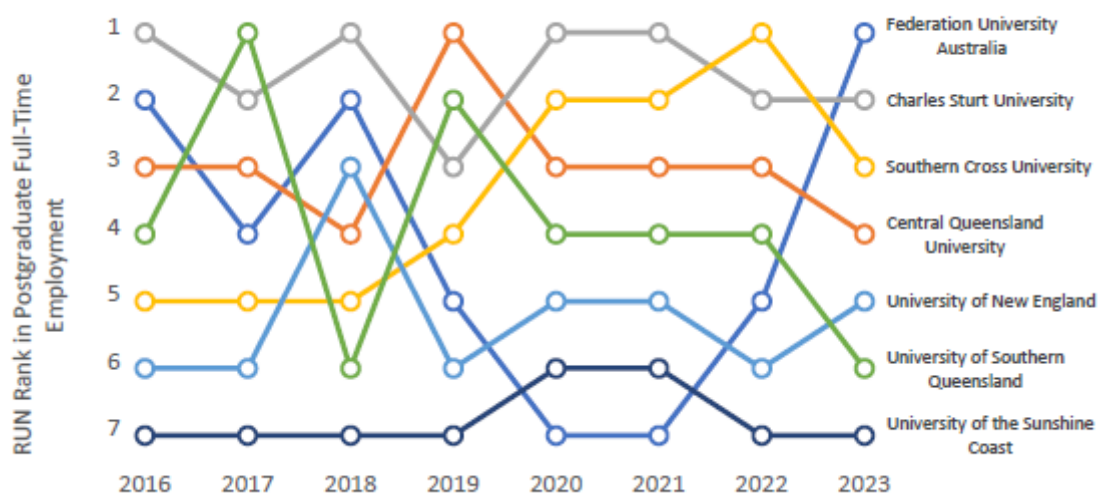
Our approach to student retention focuses on fostering a growth mindset among learners, scaffolded academic skills development, personalised student interventions and targeted support. Federation has been actively working on improving student experience and retention through various strategic plans and initiatives. In 2023, our investment in digital transformation and focus on learning and teaching quality continued to drive improvement in this essential measure, leading to a 2% year-on-year reduction in student attrition. This work continues into 2024.

### 4.1.3 Graduate Outcomes

Federation's co-op model involves strong industry collaboration through extended work experience opportunities, where students are employed whilst learning. The model supports learners to enhance employability, work skills and social capital. Key measurables for labour market outcomes include improved employability and graduate salaries, measured through the Graduate Outcomes Survey, QILT, Good Universities Guide.

In the 2023 National Graduate Outcomes Survey, Federation University ranked #1 among the Regional Universities Network in Australia for postgraduate full-time employment and #2 in Victoria for undergraduate full-time employment.

**Figure 22 - Postgraduate Full-time employment ranking by RUN university, 2016-2023**





## 4.2 Driving change in our regions

Federation University's dual-sector offerings are designed to connect students with local industries earlier in their academic careers, acquire skills through paid placements, and find pathways to impactful employment in their regions. This model is particularly beneficial for regional students, as it helps address local skill shortages and supports regional development.

### 4.2.1 Preparing the education leaders of the future

In 2023, Federation University partnered with the Victorian Government and local schools to deliver an [Initial Teacher Education \(ITE\) program to the Wimmera region](#).

This initiative is part of the university's broader commitment to improving access to education in regional areas and addressing local skill shortages. This program is designed to enrol education support staff already working in local schools, allowing them to continue working while they study.

This approach not only bolsters the teaching workforce in the Wimmera but also enhances the chances of students staying and working in the Horsham area once they are qualified. The impact this program is having is critical for this region, where post-secondary participation, literacy and numeracy rates are some of the lowest in Australia. Programs like this are contributing to breaking the cycle of inter-generational welfare dependency and high unemployment.

### 4.2.2 Free TAFE

In 2023, Federation University's expansion of [FREE TAFE](#) places resulted in a significant increase in enrolments to 1685 Free TAFE course enrolments in 2023, including in qualifications such as the Certificate IV in Training and Education.

Across Free TAFE Courses

- 6% of students have a disability.
- 40% are female.
- 25% from low socioeconomic backgrounds
- 3.5% are Indigenous.

Free TAFE programs not only lead to pathways into undergraduate education but are essential to filling skills shortages. Ballarat and Gippsland post secondary participation rates are below the national average, the uplift in demand we have seen in these courses is evidence in removing barriers to education drives a measurable impact.



## 4.3 Public lifelong learning



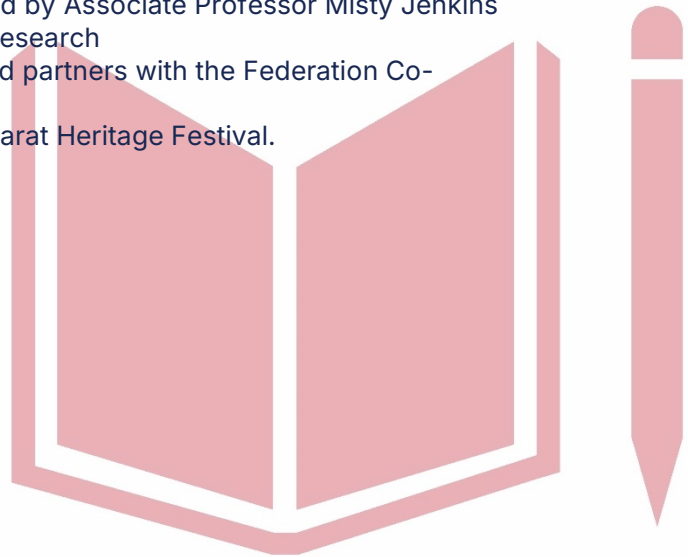
Federation University hosts an array of events available to the public, like orations, innovation breakfasts, and public lectures to encourage collaboration and innovation with our community.

In 2023 we hosted a special event featuring famed historian Emeritus Professor Geoffrey Blainey AC. Using his broad knowledge of Australian and global history, Professor Blainey gave the audience thought-provoking insights into ['The State of the World'](#).

### Other public events included:

- 2023 Menzies Oration – Leadership for an AI-enabled future – a highly entertaining and engaging event from Guest Orator Jennifer Dulski, presenting the AI future with humour, warmth and depth
- the launch of Federation's National Centre for Reconciliation, Truth, and Justice
- the annual Albert Coates Oration delivered by Associate Professor Misty Jenkins AO of the Walter and Eliza Hall Institute for Medical Research
- business events to engage employers and partners with the Federation Co-operative Model of education, and
- Ballarat Old Gaol Tours as part of the Ballarat Heritage Festival.

# 4 QUALITY EDUCATION



## 5 GENDER EQUALITY



Federation University recognises that all staff should live in a safe and equal society, and our organisation strives to promote diverse, equitable, and inclusive practices.

The university promotes [gender equality](#) by ensuring equal opportunities for all genders in academic and leadership roles.

We measure our gender equity targets through a comprehensive framework of Key Performance Indicators (KPIs) and reporting mechanisms. The university has developed a Gender Equality Action Plan (GEAP) for 2021-2025, which includes specific KPIs aimed at achieving gender equity across all levels, including executive management. By setting targets for equal gender representation, particularly focusing on senior academic and executive

### Our priorities



1. Increase the diversity of our staff and students, at all levels and in all disciplines.



2. Create equal opportunities for all.



3. Inform and empower our leaders.



4. Remove discrimination and systemic and individual biases.

management positions, the university aims to increase the percentage of women in senior roles. Regular workplace gender audits are conducted, and progress is reported to government bodies as required by the Gender Equality Act 2020 (Victoria).

#### 5.1.1 Student and staff experience

Federation University is committed to promoting gender equality through its Gender Equality Action Plan (GEAP) 2021-2025. The GEAP outlines strategies to achieve workplace gender equality, based on a comprehensive gender audit and feedback from staff. **It aims to eliminate systemic gender inequality and promote diversity and inclusion across the university.**

Additionally, under the Federal Workplace Gender Equality Act 2012, Federation University reports annually to the Workplace Gender Equality Agency (WGEA). This reporting includes six gender equality indicators: workforce gender composition, governing bodies' gender composition, equal remuneration, flexible working arrangements, employee consultation on gender equality, and addressing sex-based harassment and discrimination.

These initiatives reflect the university's dedication to creating a safe, equitable, and inclusive environment for all staff and students.

#### 5.1.2 Federation University Support for Parents

Federation University offers a range of entitlements and support services for staff, particularly working parents. Eligible staff can access up to 26 weeks of paid parental leave for primary caregivers, with additional unpaid leave options available.

The university provides onsite childcare facilities to support staff with young children. Staff experiencing family violence can access paid leave to attend medical appointments, legal proceedings, and other necessary activities.

Flexible working arrangements, including flexible hours, part-time work, and remote work, are available to help staff balance their professional and personal responsibilities. The Enterprise Bargaining Agreement (EBA) outlines various leave entitlements, including annual leave, personal leave, and long-service leave, ensuring staff have access to necessary time off. These initiatives reflect the university's commitment to supporting its staff in achieving a healthy work-life balance.

### 5.1.3 Women and girls in STEM



Federation University is actively involved in the Athena SWAN initiative through the Science in Australia Gender Equity (SAGE) collaboration program. This national program promotes gender equity and diversity in Science, Technology, Engineering, Mathematics, and Medicine (STEMM). The university achieved Bronze

Accreditation in 2020, recognising our commitment to improving gender equity. The accreditation process involved a comprehensive self-assessment, data collection, and analysis to identify barriers to gender equity. See further: [Women in STEMM thriving with Federation University's equality pledge | Times Higher Education](#).

Federation's Ballarat Tech School is also addressing the under representation of girls and women in science, technology, engineering, and math (STEM) with their annual [Girls in STEM program](#). The program provides young women with access to mentors, experiences and skill development in a focused and supported environment. In 2023, we had 60 students from 13 local and regional schools engaging with local industries and STEM professionals over four two-day workshops across the year.

### 5.1.3 Gender equality in education

In 2023, Federation educated 7,738 female students through our higher education courses and 1,553 in TAFE. Federation University delivers a range of initiatives to influence change and to create an inclusive and respectful environment for students of all genders.

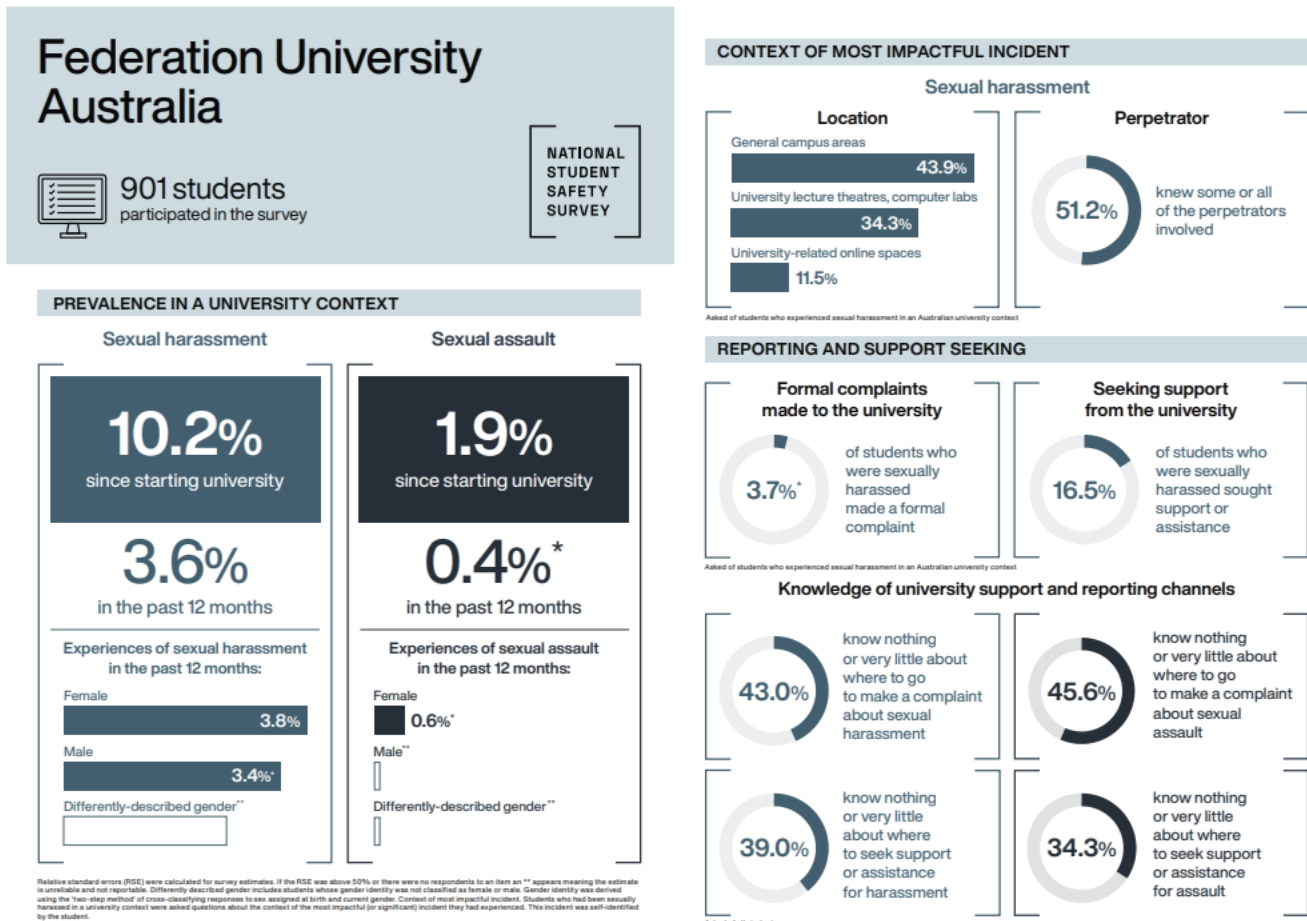
These include:

