

nuw alliance

BIANNUAL REPORT.

2022 Q1-2

The NUW Alliance acknowledges the traditional custodians of this land – their elders past, present and emerging – and is committed to reconciliation with Indigenous Australians through collaboration.



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A MESSAGE FROM OUR CHAIR.



As we reflect on 2021, a year not without its challenges - both unforeseen and unpredictable - it is with a sense of quiet optimism that we herald in 2022, steadfast in the knowledge we have more to do.

Now more than ever before, the NUW Alliance has an important role to play in supporting our communities and our regions, both Greater Sydney and New South Wales, and, ultimately, Australia.

LEVERAGING OUR SCALE, DELIVERING ON OUR MISSION.

In June 2021, the NUW Alliance with TAFE NSW, launched the Multiversity, developed with industry to leverage the proven strength and quality across our partners, to reimagine the future of education and training in Australia. We have plans to expand into an 'Engineering Plus' program that will apply world-leading expertise in critical fields to drive our nations global competitiveness.

Crucially, nurturing and growing an exceptional pipeline of Industry 4.0 ready graduates whilst contributing to the skills and education uplift for future generations in the Western Parkland City and beyond.

Sydney's third city centre, Bradfield, located in the developing Western Parkland City will be home to the nascent Advanced Manufacturing Research Facility (AMRF), an ecosystem of industry and innovation, with opportunities for research, development, creation, and growth. The NUW Alliance with partner UTS, launched our vision for research collaboration centered on the AMRF, a facility which will provide shared use equipment for research and industry partners to enable collaborative innovation. We are committed to our research vision and developing this in conjunction with industry and will be hosting 'deeper dives' aligned with our research areas of expertise over the course of 2022.

COMMITMENT TO INNOVATION.

The NUW Alliance will continue to work together to embrace collaborations with TAFE, industry, and government, to accelerate and coordinate research, education and innovation. We believe our diverse community and commitment to collaboration allows us the opportunity to address global challenges, to create positive change.

We do these things together - to bring purpose, create opportunities and to transform lives.

Professor Alex Zelinsky AO
Chair, NUW Alliance



OUR MISSION.

To seek out the big collaborations that make a difference, collaborations that unlock new value, impact and benefit for our communities across NSW.

OUR STRATEGIC PRIORITIES.

- Deliver impact for NSW by focusing our efforts on the challenges faced by the state.
- Actively pursue and execute opportunities for collaboration that a single Alliance partner cannot pursue alone.
- Enable collaboration for the Alliance by building and strengthening frameworks between our partners that encourage, foster, embed and celebrate collaboration.
- Remove barriers to collaboration faced by our partners and potential partners in industry, government and the community by establishing a framework for access.
- Prioritise collaborations that contribute to excellence in research, teaching and the student experience.
- Ensure our collaborations are underpinned by the sustainable development goals.



Spanning a
geographic home
to more than

75%
of NSW's
population,
and
25%
of Australia's.



of an unprecedented
size and scale in
Australia, with

240,000
students.



plus

18,000
staff.



working across
37 LOCATIONS,
with
**15 INNOVATION
HUBS.**



driving
**\$1.4
billion**
in industry and
community partnered
research.

THE NUW TEAM.



Professor Andy Marks
Chief Executive Officer

Professor Andy Marks is the CEO of the NUW Alliance and leads major strategic and development initiatives with government, industry and the community.

He has a PhD and first-class honours in political science and literature.

Andy writes regular columns for the Sydney Morning Herald and the Daily Telegraph. He is also a panellist on ABC Sydney's 'political forum' and The Drum.

Andy is also the Pro Vice-Chancellor, Strategy, Government and Alliances and Director of the Centre for Western Sydney, Chair of the Western Sydney Community Forum and a Non-Executive Director with Wentworth Healthcare Ltd. He is the founder of the CatalystWest interactive policy forum, and co-founder of the Launch Pad start-up incubator.

Prior to his current roles, Andy was a researcher in the social services sector, a Council member at the University of New England, and an ARIA nominated professional musician and composer.



Natalie Downing
Director of Operations

Natalie Downing started with the NUW Alliance in October 2021 and has held leadership positions in higher education for over 20 years with experience across faculty general management, international strategy, student administration, residential accommodation management, campus life and stakeholder engagement.

Most recently Natalie held the positions of Deputy Director Global Innovation Centre for Advanced Nanomaterials and Associate Director Faculty of Engineering and Built Environment at the University of Newcastle with responsibilities for strategic business development, stakeholder engagement, and operations.

A proven leader, Natalie has a particular interest in international partnership development, engagement, and governance. Natalie represents Asia Pacific on the Executive Committee of the Global E3, an international consortium of leading engineering universities.



Michelle Osborne
Senior Project Officer

Michelle Osborne joined NUW Alliance as Senior Project Officer in September 2021 and is responsible in managing strategic projects and events and supporting robust governance processes and contributing to communication and engagement with internal and external stakeholders to support the day-to-day deliverables of the NUW Alliance.

With extensive experience in higher education having joined UNSW Sydney in 2007, Michelle's previous roles have included managing projects for the Division of Enterprise at UNSW Sydney and supporting academic processes at the UNSW Business School.



Sylvia Malicki
Project Officer, Western Sydney University

Sylvia Malicki is a Project Officer providing strategic project support for alliances at Western Sydney University. She is committed to delivering best practice corporate governance and developing strong stakeholder relationships.

Prior to