- development of the Respectful and Inclusive Communities Action Plan
- development of the Accessibility Action Plan
- implementation of the FedPride Strategy
- Respect Month, March 2023, including events, training and launch of action plans
- Training initiatives, on gender-based violence
- Streamlining student applications for adjustments in Work Integrated Learning
- Trans Awareness Week, flying the trans flag for the first time in 2022



### 5.1.4 National Student Safety Survey

In March 2022, the findings of the National Student Safety Survey (NSSS) were released. The NSSS ran across the Australian university sector in late 2021. The survey collected data on the scale and nature of university student experiences of sexual harassment and sexual assault. In the area of reporting and support seeking, it was found of the participating (901) Federation students in higher education:



Federation has a zero tolerance policy towards sexual harassment and assault with regard to both students, staff and all visitors to campus. In response to acting on this survey Federation University launched its first Respect Month in March 2023 as a response to this and assisted in raising the visibility of the support services and reporting channels available through Student Equity and Inclusion and increasing awareness of the behaviours we foster within our University.

Some of the programs and initiatives launched in 2023:

- Partnering with **Out Watch**, educating for equality program
- Development of **Towards an Inclusive and Respectful Community** Action Plan
- Launching **Safer Campuses** webpage housing all training and reporting resources.

## 5.2 Research

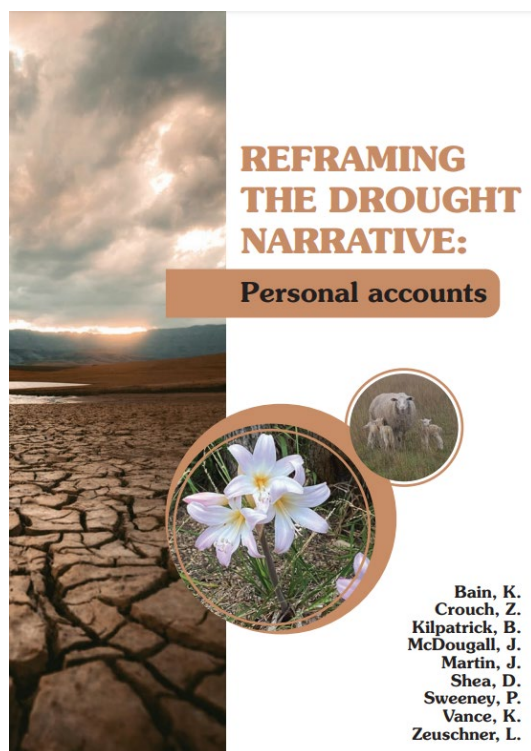
### 5.2.1 PHD Students in Action

PHD research scholarship recipient Dr Parwaiz Najibi, recently published her thesis **“Enablers and potential barriers of female participation in tertiary education in Afghanistan: An analysis of contemporary issues”**.

According to UNICEF (2019), a key challenge for Afghanistan is that an estimated two-thirds of the female population do not attend school. Furthermore, as personal security in the country deteriorates, female enrolment in tertiary education is also declining (Pherali & Sahar, 2018). This study aimed to understand the participants' perspectives concerning the factors influencing their decision to pursue tertiary education and the obstacles preventing Afghan women from participating in tertiary education in Afghanistan. A mixed methods experimental sequential research design was used for this study (Creswell & Plano Clark, 2011). This study used an online survey of 120 undergraduate students and

explored the lived experiences of 10 female undergraduates and 10 graduates through an online individual interview. Further, 10 lecturers were recruited from five disciplines and three universities. The findings from this study revealed that while women's education is universally acknowledged as essential for economic, cultural, social, and political development, its realisation in Afghanistan is impeded by entrenched cultural, societal, religious, and political factors. The study highlighted the benefits of tertiary education for Afghan women, including increased employment opportunities, higher income potential, and contributions to national development and community advancement.

### 5.2.2 Reframing the drought Narrative: Personal Accounts



This project is delivered by Federation University of Australia in collaboration with Girls and Grass/Perennial Pasture Systems and supported by Southern Farming Systems South West Node of the Victoria Drought Resilience Adoption & Innovation Hub, through funding from the Australian Government's Future Drought Fund. The millennium drought, which lasted from 1997 to 2009, was a challenging period for many in agriculture, and understanding its effects on teenagers at the time can provide valuable insights into how such events shape lives and decisions. By focusing on these personal narratives, Debbie Shea and Girls and Grass are not only honoring the resilience of these individuals but also seeking ways to improve support systems for future generations facing similar hardships.

# 6 CLEAN WATER AND SANITATION



## 6.1 Campus Operations

Federation University is committed to providing clean water and sanitation across all of its campuses and facilities. We have partnered with “Choose Tap” to install drinking fountains on campus to encourage students and staff to refill water bottles, an initiative to provide free clean drinking water and reduce single-use plastic. Making small changes like providing water stations in cafes and updating meeting room facilities to have filtered water taps, jugs, and glasses to aid this initiative.



### Across our Campuses, we have a range of water initiatives;

#### Berwick Campus

- Meter monitoring for alarms of peak flow rate and leak detection alarming

#### Camp St Campus

- Meter monitoring for alarms of peak flow rate and leak detection alarming

#### Churchill Campus

- Meter monitoring for alarms of peak flow rate and leak detection alarming
- Rainwater harvesting for grey water reuse – toilet flushing (some buildings)
- Storm water runoff into dam area for vegetation and wildlife habitat protection

#### Horsham Campus

- Meter monitoring for alarms of peak flow rate and leak detection alarming

#### Mt Helen Campus

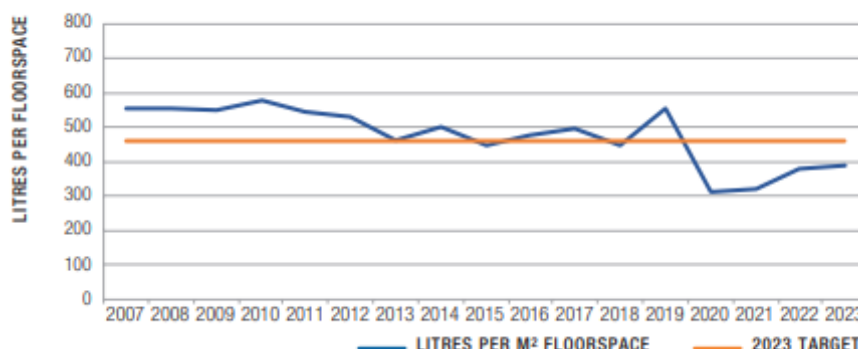
- Meter monitoring for alarms of peak flow rate and leak detection alarming
- Storm water runoff into dam area for vegetation and wildlife habitat protection
- Storm water fed wetlands on technology park for vegetation and wildlife habitat
- Rainwater harvesting for grey water reuse – toilet flushing (Building Y)
- Caroma smartflush water saving technology (Building Y)

#### SMB Campus

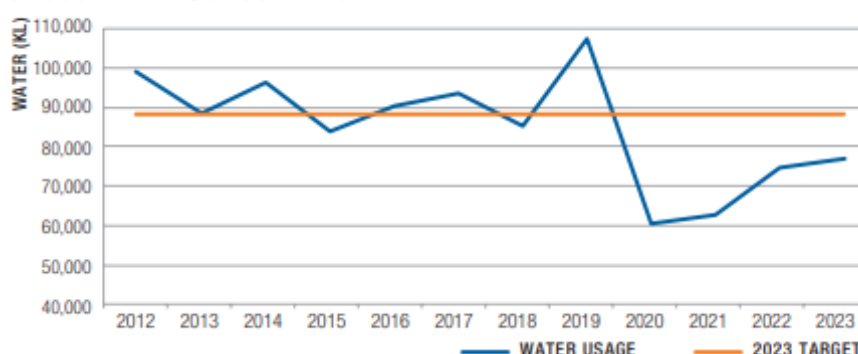
- Meter monitoring for alarms of peak flow rate and leak detection alarming
- Caroma smart-flush water saving technology (Building S)
- Rainwater harvesting for grey water reuse – toilet flushing (Building S)

After the Covid Pandemic as students and staff returned to campus, sanitation remained a high priority. Ensuring that all teaching spaces, lecture theatres and meeting rooms are equipped with hand sanitizer and wipes along with cleanliness of restrooms is paramount and maintained across all campuses. Awareness and educational campaigns to support hand hygiene is visible on campus along with ensuring that we have regular maintenance and cleaning staff that are cleaning and disinfecting to a strict schedule.

**WATER CONSUMPTION**



**GROSS WATER CONSUMPTION**



## 6.2 Research

### 6.2.1 How Nanotechnology is treading a new path for recycling

Researchers hope a breakthrough in nanotechnology production could see old car tyres destined for landfill used to manufacture activated carbon for wastewater treatment systems. Dr Akindeju, also an Adjunct Associate Professor at Federation University, says MKPro Engineering's development of a proprietary technology and process for producing nanoparticles means researchers will have easier access to a wide range of nanoparticles that were previously mostly imported.

"Producing nanoparticles has been a cost-prohibitive and tedious process, but with our technology, we have been able to do that at a low-cost threshold. The product nanoparticles are controlled for morphology, size, and size distribution," Dr Akindeju said.

"We have produced activated carbon and done characterisation work to get the right size and shape. Now, we will begin to apply that with industry to see its effectiveness. We are confident that we have done something wonderful here."

Dr Apurv Kumar, from the Institute of Innovation, Science and Sustainability, says the partnership with Dr Akindeju created opportunities to modify the properties of different materials for various projects.

The researchers say the product could potentially be used in wastewater treatment plants, in stormwater applications to prevent heavy metals from leaching into creeks and other receiving water bodies, which could enter the human food chain.





# 7 AFFORDABLE AND CLEAN ENERGY



A dual-sector university with proven project development capabilities, Federation is working to offer end-to-end training, research-led innovation in training and seamless career pathways for the renewable energy industry.

## 7.1 Research

### 7.1.1 Research to guide clean energy transition

Federation University researchers are playing a key role in a major research project that will help guide the Victorian energy sector's transition to a renewable electricity and clean energy power system beyond 2030.

The Enhanced System Planning Victoria project (ESP-V) is led by Federation's long-time industry partner Centre for New Energy Technologies (C4NET) and includes five Victorian universities and Distribution Network System Providers (DNSPs). The Department of Energy Environment and Climate Action (DEECA) and the Australian Energy Market Operator (AEMO) are also involved in the project.

Federation's Centre for New Energy Transition Research (CfNETR) Director, Professor Nima Amjadi, says effective system planning is the first step and a key issue for the massive integration of renewable energies into the supply mix and for net zero transitioning.

Among C4NET's key goals for the research project is developing datasets that can be used for scenario modelling by electricity infrastructure planning groups. It anticipates the project will significantly impact the energy sector, helping create a

smooth and efficient transition to a renewable, clean energy system.

The centre works with government, industry and academia to assist in the transition of the energy sector. It says there is no whole-of-system modelling framework for infrastructure development downstream to the transmission system that has consistent parameters and assumptions for key stakeholders, including market operators, regulators, policymakers, and asset investors and managers to use.

Models and datasets generated through the project will be shared with industry through close collaboration with the AEMO and Victorian DNSPs. Smart power systems researcher Dr Rakibuzzaman Shah, from Federation's (CfNETR), says the project is important for the state's future as it will guide the entire energy sector's transition. "This is an initiative to guide consumers and large utilities into uncharted territory with the electrification of almost everything. That doesn't just include electric vehicles but also the move away from electric heating, cooking and hot water which are becoming too expensive for many people to operate," Dr Shah said.

### 7.1.2 New smart inverter to help tackle Australia's energy challenges

Federation researchers have teamed up with a renewable energy engineering specialist to develop an innovative product they hope will help drive Australia's transition to renewable energy.

The research team have partnered with Western Australia-based Oztron Energy to develop a solar inverter that will be used in microgrid and edge-of-grid applications.

A microgrid is typically a self-contained power generation system connected to a national grid but can work independently when power is disrupted. These can be powered by solar panels or wind turbines and include battery energy storage. Edge-of-grid refers to locations that generally have fewer customers that are at the edge of the electricity network's reach.

Microgrids are expected to play a bigger role in meeting Australia's energy requirements as the country transitions from fossil fuel generation to renewable energy.

Like a home solar set-up, microgrids include an inverter, which can be considered the heart of the system, converting the direct current (DC) electricity generated from the renewable energy source to alternating current (AC) electricity used in electricity grids.

The research team from the Centre for New Energy Transition Research (CfNETR), led by Professor Syed Islam, has worked with Oztron Energy to develop a proof-of-concept for the inverter that will be further developed over the next four years.

The project began as part of the Trailblazer Universities Program – a Federal Government-backed initiative to drive research commercialisation in the university sector with investment in priority areas. Federation was invited to collaborate with Deakin University's Recycling and Clean Energy Commercialisation Hub (REACH) for the Trailblazer funding. The project – Smart Intelligent Power Inverters for Future Community Microgrids – is worth \$1.72 million in cash and in-kind.

Senior manager of business development and commercialisation at Federation's Research Services Dr Juan Blanco Moya says the project will develop a more capable and cost-effective solution to those already available.

"This is a product that will have an impact in terms of the investment needed to get into renewables – we will be able to help potential buyers save money compared to other available options," Dr Moya said.



## 7.2 Driving change in our regions

### 7.2.1 Partnering to deliver the new energy workforce of the future

Federation University recognises the need for workforce training to achieve Australia's and Victoria's new energy goals and to prepare our communities to transition to the new industries emerging from this shift.

We have established partnerships with major global renewable energy companies such as Vestas, Acciona, Global Power Group and Tilt Renewables. These partnerships support the development of the Asia Pacific Renewable Energy Training Centre (APRETC) and provide training for local workers in Victoria. Additionally, Federation has an exclusive partnership with Germany's Bildungszentrum für Erneuerbare Energien (BZEE) Network to develop and deliver nationally aligned training programs for turbine technicians.

### 7.2.2 Asia Pacific Renewable Energy Training Centre (APRETC)

The [Asia Pacific Renewable Energy Training Centre \(APRETC\)](#) Ballarat was established by Federation University in November 2021 with support from the Victorian Government's TAFE Clean Energy Fund and direct funding from industry. It supports the rapidly growing wind energy sector by meeting the demand for local skilled workers.

Based at our Mt Helen Campus, APRETC hosts the southern hemisphere's first wind turbine training tower, a 23-metre-high facility that trains up to 600 wind industry workers each year and provides a pipeline of skilled workers for the fast-growing wind energy sector.

As a certified member of the Global Wind Organisation (GWO) and the only GWO-accredited training institute in Australia, Federation University commenced GWO Basic Safety and Refresher Training in 2023. APRETC offers training to industry from across the Asia-Pacific region.

Global Wind Organisation Training currently available from APRETC:

- Basic Technical Training Course (BTT)
- Basic Safety Training Course (BST – Initial) and (BSTR-Refresher)
- Basic Safety Training
- Certificate III of Engineering (Composites) – Apprenticeship (Blade Repair Technician).

With an additional \$6 million in funding pledged by the Victorian Government as part of their \$50 million TAFE Clean Energy Fund, planning for Stage 2 of APRETC is underway and will include a classroom, workshop and training equipment to deliver even more specialised training courses.



Based on our APRETC facility in Western Victoria, we are working closely with the international wind energy industry to develop APRETC Gippsland. This training facility is being established in response to the forecast demand for a skilled workforce needed to support growth of the renewable energy industry in Gippsland. The Gippsland Regional Energy Zone was declared in August 2021, and Gippsland is also the first place in Australia to have an Offshore Wind Declared Area, announced in 2022. In 2024, VicGrid announced a study area and connection hub area for a shared transmission line to connect offshore wind energy generated off the Gippsland coast to the grid. These initiatives play a crucial role in establishing the necessary energy infrastructure for transitioning the state towards a renewable energy framework and achieving net zero targets.

APRETC Gippsland Stage 1 will be a state-of-the-art facility encompassing teaching spaces for higher education, simulators and a research centre all co-located with industry partners to support the offshore wind industry, and other clean energy technologies, e.g. hydrogen, solar, onshore wind and geothermal.

Stage 2 will also include a hydrogen fuel cell training facility, which will have state-of-the-art training systems supporting laboratory activities for specialised higher education programs in electrical, mechanical and chemical engineering aspects of hydrogen fuel cell technologies.

### 7.2.3 Our new energy programs

Many of our course offerings – particularly those in business, IT and science – prepare students to tackle the transition to new energy.

All of our engineering degrees, for instance, focus on circular economy and sustainability, and our business degrees follow the United Nations' Sustainable Development Goals teaching strategy to ensure all graduates are able to focus on sustainability.

Some of our current programs with a particular focus on new energy transition include:

#### Short courses

- Basic Safety Training Course provides essential GWO working safely at heights training for those looking to work on a wind farm, either in its construction or as a part of the long-term maintenance of a turbine.
- Global Wind Organisation Standard globally certifies trade qualified students with a passion for the renewable energy sector to work on wind turbines as a technician.

#### Technical and Further Education (TAFE)

- Certificate III in Electrotechnology Electrician enables apprentices to apply for an A Grade Electrical Licence through an approved Energy Safe Victoria examination process.
- Certificate III in Engineering – Composites Trade is Australia's first defined pathway for people to enter the wind generation industry as blade repair technicians.
- Global Wind Organisation Standard – Basic Technical Training – prepares participants with the necessary training to perform basic hydraulic, mechanical, electrical, bolt tightening and installation tasks.
- Diploma of Engineering – Technical prepares students to become technicians highly skilled in turning energy into power and motion.



#### Bachelor degrees

- Bachelor of Engineering (Electrical and Information Engineering) (Honours) provides in-depth knowledge and skills across the interdisciplinary domain of electrical and information engineering.
- Bachelor of Engineering (Mechanical) provides in-depth knowledge about energy conversion, and wind energy in particular.
- Bachelor of Information Technology (Professional Practice) gives students an understanding of how to deliver large-scale and complex IT projects including those in new energy, through a combination of study and practical industry experience.

#### Postgraduate Certificates

- Graduate Certificate in Community Energy and Micro-Grid enables students to progress their careers in the energy sector, learning from leaders in energy research.

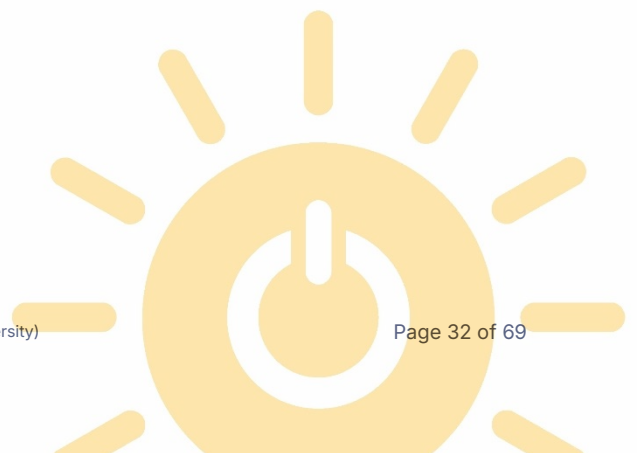
#### Postgraduate by Coursework

- Master of Engineering Project Management enables students to build in-depth knowledge and skills to plan and execute major projects across the construction, infrastructure, development and energy sectors.
- Master of Engineering Technology (Renewable Energy and Electrical Power Systems) enables students to advance their careers as professional engineers with the required analytical, technical and leadership skills in renewable energy and electrical power systems.
- Master of Applied Cybersecurity prepares students with the skills and knowledge critical to the IoT technology underpinning remote monitoring of solar and wind energy assets, among other applications

#### 7.2.4 Research higher degrees

Our research expertise and industry connections in areas including circular economy, future fuel and hydrogen economy, future grid and community energy, microgrids and renewables, net zero initiatives, and stable landforms and mine rehabilitation ensure that Federation is a university where students can engage in world-class research to tackle new-energy challenges.

# 7 AFFORDABLE AND CLEAN ENERGY



## 8 DECENT WORK AND ECONOMIC GROWTH



For decades, Federation University's has collaborated closely with schools, vocational education providers, industry, and governments to ensure a smooth transition through all levels of education and into meaningful, skilled employment.

### 8.1 The Federation Co-operative Model

Federation University is on its pathway to become Australia's first fully Co-operative (Co-op) university. It is at the heart of our strategy and our identity within the regional communities in which we operate.

**Federation Co-op gets students work and world ready**, by partnering with employers to offer paid placements, career preparation and workplace skill development, supported by a leader in student support, skills development and social equity.

**Our industry stakeholders are excited about Federation Co-op** as it addresses skill shortages by inviting them to collaborate on our courses, to identify the real skills that our students need to succeed in their chosen industry.

**For our communities, Federation Co-op will drive the growth of our regional economies** by developing talented local graduates who understand exactly what our regional businesses need. Federation has the know-how to deliver Co-op through our award-winning relationships with industry, including our 25+ year partnership with IBM, and our extensive research into the co-op model's success in the USA, Canada and Europe for generations of students.

**Get real-world experience and earn as you learn with Federation Co-op.**



The Federation-IBM collaboration has had a remarkable [impact](#) on the Ballarat region and the University:

- IBM has become an integral part of the University's education offering – deep collaborative partners in the university's efforts to design and teach relevant courses, link to industry, and ensure graduates are job-ready.

- IBM has employed 300-plus of the University's 400 Bachelor of IT Professional Practice) graduates in that time, and 70 per cent were still at IBM seven years later.
- 90 per cent of the University's IT graduates have found employment in the region, up from less than 40 per cent in 2001.

In totality, A 2020 economic impact statement assessed that the Federation University and IBM partnership, as part of the Park, had contributed \$125 million to GDP, \$62 million to household incomes, and 716 full time equivalent jobs.

## 8.2 Research

The Future Regions Research Centre at Federation University produced a report in April 2023 [Rurality and Workforce Participation: Exploring the Prevalence of Part-time and Insecure Work in Grampians Public Sector Roles.](#)

This research – undertaken by Dr Cathy Tischler, Dr Kelsey McDonald, Professor Keir Reeves and Ms Emma Dallamora – engaged with public sector workers in the Grampians to understand issues leading to higher rates of part-time and casualised work.

The work highlighted the impact of external challenges on workforce participation in a rural context, which included fewer structural supports for women. This situation is the result of continuing gendered expectations around caregiving and limited access to structural supports for this, such as childcare and after-school care. Further, the research identified strong efforts by workplaces to drive flexibility and innovation-driven largely around trying to respond to critical workforce shortages – another regional issue. Mid-level professional roles are a 'sweet spot' for flexible and part-time work, identifying the region has some work to do in terms of improving access for women into managerial positions and providing additional support for women in frontline service work. Interestingly, women were also making decisions around part-time and casual work to provide flexibility to manage family and workforce needs around seasonal workforce needs on the farm (particularly harvest).

Ultimately, the research found that high rates of gendered part-time and casualised work are intrinsically linked to the lack of supports available for people, and particularly women, to manage the complexity of family and work.

## 8.3 Driving change in our regions

### 8.3.1 Advocating to government to reduce placement poverty

Federation University's [submissions](#) to the Universities Accord review advocated strongly for government to support students facing cost of living pressures while trying to complete their university studies – a problem that is particularly acute for many of the underrepresented cohorts of students we serve. Every day, the university sees regional learners decline to study at university or drop out after they start because they lack the means to support themselves and their families through the long period of time it takes to complete a university degree. This is a problem that is particularly acute for degrees that have long, unpaid placement periods.

Federation University advocated that the Accord Panel, and Australian Government, consider:

- Paying stipends to students who are required to undertake lengthy placements to attain degrees that are nationally significant or needed to address a skills shortage.
- Incentivising employers to provide real work placements for students as they learn.

- Championing curriculum reform – at the accreditation, sectoral and university level – so that students in placement-heavy courses are accommodated as best as possible.
- Changing restrictions on Centrelink support from 'students engaged in full time study' to 'students engaged in full time or part time study'.
- Provide additional loadings on top of base funding for low-SES or high-need students.
- Establishing a matched funding pool for universities and industries to provide scholarships for underrepresented cohorts.

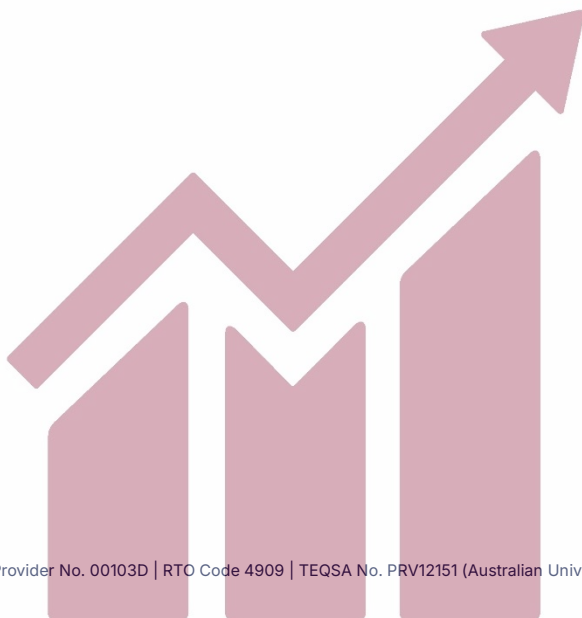
### 8.3.2 A first choice employer in our regions

As a leading employer across the three regional centres in which we operate, it is imperative that Federation upholds aspirational working environments.

2023 saw the renegotiation of Federation's [Enterprise Agreement \(EA\)](#) in the Higher Education division. An EA is an agreement between the university and its staff members that sets minimum conditions of employment, negotiated by National Tertiary Education Union (NTEU) and the university through collective bargaining in good faith, primarily at the enterprise level. This agreement outlines the working conditions, leave parameters, wage structure, workload models and benefits available to staff.

The Fair Work Commission approved the agreement on 21 December 2023.

# 8 DECENT WORK AND ECONOMIC GROWTH





## 9 INDUSTRIES, INNOVATION AND INFRASTRUCTURE



### 9.1 Partnerships with industry

At the Federation University Technology Parks, the spirit of innovation and entrepreneurship enables techno-driven businesses to thrive and prosper in dynamic and supportive environments. These fast-evolving precincts encourage and support the development of emerging and existing technology-oriented enterprises.

Our Mount Helen Campus in Ballarat hosts the largest regional Technology park in Australia. Fifty-nine enterprises use the Federation University Technology Parks, including Ernst & Young, Concentrix, IBM, Emergency Services Telecommunications Authority, Primary Health Care, Fiona Elsey Cancer Research, WIN Network, Grampians Health, and Southern Cross Austereo.

The Parks' ideal locations provide great lifestyle opportunities as well as having the convenience of being close to Melbourne and major regional cities.

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*2200 FTE direct positions at Federation University Tech Parks, delivering \$700m in industry value.*

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### 9.2 Innovation and entrepreneurship

2023 saw the launch of the Emerging Technologies Hub, hosted by Federation University and supported by IBM ANZ and the State and Federal Governments. The emerging technologies hub (ETH) builds on the IBM design studios concept. The hub was funded by grants from the Victorian Government's VHESIF program and the Commonwealth Government's Destination Australia Scholarship program.

The hub is a cornerstone of the University town project. It demonstrates how collaboration between industry, community and a university can help a city grow through embracing technological change while respecting and enhancing culture and heritage. The hub is located on the University's SMB campus in central Ballarat, ideally situated for community engagement.

The hub builds on the concepts of design thinking but focuses on how technology can enhance the economic potential of businesses in regional Australia and add value to employees. AI and Robotics will increasingly disrupt businesses over the coming years. We have already seen how Chatbots have become the fastest adopted AI platforms in history. If harnessed appropriately, new technologies can be used as tools to promote economic growth and to enhance the workplace. To achieve these goals, businesses in regional Victoria can work with the hub partners, to decide which technologies are most appropriate for them and then design and execute a delivery plan for adoption.

## 9.3 Research

One of our Research Centres, Future Regions Research Centre published a report (funded by the Victorian government) on **Impact of rates paid by renewable energy generators on Local Government Revenue**. This report calculated current and potential PILOR income from renewable energy infrastructure projects (wind & solar) in the GNET region (Western Victoria) to explore

the impact on Local Government revenue. This report has collated information about current and proposed wind and solar energy generation projects within the Grampians region, with the intent of providing some guidance around the potential future direct income for LGAs because of wind and solar energy developments.

## 9.4 Partnerships with local government

The **Future of Regions workshop** hosted by Federation University Australia in November 2023 in Ararat aims to address the economic, social, and environmental challenges faced by regional areas due to urbanisation.

Urbanisation is leading to increased income inequality and insecurity in regional areas as rural populations migrate to cities for better opportunities. In Australia, 86 per cent of people already live in cities, and this figure is expected to rise.

The workshop brought together a team of multi-disciplinary experts from Federation University's health, society, economic, and environmental disciplines to explore sustainable solutions for regional Australia's future, with a particular focus on the local community. The Ararat Jobs and Technology Precinct (AJTP), part of the Future Regions Research Centre (FRRRC) at Federation University, was established in 2021 to combine expert research and local knowledge to tackle unique challenges faced by regional Australian communities.

Professor Harpinder Sandhu, Director of AJTP, emphasized the precinct's focus on engaging future researchers and entrepreneurs, transforming the regional economy, and improving community health, safety, and well-being. The AJTP was established as a strategic research initiative in collaboration with the Ararat Rural City Council to address priority areas such as society and environment.

Dr. Tim Harrison, CEO of Ararat Rural City, described the AJTP as a unique partnership between Federation University and Ararat Rural City for regional economic development. He noted that the workshop would help establish benchmarks for critical indicators of the region's health, social, economic, and environmental well-being.

## 10 REDUCED INEQUALITIES



Federation University is committed to providing equal opportunity and freedom from discrimination and harassment for all members of the Federation community, and to creating an environment which reflects and values the social and cultural diversity within Federation community and the communities it serves.

Inclusion is at the heart of who we are, as a leader in equity with a large cohort of students from Low Socio-Economic Students (SES) backgrounds, first in family, female, Indigenous and living with a disability.

### 10.1 Reducing inequality in access to education

Federation provides numerous pathways to access higher education and vocational courses, along with more than 200 types of scholarships to reduce the financial burden of study. The Federation University Foundation scholarships were established in 2013 and are delivered in partnership with industry, government, community and staff. Thanks to the generosity of our donors, in 2023 we awarded a record 228 scholarships totalling \$753,966.

We support students with lower ATAR results, equip them with additional skills, and offer opportunities to "earn and learn" through the Co-op model.

### 10.2 Commitment to equity at the highest level

Federation's commitment to inclusion and equity is recognised at the highest level through our governance structure, which establishes an Inclusion Committee as a subcommittee of the Federation University Council. The Inclusion Committee is responsible for advising the Council with respect to matters of inclusion, equity, gender equality, diversity and multiculturalism.

### 10.3 Student equity and inclusion

Our Student Equity and Inclusion team spent 2023 leading the development of the university's [Respectful and Inclusive Communities Action Plan 2023-2026 \(RICAP\)](#).

The RICAP is a comprehensive, university-wide strategy aimed at realising Federation University's goal to embody and exemplify the principles of respect, inclusion, belonging, equality and responsibility at all times.

The RICAP applies an intersectional lens to all planned actions to ensure that the University:

- Promotes and fosters a safe, inclusive environment
- Accommodates and celebrates student and staff diversity
- Creates and embeds into its institutional policies, practices and approaches to teaching, learning and research, equivalent opportunities for academic success, regardless of individual backgrounds, (dis)abilities and/or identifications.

The RICAP's key actions and initiatives align with established measures that Federation University has taken to prevent or respond to in a timely and appropriate manner to incidences of sexual harm in university-related contexts and issues identified in the 2021 National Student

Safety Survey. The RICAP incorporates input from students and staff, building upon lived experience and extending our existing quality frameworks for safety, diversity and inclusion.

The RICAP takes into consideration and builds upon existing strategies and action plans:

- FedPride Strategy 2021–2024
- Gender Equality Action Plan 2021–2025
- Accessibility Action Plan 2024–2026 Procedures and Guidelines
- Equal Opportunity and Valuing Diversity Guidelines
- Guidelines for responding to a disclosure of sexual harm
- Complaint procedures for students and staff
- Student and staff codes of conduct
- Training modules for staff in: prevention of bullying; prevention of discrimination and harassment
- Training module for students in: Equal Rights are Your Rights

### 10.3.2 FedPride

FedPride 2021–2024 is a comprehensive strategy, aimed at achieving best inclusive practice in every area of university life: from recruitment and enrolment, to our culture, campuses, how we engage with the communities where our campuses are located and importantly through our curriculum and research.

We know that diversity – having access to and embracing difference in backgrounds, perspectives, knowledge and skills – gives our university a breadth that supports innovation and the highest quality of thinking. It enriches us as individuals and as a community. FedPride has a particular focus on our staff and students being able to bring their whole selves to university life. When we feel safe, included and celebrated, we contribute freely and with

enthusiasm and bring the best of ourselves to work and study.

FedPride is an intersectional strategy, in that the rights, inclusion and access of people from diverse cultural backgrounds, people with disability and Aboriginal and Torres Strait Islander Peoples are held as core to every impact area.

FedPride 2021–2024 has been developed with consultation across the University. The strategy is led by the FedPride Steering Group and implemented and monitored by the Implementation Group. Reports to measure progress will be provided annually for the Vice-Chancellor's Senior Team. FedPride is endorsed by the Vice-Chancellor and the Vice-Chancellor's Senior Team.



## 10.4 Indigenous

Incorporating First Nations custodians into organisational culture is strategically vital for fostering inclusivity, diversity, and reconciliation. Federation University is an education provider that enables the cultural security of Aboriginal and Torres Strait Islander staff and students. Aboriginal and Torres Strait Islander people will be empowered to succeed, and Aboriginal and Torres Strait Islander knowledge and cultural practice will be firmly embedded within the University environment. Indigenous representation at the highest levels, such as on University Council and through Indigenous Professors, ensures that decision-making processes are informed by diverse perspectives and cultural insights, promoting equity and respect.

### 10.4.1 Aboriginal Education Centre

The Federation Aboriginal Education Centre actively engaged and supported the University's 268 Aboriginal and Torres Strait Islander students in 2023 (185 – TAFE, 83 – Higher Ed) with a range of activities and events designed to nurture the ambitions of our Indigenous students.

- Nine major procedures amended to be cultural inclusive of the needs of Aboriginal and Torres Strait Islander students
- Expressions of Interest from 20 Aboriginal and Torres Strait Islander peoples for Cert IV in Training and Assessment (seven enrolments)
- Hosted 60 local Aboriginal and Torres Strait Islander youth for Aspiration Day
- Conducted an intensive 5-day Junior University Camp for 25 year 9, 10 and 11 Aboriginal and Torres Strait Islander youth focusing on TAFE, HE and employment

- Ballarat and District Aboriginal cooperative (BADAC) partnership to support 14 students to undertake the Diploma of Business (Leadership), working with Fed's Aboriginal Education Centre (AEC) to support the group.

Federation also continued its close collaboration with the First Peoples Assembly of Victoria and the Yoorrook Justice Commission to support their work on Treaty and Truth in Victoria, and with local Indigenous community groups.

### 10.4.2 National Centre for Reconciliation, Truth and Justice

In 2023 we established a [National Centre for Reconciliation Truth and Justice](#). It serves as a hub for fostering understanding, dialogue, and collaboration between Indigenous and non-Indigenous communities, driving systemic change.

The Centre proudly led national and regional advocacy on inclusion and reconciliation through engagement with communities across Australia on the referendum on a First Nations Voice to Parliament.

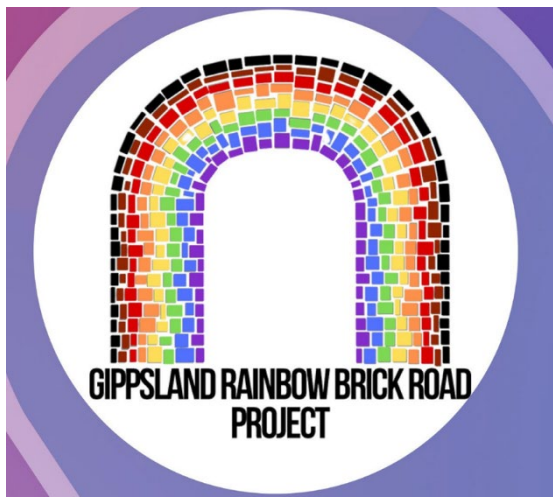
In 2023, the Centre obtained \$1.5 million in research funding for truth-telling and multicultural projects. It hosted the inaugural Federation University Reconciliation Lecture, presented by Noel Pearson with over 1000 attendees and a range of symposiums and events in

2023, while also commencing work on an ambitious new 2023 – 2027 Reconciliation Plan for our university.

Together, these initiatives not only enhance organisational culture but also contribute to broader societal goals of reconciliation, equity, and social justice.

## 10.5 Research

### 10.5.1 Rainbow Brick Road Project Evaluation



The Rainbow Brick Road Project Evaluation, conducted by the Collaborative Evaluation and Research Group (CERG) at Federation University Gippsland, provides a comprehensive analysis of the lived experiences of the LGBTQIA+ community across Gippsland. This evaluation, commissioned by the Gippsland Pride Initiative, aims to inform strategies for inclusion and support within the region.

The report highlights several key findings and recommendations. It emphasizes the

need for increased mental health services tailored to the LGBTQIA+ community, inclusivity training in health settings and educational institutions, and the development of a robust support network. These initiatives are crucial for addressing the unique challenges faced by LGBTQIA+ individuals in regional and rural areas.

The evaluation also underscores the importance of community engagement and collaboration. By involving various stakeholders, including community groups, sporting clubs, government agencies, and health entities, the project aims to create a more inclusive and supportive environment for the LGBTQIA+ community.

Overall, the Rainbow Brick Road Project Evaluation serves as a benchmark resource for regional and rural communities across Australia, providing valuable insights and actionable recommendations to enhance inclusivity and support for LGBTQIA+ individuals.

### 10.5.2 I am Deadly Evaluation

The "I Am Deadly" project, designed by the Baw Baw Latrobe Local Learning and Employment Network (LLEN) in the Latrobe Valley, aims to address the reluctance of Aboriginal and Torres Strait Islander students to undertake Vocational Education and Training (VET) subjects at school. This reluctance has limited their post-secondary employment opportunities and understanding of vocational pathways, restricting their ability to gain apprenticeships or traineeships. The project provides Koorie students with insights into trade careers and essential

work readiness skills to support their transition to employment, traineeships, or apprenticeships.

The project aligns with findings from the Commission for Children and Young People's report, "Our youth, our way," which highlights lower school attendance, higher suspension rates, and lower educational attainment among Aboriginal youth. The report also notes the impact of racialized bullying on educational disengagement. By encouraging Koorie students to stay in school, the "I Am



Deadly" program aims to enhance their employment options and reduce their likelihood of entering the youth justice system.

Funded by the Latrobe Valley Community Infrastructure and Investment Fund and the Latrobe Community Connections Grants Program, the project seeks to increase

community engagement and participation in education, training, and other activities. The program's objectives include motivating participants, building confidence, delivering employment preparation, expanding trade pathway knowledge, fostering stakeholder collaboration, and creating success case studies to inspire young Koorie people



# 10 REDUCED INEQUALITIES

# 11 SUSTAINABLE CITIES AND COMMUNITIES



## 11.1 Culture

Federation University's Arts Academy is part of our Institute of Education, Arts and Community based at our Camp Street Campus in the heart of Ballarat. Offering courses in both visual and performing arts, our Arts academy is renowned with some of the world leading performers have trained with us. Set amongst the beautiful heritage buildings in the heart of the city the arts academy works closely with the community like the Ballarat Art Gallery and local council, An example of this is during Heritage weekend in the town when the historical buildings are opened up to the public but also the contribution of visual and performing art to bringing the history of Ballarat to life.

Our Galleries on campus are a wonderful space to showcase some of our current student works along with our collection of high-quality works of visual art for the cultural enrichment of its student body, staff and wider community. The art collection consists largely of works by Australian artists, dating from 1909. The collection also includes various contemporary prints, ceramics, graphics, paintings and sculptures chiefly alumni and staff of the University.

[The Post Office Gallery](#) is committed to providing an outstanding educational resource and presenting an innovative exhibition programme, encouraging diverse audiences while creating strong links with the local and broader community.

The Gallery's changing exhibition program features a broad range of work by Federation University's Arts Academy students and staff, local, emerging and internationally recognised Australian contemporary artists and recent acquisitions from Federation University's extensive Permanent Art Collection.

Our vision is for the Post Office Gallery to be a vibrant, evolving centre for the creation and presentation of contemporary art.

A unique learning and teaching facility, the Gallery also provides the opportunity for mentoring of visual arts students along with local members of the public and school students in professional gallery and museum practice.





## 11.2 Campuses

### 11.2.1 Partnering with government for community impact

The Federation and IBM Emerging Technologies Hub in Ballarat, was also funded as part of this grant and is the first facility of its kind in the world, where university students will collaborate on real-world case studies for business clients utilising the latest IBM methodologies.

The Hub was officially opened in 2023 with The Hon. Julianna Addison MP, and leadership from IBM and Federation in attendance. In a world-first, IBM has granted access to University staff and students access to their unique technology, expertise and knowledge – including IBM’s Garage methodology which has helped businesses around the world accelerate digital transformation – that will help develop solutions to critical real-world problems for businesses throughout Victoria. The Hub features the latest connected technologies to allow collaboration across multiple sites, a 6-metre-wide 4K resolution LCD screen for data visualisation, and mobile workstations that will foster creative collaboration between Federation University academics, researchers, and higher degree by research (HDR) students, and their business clients.

### 11.2.2 Creating a more sustainable heritage building

Minister Tierney and the Hon. Martha Haylett MP officially opened the Federation Co-operative Centre of Excellence (A Building at SMB) thanks to the \$9.5-million Victorian Government VHESIF grant to completely refurbish this historic building, and make it

environmentally friendly, with state-of-the-art technology to connect classrooms across our campuses.

As part of our plan to reduce emissions we will improve the energy efficiency and quality of our buildings, as well as how we use them. We have begun this process with the heritage-listed Building A at our School of Mines Ballarat (SMB) Campus, in Ballarat's city centre.

Constructed in 1899, the building has had many different uses over its lifetime from a "new" teaching building in 1899 to an underutilised and inefficient administration building. Thanks to a \$10 million Victorian Government investment through the Victorian Higher Education State Investment Fund, the building has been transformed back to its original purpose and is now a modern, flexible teaching space with state-of-the-art technologies. Future proofing our assets with these technologies will allow for further innovation and technology enhancements.

Key features include:

- Sensors - temperature, humidity, CO2 & motion sensors
- New heat pump technology replaces gas boilers
- Energy efficient hot water heat pumps
- A glass atrium with louvre controls to provide natural ventilation
- Heat recovery systems that improve air quality and reduce energy use
- State-of-the-art teaching technology that enables students to access the classrooms remotely and increase participation and access to real time classroom activity.

## 11.3 Research

Professor Thomas Baumgartl, co-director of the [Future Regions Research Centre](#), is co-editor-in-chief of the journal [Research Directions: Mine Closure and Transitions](#).

Focusing on the rebuilding of landforms and finding successful ways of rehabilitation, and finding solutions of closed mine sites and solutions in long-term stable environment rehabilitation.

The outcome Thomas would like to continue to support the process in rebuilding environments back to how they were in the past, but this requires collaboration in finding solutions. The outcome is to incorporate communities and collaborate with government to find solutions for regions affected by mining.

Professor Baumgartl has had the opportunity to visit the Research Institute for Post-Mining Landscapes in Finsterwalde (FIB), Eastern Germany, for three weeks in June 2024. Professor Baumgartl's stay was financially supported by the Alexander von Humboldt Foundation and was designed to complement his activities and research in the rehabilitation of brown coal mining environments, such as that in the Latrobe Valley. It is noted that opportunities to create a partnership at a State level between FIB and Federation University have also been explored in parallel by the Federation University's Ambassador for International Collaboration.

## 11.4 In the community

### 11.4.1 Sustainable Housing

Professor George Earl has been involved in research to practice work on affordable housing solutions by connecting responsible investors, housing associations, and government: Indicating that institutional investment in low-income housing has a lower risk beta than all other forms of real estate investment. This includes a better understanding of high-involvement product purchases through innovative machine learning: showing the big data conditions leading to future housing supply and demand by location and type as well as risk analysis in social housing delivery: A public-private partnerships: shows the positive investment changes by analysing affordable housing as infrastructure not built/real estate assets. George leads the sustainable living and housing team as part of the Future Regions Research Centre at Federation.

### 11.4.2 Regional Advocacy

Federation University has been actively engaged in regional advocacy efforts through strategic partnerships with organisations such as the Committee for Ballarat and the Committee for Gippsland. These regional committees are dedicated to promoting sustainable regional development by prioritizing joint advocacy initiatives. Through these collaborations, Federation University has been able to leverage its resources and expertise to address key regional challenges, foster economic growth, and enhance community well-being. Federation University currently holds a board position for Committee for Ballarat currently held by Vice Chancellor Duncan Bentley where leadership of the university can strategically align with the leadership of the region.

The university's commitment to these partnerships underscores its role as a pivotal player in driving positive change and sustainable development across the regions it serves.

# 11 SUSTAINABLE CITIES AND COMMUNITIES



## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



### 12.1 Social and sustainable procurement objectives

The University is continually seeking new and innovative ideas from our supplier relationships that will provide real and tangible benefits to our students and the regional areas.

The University's [Social and Sustainable Procurement Objectives](#) are focussed in the following key areas:

- Local sourcing from the regions where our campuses are located
- Supporting Social Enterprises
- Environmentally sustainable outputs
- Diversity and inclusion in the supply chain
- Opportunities for people who identify as Aboriginal or Torres Strait Islander, people with a disability, people who are long-term unemployed, young people, transitioning people from retracting industries, and newly arrived migrants and refugees.
- Supporting safe and fair workplaces



Federation University is a member of GROW Gippsland - highlighting our commitment to purchasing from local suppliers where possible. GROW (Growing Regional Opportunities for Work) is a collaborative approach to local economic development and jobs growth in the region, achieved through local and social procurement and inclusive employment.

GROW seeks to strengthen social and economic outcomes and increase job opportunities through maximising local spend in the region and focusing on generating job opportunities.

### 12.2 Addressing modern slavery

Addressing the crimes of modern slavery and human trafficking is a vitally important, global human rights issue. Federation University is committed to protecting all human rights. Our Anti-Modern Slavery and Human Trafficking Policy governs our approach to ethical sourcing and the prevention of worker exploitation. Our approach includes the identification and management of the risks of modern slavery and human trafficking within our operations and supply chains.

The Policy should be read in conjunction with University legislation, policies, procedures and workplace agreements. Suppliers and partners (as defined in the Policy) and volunteers are expected to comply with the Policy as a condition of their engagement with the University. The Anti-Modern Slavery and Human Trafficking Policy can be found here: [Anti-modern slavery and human trafficking policy](#).



## 12.3 Sustainability in operations

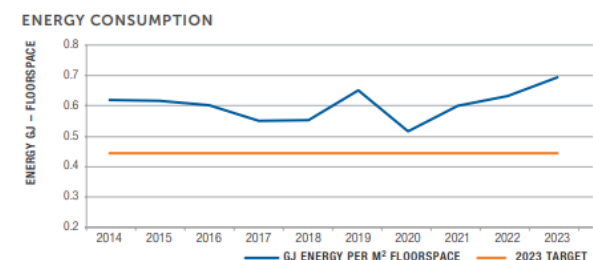
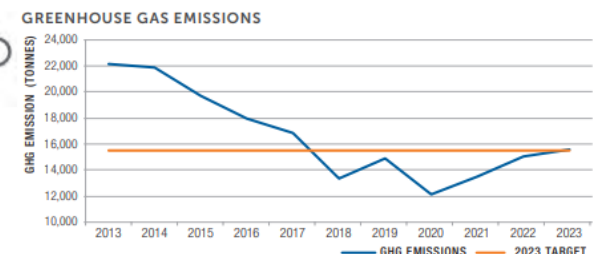
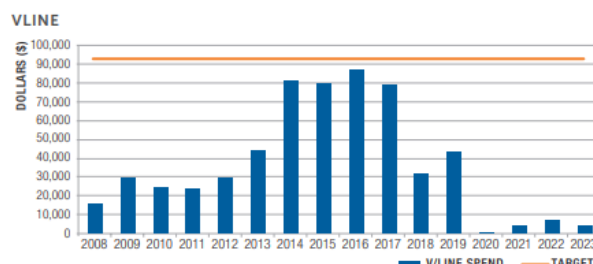
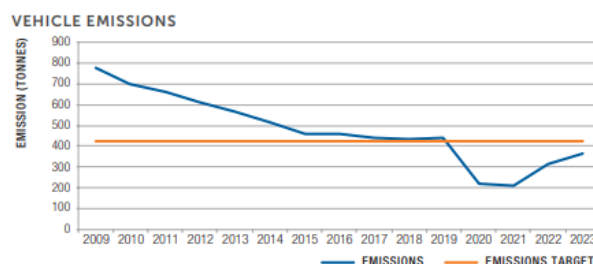
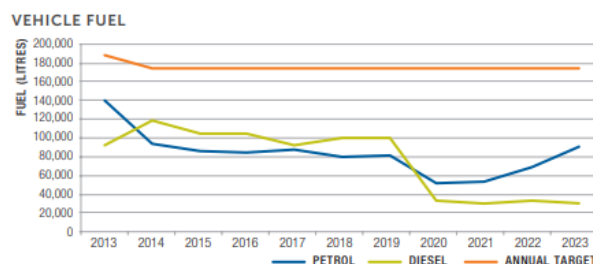
A continual growth in confidence of staff and students has resulted in an elevation of on-campus activities return to a level comparable to pre-pandemic levels resulting in increasing energy consumption throughout 2023. Inter-campus travel, field and research trips have also experienced growth reflecting confidence in the provision of face-to-face education.

Although there is increase in water consumption, recyclable waste, vehicle emissions, vehicle fuel usage and travel in general, all these are within [established targets](#). With increased on-campus activity, we have seen an increase in our greenhouse gas (GHG) emissions, energy consumption and landfill waste.

Public transport spend remains low, benefited by the reduced regional fares implemented by the State Government post pandemic. The development and adoption of the university's a net zero strategy, guiding us to achieve net zero for scope one and two carbon emissions will ensure the University remains on track to meet its environmental and social responsibilities.

The University will ensure that current and future developments will include sustainable technology embedded in the design, that will reduce energy consumption, contribute to production of renewable energy and technologies that will reduce the need for travel between campuses. The University continued development and deployment of Connected Classrooms incorporating audio-visual technology to give remote participants a virtual 'in-room' face-to-face experience.

Federation University remains committed to, where possible, purchasing hybrid vehicles to replace old, outdated fleet vehicles. Currently 43 per cent of our



vehicle fleet are hybrid vehicles. This ongoing commitment combined with the move to greater use of online meeting technologies has resulted in reduced travel and reduction in vehicle CO2 emissions. Federation has reduced its fleet by 15%.

## 12.4 Research

Our Research Centre for Smart Analytics has been working on a project funded by the Traceability Grants Program, funded by the commonwealth of Australia on Robust Digital Technology for End-to-End Traceability in Australian Grain Export Supply Chain

Traceability technology is fast gaining significant attention in the food and agriculture industries. Although substantial work has recently been done globally on advancing traceability technology for some food industries (e.g. horticulture and agriculture), there is only limited work focusing on grain traceability specific to the Australian grain export supply chain. Our project will address this critical technology gap with close collaboration between researchers and industries in Australia in key export markets.

This project has worked with the relevant industry and the involved stakeholders to prioritise the following:

- key tests that will benefit from automation and sensing technologies
- key traceability platform functionality that will record test results and secure the data traceability in the supply chain
- demonstration of these components as a pilot for pre-commercialisation
- probable commercialisation steps through heavy engagement with industry partners and government

### Proposed solutions:

- a blockchain-based digital traceability pilot platform which robustly tracks grain quality in the entire supply chain
- digital traceability approaches to security standards, certifications and audit procedures that provide a model for wide implementation in the grain industry
- understanding amidst the trusted parties of the blockchain tolerated power of adversary, identity and execution, scalability, security and privacy
- new non-destructive sensing techniques (e.g., multispectral and hyperspectral cameras) for grain quality that are accurate, fast and robust for environmental conditions – e.g. lighting condition variations and shaking of cameras resulting in noisy images during transportation and storage
- a grain quality decay model for identifying the supply chain steps where any non-compliance of food safety originates from. This could also be used as a modelling tool to predict when and where non-compliance might occur if there is any disruption to the supply chain to cause logistics conditions to change

Federation University Lecturers Dr Alan Labas, Dr Benjamin Long and Dr Dylan Liu have been working together on an exciting [research project](#).

### **We can create value from food waste by turning it into a highly desirable material – nanocellulose**

Food waste is a global problem with about 1.3 billion tonnes of food wasted each year throughout the food lifecycle – from the farm to food manufacturers and households.

Across the food supply chain, Australians waste around 7.6 million tonnes of food each year. This costs our economy about \$36.6 billion annually.

In a recent study published in Bioresource Technology Reports, we have found a way to use food waste for making a versatile material known as nanocellulose. In particular, we used acid whey – a significant dairy production waste material that it usually difficult to dispose of. Nanocellulose is a biopolymer, which means it's a naturally produced long chain of sugars. It has remarkable properties – bacterial nanocellulose is strong, chemically stable and biocompatible, meaning it's not harmful to human cells. This makes it a highly marketable product with applications in packaging, wound treatments, drug delivery or food production. The traditional approach for making nanocellulose can be expensive, uses large amounts of energy and takes a long time. Some types of nanocellulose

production also use a chemical process that produces unwanted waste byproducts.

By contrast, our new approach uses just food waste and a symbiotic culture of bacteria and yeasts (SCOBY) – something you may be familiar with as a kombucha starter. Our process is low cost, consumes little energy and produces no waste. A circular economy attempts to minimise waste and extend the lifecycle of products for as long as possible. Our study demonstrates an efficient circular economy approach for upcycling a dairy industry waste product into sustainable nanocellulose.

Additionally, the sediment residue we produced has a high nutrient value and potentially has commercial value as a fertiliser or animal feed, while the liquid culture can be reused for the next batch.

Our study was limited to a single source of food waste within a laboratory environment. A future challenge will be taking this approach out of the lab and scaling it up for commercial use. This will involve a series of steps throughout the value chain from waste collection and transport through to commercial production.

# 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



## 13.1 Towards Net Zero 2033



[Towards Net Zero](#) 2033 was published in 2023 and establishes our sustainability commitments for Energy and Emissions by addressing the SDGs of Affordable and Clean Energy and Responsible Production and supporting further SDGs as outlined in the table overleaf. It provides both the practical actions we will take to manage our own operational sustainability impacts in the short, medium, and long term, as well as supporting the development of Federation University's Sustainability Framework. The broader Sustainability Framework will outline our commitment to social, environmental, and economic sustainability through our current and

proposed future contributions towards the 17 United Nations SDGs. It will also identify complementary processes that are essential to achieving this document's net zero emissions target, such as procurement policies, building standards, supply chain accountability and future relationships Federation University may form with local government or industry partners. As the Sustainability Framework evolves, this plan – Towards Net Zero 2033 – will continue to be reviewed to maintain relevance and consistency. The Towards Net Zero plan supports SDGs 3, 4, 7, 9, 11, 12 and 13.



## 13.2 Education

### 13.2.1 A Carbon Literacy first in Australia

Federation runs a Carbon Literacy Training (CLT) short certification course in collaboration with Swinburne, The University of Queensland and Deakin University. After completing the short course, participants undergo a pledge and assessment to become certified as Carbon Literate via The Carbon Literacy Project – a global not-for-profit organisation specialising in climate-action training that has certified more than 20,000 people worldwide.

Our CLT has completed 6 rollouts of the training program, with 100 carbon literate participants. As a result, their pledges claim to have saved more than 100 T CO<sub>2</sub> emissions so far.

## 13.3 Research

### 13.3.1 Exploring hydrogen technology to power next-gen farming



As the transition to renewable energy gathers pace in Australia, researchers are looking at ways to incorporate hydrogen fuel cells into the powertrains of tractors and other farming equipment that has been fuelled by diesel for generations.

Federation University is collaborating with the CSIRO and industry partner Foton Mobility – an Australian-owned distributor of new energy heavy vehicles – to develop simulations and perform small-scale system-integration studies with the aim of retrofitting diesel powertrains in tractors with a hydrogen fuel cell-electric system.

Dr Surbhi Sharma, Associate Professor of Hydrogen Technologies, says there are clear advantages to hydrogen fuel cells being considered for the agricultural sector, which is the second largest contributor to Australia's greenhouse gas

emissions. "Currently, agricultural equipment use diesel and these have to be phased as the sector looks to decarbonise," Assoc Prof Sharma said.

"The significant advantage with the systems we are looking at is that they use hydrogen and oxygen from the air to produce electricity and water – there are no emissions except water vapour. This technology does not burn hydrogen – unlike what many people might think when they hear of hydrogen technology replacing diesel or petrol.

"It's important to note that these hydrogen systems generate electricity but use a completely electrochemical process. With no internal combustion, the hydrogen combines with oxygen to make water and electricity, with a small amount of electricity used to generate an initial electrochemical reaction.

Assoc Prof Sharma began working in hydrogen fuel cell technology development in the United Kingdom in 2011, including researching the materials and components that go into fuel cell systems. She says there are exciting opportunities to develop the technology for agriculture in Australia,

and the project was looking for a PhD to join the CSIRO's Industry PhD Program - a fully-funded, four-year research training program. The candidate would also have the opportunity to work with Foton Mobility and at the CSIRO Clayton facility, engaging with a variety of experts in the field.

Assoc Prof Sharma is also keen to continue the series of hydrogen technology workshops in Gippsland, having held the first one in December 2023.

"These workshops are intended to lead to actionable steps by Federation, the

Council, the industry partners or industries interested in collaboratively working on projects. We really need to push for more projects, research, and training-related initiatives into public space and increase social awareness on these topics," Assoc Prof Sharma said

"There is a lot of interest in decarbonisation and tackling climate change – these are very interesting times to be in with the entire world trying to transition.

### 13.3.2 Rangelands Carbon Project

In October, researchers at CeRDI participated in a five day workshop and field trip to [Darwin for the Rangelands Carbon](#) project. The 'Darwin Muster' provided project collaborators and partners from the Food Agility Cooperative Research Centre (Food Agility CRC) Rangelands Carbon project the opportunity to attend the 'Rangelands Field Trip, Australian Agricultural Company (AACo) Deep Dive, and Research' event.

The Rangelands Carbon project is a Food Agility CRC supported project. Funding of \$6.5million is supporting research to transform how rangeland farmers estimate, manage and trade carbon. Federation University are collaborators on the project together with the AACo; (Australia's largest beef producer), the University of Technology Sydney, Charles Sturt University and three technology partners: Cibo Labs, Mullion Group, and Carbon Link.

The Red Meat industry is committed to a target of net zero emissions by 2030 and Australia is committed to net zero by 2050.

Increasing soil and vegetation carbon is one of the greatest tools we have to reduce emissions and can be achieved through

improving farming practices. At the same time, the carbon market is growing, offering new revenue streams for savvy and sustainable farmers.

Farmers want to manage carbon in soil and vegetation to build enterprise profitability, sustainability and resilience as well as respond to market demand and meet carbon targets. But measuring soil and vegetation carbon across vast rangelands can cost millions and even with the data, understanding management options and sequestration potential is difficult.

These factors are major barriers for farmers who want to proactively manage soil, pasture and vegetation health and participate in the carbon market.

#### **The Solution:**

The project team is developing models and tools to accurately and affordably estimate soil and vegetation carbon in Australian rangelands, unlocking 75% of the country's landmass to reach its carbon sequestration potential.

The team will establish a baseline measure of carbon in soil and woody cover vegetation (trees) across Australian

rangelands, estimate changes in carbon over time and in response to different landscape management practices, and advise industry on opportunities to improve carbon sequestration.

AACo is Australia's largest landholder and biggest red meat producer. It owns one per

cent (6.4m hectares) of Australia's landmass across varied landscapes in Queensland and the Northern Territory, making it the ideal data source for the validation of new carbon measurement and modelling approaches that can be scaled for national benefit.



## 13.4 Partnerships with the community

### 13.4.1 [CSIRO visit to Carbon Technology Research Laboratory](#)



Photo credit: Alana Auden

In April 2023, the Carbon Technology Research Laboratory at the Federation University's Churchill campus hosted a delegation of 10 diplomatic journalists from Bangladesh led by Principal Scientist Dr Nawshad Haque, CSIRO. The delegation visiting the Latrobe Valley was sponsored by the Australia Award under the Australian Government. The visitors were interested in the renewable energy research and development and the energy transition in Australia. Associate Professor Dr Surbhi Sharma and Dr Alicia Reynolds provided a tour of our facilities and discussed capabilities in carbon processing, and upcycling low-value carbon (lignite), and waste carbon into useful products for use in renewable energy industry. The visitors were also keen to understand the viability of blue hydrogen production from lignite and management and utilization of carbon dioxide.





# 14 LIFE BELOW WATER



## 14.1 Research

[Living Bung Yarnda](#), launched in November 2020 with funding from a Coastcare Victoria grant, is a community-led project aimed at the care and management of Lake Tyers (Bung Yarnda). Supported by various organizations, including the Lake Tyers Aboriginal Trust and Federation University, the project was inspired by Wayne Thorpe's book reading in 2017. Facilitated by Dr. Jess Reeves and Dr. Pat Bonney, the initiative emphasizes community involvement and integrates scientific and traditional knowledge through art, storytelling, and lived experiences. The project aims to demonstrate the benefits of inclusive environmental management for both the lake's health and community engagement, acknowledging the importance of both Indigenous and non-Indigenous perspectives in ensuring the vitality of Lake Tyers



Implementing a participatory model of place-based stewardship for inclusive wetland management: [A community case study](#) The case description illustrates how embedded knowledge in this community is currently undervalued by management agencies but, if harnessed, can contribute to more holistic and equitable forms of wetland management.

## 14.2 Protecting Our Regions

Andrew Barton is the Deputy Dean for the Graduate Research School, yet his substantive position is as a Professor in Water Resources Engineering. Andrew Barton was appointed to the Wimmera Catchment Authority (CMA) Board in October 2023, which works in partnership with the community, stakeholders, government to deliver advice & services to improve and enhance the condition of the region's environment

As a Professor of Water Resource Engineering at Federation University

Australia, Andrew brings considerable national and international experience and knowledge across strategic water resource planning, impacts of climate change to water supply, streamflow and water quality monitoring, entitlement and allocation frameworks, and direct operational experience of managing water resources through the extremes of droughts and floods. Together with Peter Gell from Federation University he published a paper in 2023 on Ecological and statistical models to configure flow regime for environment benefit in a regulated river.



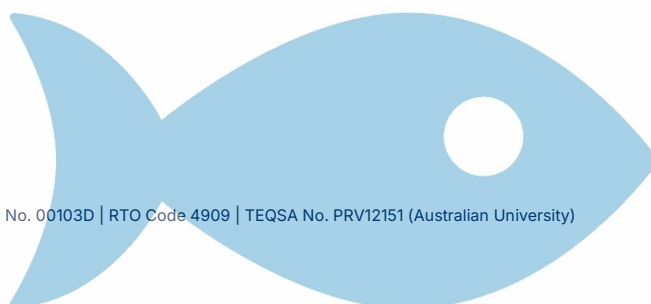
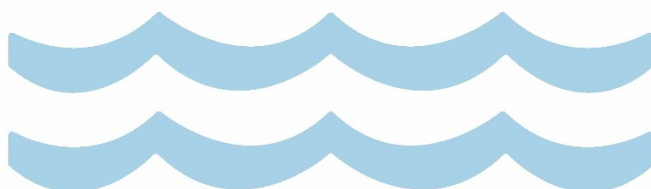
## 14.3 Education offerings

Our climate is now changing in response to an array of anthropogenic impacts. An understanding of the rate, mode and scale of these changes are now of vital importance to society and the environment. In the unit **Climate and Environmental Issues in Changing World** (SCENV3500) we look at historical (ie measured), current and predicted changes linking proposed causes and effects, and also adaptation and mitigation options available to tackle undesirable present and future changes.

Wider impacts of environmental change and policy framework at a local and global level to tackle present and future climate scenarios are considered. We investigate national and international case studies of historical and contemporary effects of environmental change on the biophysical environment, including flora and fauna, extreme events, food security and society, new energy futures and climate ready initiatives. This unit will help prepare students for the dynamic world of work they are about to enter.

Practically students engage in a has a field trip that tours urban waterways in Ballarat to consider the design elements of waterways in urban settings that will influence biodiversity conservation, climate adaptation, and human amenity.

# 14 LIFE BELOW WATER



# 15

 LIFE ON  
LAND

## 15.1 Protecting our regions

### 15.1.1 Nanya Station

Nanya Station is a magnificent 40,000-hectare property in far western New South Wales. Its unique system of natural salt lakes, old growth Mallee, and variety of intact ecosystems, makes Nanya a significant refuge for biological diversity.

The University has been the proud custodian of Nanya since 2004, and values Nanya as an important resource in our research, conservation and education programs. Our staff and students are committed to creating a research community to preserve and enrich the biodiversity of this important legacy of the University and the nation.

Nanya Station was purchased with assistance from the Department of Environment and Heritage. The University gratefully acknowledges support for ongoing management from the Lower Murray Darling Catchment Management Authority (CMA). We're working together for a better future for the 30 or so threatened species found on Nanya. By finding the best way to protect them on Nanya, we're also finding the best way to protect them on other properties.

The research includes pitfall trapping to monitor key threatened species, such as southern ningau, vegetation surveys, exclosure sites and much more. Not only do we learn about these threatened species and their conservation needs, but partnerships like this also extend that information to local landowners, interested individuals and volunteer groups. Most importantly, this information is available to the next generation of ecologists; the undergraduate students who getting on-ground experience working with conservation programs such as Saving our Species.



### 15.1.2 Protecting a region famed for its biodiversity

Federation University researchers, led by Professor Peter Gell, are collaborating with Ararat Rural City Council to create detailed maps highlighting the region's biodiversity. The project, part of the Ararat Planning Scheme, aims to protect and enhance the environment by accurately mapping critical spots for threatened species on Crown and private land. This initiative will address discrepancies between current environmental maps and actual site conditions, aiding in development planning and biodiversity conservation.

Key components include studying brolga and golden sun moth populations, and wetland values, to build a robust vegetation model. The project will help the council identify areas suitable for development and those needing protection, reducing conflicts between development and environmental values. The study also aims to update outdated regulations, providing clearer planning guidelines for landowners. Dr. Tim Harrison emphasizes the importance of this innovative approach for the city's environmental planning and community engagement.



*The project seeks to protect and enhance the Ararat region, locating critical spots for threatened and significant species.*

## 15.2 Research

### 15.2.1 Tracking Ballarat's koalas as urban sprawl threatens their habitat

Veterinary surgeon and Federation researcher Dr Adrienne Lavinia says her experience of treating injured animals during the 2019-20 Victorian bushfires was a key factor in wanting to team up with Federation researchers, including animal health specialist Dr Sarah Preston, environmental scientist Dr Grant Palmer and Emily Flatters, to learn more about – and to protect – koala populations around Ballarat.

Federation University researchers hope to get a clearer picture of the number of koalas and their patterns of habitat use in

the Ballarat region by tapping into citizen science monitoring data and tracking injured animals that have been nursed back to good health.



*Catherine has been released into the Woowookarung Regional Park and will be tracked by the research team. Image: Nikki Shanahan, Shanhaven Shelter*



The researchers have grown the study to include echidnas and soon hope to track birds of prey.

"We want to track these koalas, understand how they're using the landscape, and find out what we can do for

them. We really want to know their abundance and learn about their health from genetic testing," Dr Lavinia said.

### 15.2.2 Valuing ecosystem services provided by land commons in India: implications for research and policy

Professor Harpinder Sandhu the Director, Ararat Jobs and Technology Precinct for the Institute of Innovation, Sciences and Sustainability has been instrumental in championing sustainability within the Ararat region.

Shared natural resource commons provide essential material and non-material benefits to around 2.5 billion people globally, supporting livelihoods and performing crucial ecological functions. These benefits include food, fodder, fuelwood, timber, organic manure, seeds, clean air, water purification, soil retention, carbon sequestration, and flood control. Despite their importance, commons face degradation due to human activities, insecure community rights, weak governance, and unfavourable policies. The economic contributions of commons are often underestimated, leading to underinvestment.

This study focuses on the economic value of land-based commons in India, highlighting their significance in providing ecosystem services and supporting rural livelihoods. Common lands in India, constituting one-fifth of the country's landmass, are vital for over 350 million rural people but are often misclassified as 'wastelands.' The study emphasizes the need for better management and valuation of commons to inform policies and investments for sustainable development.

## 15.3 In our Community

### 15.3.1 The Biodiversity Across the Borders Conference

The Future Regions Research Centre has successfully continued to organised the Biodiversity Across the Borders conference in both 2022 and 2024. This one-day event aims to disseminate new ecological research findings to natural resource managers, researchers and community individuals passionate about environmental stewardship.

The conference is jointly hosted by Federation University, La Trobe University, Deakin University, RMIT, Charles Sturt University, University of Melbourne, Parks Victoria and other research partners. Held at the Federation University Mt. Helen

campus in Ballarat, the biennial event attracts over 550 delegates. Industry collaborators, including Corangamite CMA, Glenelg Hopkins CMA, CeRDI, Aus Eco Solutions, Nature Advisory, City of Whittlesea, and Biosis, generously sponsor these conferences, with, in total, over \$80,000 being raised in sponsorships to support the events.

These conferences provided an invaluable platform for sharing cutting-edge ecological research and fostering collaborations among diverse stakeholders committed to advancing biodiversity and environmental sustainability.



# 16 PEACE, JUSTICE AND STRONG INSTITUTIONS



## 16.1 Strong institutions and governance

Federation University is committed to maintaining the highest standards in governance, academic quality, and strategic planning.

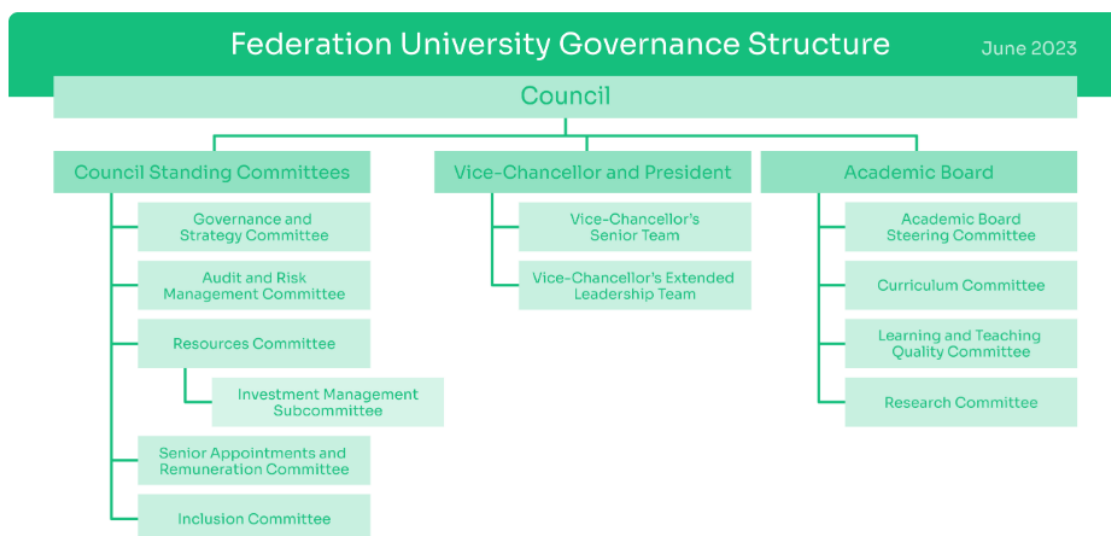
The Federation University Australia Council is the governing authority of the university and is responsible for the direction and oversight of Federation University. The Council Charter describes key responsibilities such as monitoring annual budgets, reviewing business plans, reviewing management and its performance, monitoring systems of control and accountability and managing risk mitigation.

Council membership expertise provides an environment for innovative thinking, evidence-based decision making and agile approaches towards sustained growth and success of the university. Council membership includes senior public and private sector leaders, business owners and academics, ensuring a diversity of views. Many are based in our regional communities.

Council is supported by committees focusing on specific areas such as finance, audit, risk management, and academic quality.

Academic Board as the peak academic governing body that oversees academic governance, ensuring the quality of learning, teaching, research, and research training. It sets and monitors academic standards and provides advice to the Council and Vice-Chancellor.

The university's Strategic Plan (2021-2025) is underpinned by three key strategic objectives (Transform Lives; Enhance Communities; Strong and Sustainable University). The Vice-Chancellor's Senior Team monitors accountability and progress against the plan's success measures quarterly based on input from all portfolios. Progress is reviewed bi-annually by Governance and Strategy Committee and by Council.



## 16.2 National Centre for Reconciliation, Truth and Justice

In February 2023 Federation University established The National Centre for Reconciliation, Truth, and Justice by Andrew Gunstone, the Associate Deputy Vice-Chancellor. The centre is dedicated to leading transformational change in reconciliation, truth, and justice across regional and national levels. The Centre engages with industry, academic, and community settings through a comprehensive program of education, engagement, outreach, and research activities.

The Centre aims to foster a deeper understanding and active engagement with reconciliation efforts, ensuring that these initiatives are impactful and meaningful.



*First Nations Voice Dialogue, Brisbane, 31 May 2023. From left to right: Professor Andrew Gunstone, Professor Bindi Bennett, Dr Jackie Huggins, FAHA, Emma Garlett.*

[It also supports the Uluru Statement from the Heart and promotes Voice, Treaty, and Truth as essential components of reconciliation](#)

## 16.3 Contribution to policy and legislation

Federation University regularly contributes to Federal, State, and local Government bodies creating policies and legislation to improve life in regional Victoria. Federation provides evidence for legislation and reform. Our Government Relation team along with Leadership work towards connecting with ministers at a local state and federal level to collaborate and inform policy and service the regions we serve.

## 16.4 Australian Universities Accord.



The Accord Report envisions the future of Australia's higher education system, based on extensive stakeholder engagement and high-quality submissions. It includes five priority recommendations and topics for further discussion to shape the Review's Final Report. Section 3.3.5, focused on improving affordability for students, aligns with SDG1 – No Poverty. It addresses fair and affordable student contributions, manageable education debt, non-burdensome repayments, HELP debt forgiveness, student loan fees on FEE-HELP loans, and proposes a new funding model.

In 2022 and 2023, Federation University actively provided expert advice to the Australian Federal and Victorian State Governments through submissions and consultations on policy reviews, frameworks, and strategies. Vice Chancellor Professor Duncan Bentley facilitated campus

visits from government ministers and international representatives to discuss the university's role and contributions to governance in Australia.

## 16.5 National Referendum education

In 2023, Federation University endorsed the Uluru Statement from the Heart, which calls for addressing Voice, Treaty, and Truth. This endorsement was a significant step in the university's reconciliation journey, emphasizing a holistic approach. The university supported enshrining a First Nations Voice to Parliament in the Constitution, highlighting its importance for Indigenous representation and influence on matters affecting them. This initiative aims to educate the wider Australian community about the significance of this constitutional change ahead of the 2023 referendum.

The National Centre for Reconciliation, Truth and Justice organised a series of panel discussions and one on one conversations on a First nations Voice to Parliament across all campuses with attendance of over 500 people from across the university and wider community.

## 16.6 Education and training

Federation University promotes peace and justice through its programs in social sciences, law, and humanities.

Through 2023 Good University Guide Federation has the highest results nationally from the National Student Experience Survey in **Law** for *overall experience, skills development* and *teaching quality*.

## 16.7 Partnership with Corrections Victoria

Federation University is actively involved in the justice system, providing vocational education and training (VET) programs to prisoners in collaboration with Corrections Victoria. In 2023, Federation TAFE, in partnership with Corrections Victoria and Weld Australia, introduced an advanced welding course at HM Prison Langi Kal Kal. This initiative aims to give prisoners a brighter future and better chances of securing in-demand jobs upon release.

Of the students studying through correction facilities 16% have a disability, and 15% are indigenous Australians.

## 16.8 Research

### 16.8.1 Research and practice come together to explore court reforms

A new book exploring the controversies, challenges and changes of Australia's courts is the first comprehensive collection to canvas the courts' diversity and provide a detailed critical analysis of contemporary issues, debates and reforms.

Senior Lecturer in Criminology and Criminal Justice Dr Marg Camilleri has co-edited *Australian Courts: Controversies, Challenges and Change*, which includes contributions from researchers and practitioners with a unique perspective of courts in Australia. Dr Camilleri co-edited the book with Senior Lecturer in Criminology at the University of New England, Dr Alistair Harkness.

The book covers courts across state, territory and national jurisdictions, including coroners' courts, family courts, criminal, civil courts, Indigenous courts and problem-solving courts.

Dr Camilleri says the idea for the book came about two years ago when she identified many resources focused on one court or one aspect of court, but there needed to be a reference that brought issues together from different courts around Australia.

"Each of the chapters has an academic piece and a contribution from a practitioner. The practitioner provides an on-the-ground perspective of how the issues raised in the academic piece play out in practice," Dr Camilleri said.

### 16.8.2 Roads to Reconciliation: Activating Multicultural Victoria Project

Established by the National Centre for Reconciliation, Truth, and Justice, and funded by the Victorian Department of Families, Fairness, and Housing, this project seeks to engage multicultural communities in areas of reconciliation, truth, and justice.

The project is led by National Centre Adjunct Senior Research Fellows Maria Dimopoulos AM and Shankar Kasynathan. Associate Deputy Vice-Chancellor Reconciliation, Professor Andrew Gunstone, will also be working on the project. We operate in regional, rural, and metropolitan communities, working closely with local governments, community service providers, and the people who live, study, and work in these communities. We are a team committed to intersectionality, equality, and inclusion.

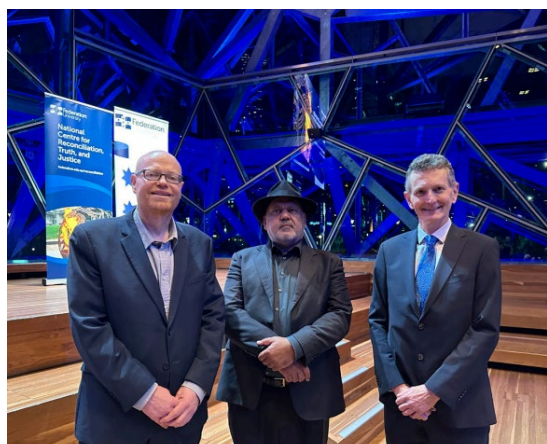


## 19.4 Education

We also host a range of public lectures and orations. 2023 was a year of significance as we held out inaugural [Annual Reconciliation Lecture](#) presented by Noel Pearson to over 1000 in person and online attendees.

Prominent Indigenous leader Noel Pearson comes from the Guugu Yimidhirr community of Hopevale on South Eastern Cape York Peninsula. Noel is one of Australia's most influential Indigenous lawyers and activists and has, for many years, campaigned tirelessly on behalf of Indigenous people. Noel is the Founder of

the Cape York Institute for Policy and Leadership, Founder and Director of Strategy of the Cape York Partnership, Founder and Co-Chair of Good to Great Schools Australia, and Co-Founder of the Cape York Land Council. Noel was a member of the Expert Panel on Constitutional Recognition of Indigenous Australians, a member of the Referendum Council, and a member of the Indigenous Voice Co-Design Senior Advisory Group. He is currently a member of the Federal Government's Referendum Working Group, and the Referendum Engagement Group.

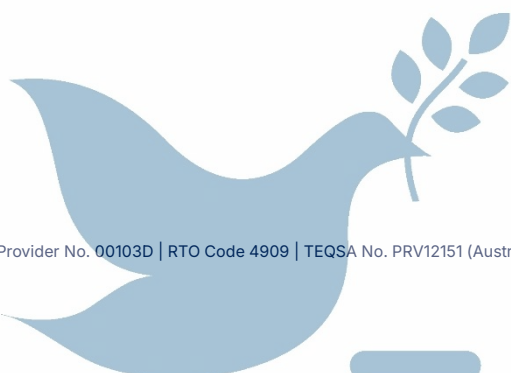


Professor Andrew Gunstone, Noel Pearson, and Professor Duncan Bentley at the Federation University Annual Reconciliation Lecture.



Some of the National Centre for Reconciliation, Truth, and Justice staff and Advisory Board members at the Federation University Annual Reconciliation Lecture. From left to right: Professor Emma Lee, Professor Andrew Gunstone, Commissioner Sue-Anne Hunter, Dr Jackie Huggins AM FAHA, Emma Garrett, Professor Barry Judd, Professor Bindi Bennett.

# 16 PEACE, JUSTICE AND STRONG INSTITUTIONS



## 17 PARTNERSHIPS FOR THE GOALS



Federation University partners with students, staff, government, industry and community - in our local communities and right across the world – in pursuit of the 17 SDGs. This Sustainability Impact Report highlights the breadth of work we have delivered in partnership with others to make an impact towards the goals in 2023.

### 17.2 Industry engagement

Federation University is a leader in industry collaboration. Building on this reputation, we are on the path to becoming Australia's first fully co-op university, are strengthening our work with industry, making our teaching and research adaptable to the rapidly changing needs of the workforce and providing our partners with more opportunities to get the most out of our research expertise.

#### 17.1.1 Co-op

Federation's Co-op model involves designing and delivering education in co-operation with employers and businesses. It benefits students by connecting them to employers and industries throughout their studies and giving them access to new opportunities.

For employers and industry, co-op addresses many of the skills shortages facing regional Victoria and Australia and provides a talent pool of graduates that already understands the real needs of businesses and organisations. Co-op means industry can tell Federation what they need our students to know to succeed.

In 2023, Federation went to market offering Co-op degrees from 2024, across Science, Engineering, Business, IT and IT Professional Practice.

#### 17.1.2 Impactful research in partnership with industry, community and government

Our approach to research, research training and innovation is informed by our commitment to delivering economic and social transformation for regional Australia and beyond. Our objectives include embedding a culture of innovation and entrepreneurship to support research and research commercialisation.

Federation University's research centres are preferred research partners for industry, community and government in digital agriculture, environmental and resource management, renewable energy, chronic disease management and the evaluation of social policy. Federation researchers are also setting international standards in data discovery and interoperability.

Federation is ranked #1 in Victoria and #4 in Australia for HDR engagement with industry. 20.5% of all HDR students at Federation University are engaged with industry via internships, co-supervision or co-funding, compared to a national average of 6.8%.

### 17.1.3 Technology Parks

Our technology parks are specifically designed to encourage the development of technology-oriented enterprises. These innovation precincts foster collaborations, employment placements for students, partnerships and research opportunities.

We have one of the largest technology parks of any Australian university, with established operations in Ballarat and Gippsland, as well as a new jobs and technology precinct at Ararat.

Federation's technology parks have grown to now host 64 enterprises that collectively employ more than 2,100 full-time staff. This includes national and international companies including IBM, Emergency Services Telecommunications Authority, Concentrix, Kyndryl and Ernst & Young.

## 17.2 Collaborations with other institutions on research

We collaborate with other institutions on research and education to increase our impact. A snapshot of our partnership projects in 2023 is provided below.

- Federation is a key partner for a new Australian Research Council Centre based at Monash, Industrial Transformation Training Centre in Optimal Ageing, which aims to boost research and training to nurture a holistic, preventative and user-empowered system to support Australia's ageing population.
- Federation's Centre for New Energy Transition Research has partnered with the University of Qatar to help the resource-rich state diversify its electricity generation.
- Deakin University and Federation also signed an agreement that will help drive innovation in the manufacturing sector within the Ballarat region, called ManuFutures 'Ignite', a free 12-week program to help entrepreneurs and product-based start-up businesses.
- Federation University's Collaborative Evaluation and Research Group provided data analysis for the Gippsland Rainbow Brick Road project, created by the Gippsland Pride Initiative, who developed a LGBTIQ+ community survey and ran a series of professional development workshops.
- Federation in collaboration with the CSIRO and industry partner Foton Mobility, is undertaking research into reducing greenhouse emissions from the agriculture sector by replacing diesel powertrains in tractors with a hydrogen fuel cell-electric system.

## 17.3 Education on the SDGs

Federation offers a broad range of higher education and TAFE courses across the 17 SDGs, with our largest offerings in health, allied health and education designed to address critical skills shortages for our regions. We also offer a range of courses in sustainability – particularly designed to prepare the new energy workforce of the future – as outlined under SDG 7.

We have started a detailed mapping of all courses and units to align with the SDGs, identifying which goals apply to each unit and how the learnings help achieve them. Beginning with the Institute for Innovation, Science and Sustainability, we will develop at least one tutorial in which students reflect on the relevant SDGs, for example, through a guided case study, to link their learning and their behaviour to the relevant SDG/s.

## 17.4 PRME Reporting

Federation has been part of Principles for Responsible Management Education (PRME) since inception and was one of the first universities in Australia to implement PRME as the University of Ballarat in 2007.

Our involvement in PRME, initially through the Federation Business School and now as a university-wide approach, has given us the opportunity to develop and reflect on our practices and approaches, as they are aligned with the SDGs and will play an important foundational role in the development of our sustainability benchmarking.



## 17.5 Relationships on SDG Policy

### 17.5.1 Gender Equality and Social Inclusion for Energy

Professor Iven Mareels is Pro Vice-Chancellor Innovation and the Executive Dean of the Institute for Innovation, Science and Sustainability at Federation University Australia, and has been working towards a standard for the IEEE on GESI (Gender Equality and Social Inclusion) for Energy.

The purpose of this Recommended Practice is to encourage the fulfillment of the IEEE Diversity Statement, Code of Ethics and Nondiscrimination Policy. Specifically the Recommended Practice will develop and encourage the application of an industry standard within Power and Energy projects, within the Low Carbon Energy Industry, to advance diversity in the Engineering technical profession, and to promote an inclusive and equitable culture within society that welcomes gender equality and social inclusion with respect to public access of essential services such as electrical power.

Incorporating consideration of GESI factors presents challenges, but also presents opportunities to protect and promote the interests of impacted communities and the environment, including but not limited to public health and safety.

Professor Mareels co-organised a workshop in May 2023 [Norbert Wiener Symposium: Discussion of the Future of Work](#) alongside Heather Love, Greg Adamson, Brent Jesiek and Michael Rigby. In the spirit of the Macy Conferences through which Wiener developed many of his ideas, 21CW2023 will be deliberately multi-disciplinary, with participant expertise encompassing fields that span STEM, HSS, and fine arts. The workshop will be divided into four 75-minute sessions, each of which will include brief (5-minute) prepared remarks from 4-5 presenters followed by a moderated group discussion.





### 17.5.2 Federation University partners with Apricot Consulting to deliver UN's SDGs

A 6-month program called '[Sustainable Gippsland](#)' was launched in 2023 and will be delivered by purpose-driven Environmental, Social, and Governance (ESG) organisation Apricot Consulting in partnership with Federation University Australia's Morwell Innovation Centre. The program will support further adoption of the SDGs in businesses and enterprises across the region.

Lisa Maatsoo, Industry Engagement and Innovation Manager at the Morwell Innovation Centre is excited about the 'Sustainable Gippsland' opportunity to support the adoption of the SDGs across Gippsland.

"Federation University is pleased to take a leadership role in bringing this SDG program to our local industry partners, as we work together to create a sustainable region for the benefit of everyone in Gippsland," Lisa added.

# 17 PARTNERSHIPS FOR THE GOALS



# Acknowledgments

## **Institutes:**

Institute of Education, Arts and Community (IEAC)

Institute of Health and Wellbeing (IHW)

Institute of Innovation, Science and Sustainability (IISS)

Federation TAFE

## **Research Centres:**

Centre for eResearch and Digital Innovation (CeRDI)

Health Innovation and Transformation Centre (HITC)

Future Regions Research Centre (FRRRC)

Centre for Smart Analytics (CSA)

Centre for New Energy Transition Research (CfNETR)

Collaborative Evaluation and Research Centre (CERC)

National Centre for Reconciliation, Truth, and Justice

Federation University Tech Parks

Morwell Innovation Centre

Ararat Jobs and Technology Precinct

Governance, Strategy and Office of the Vice Chancellor Portfolio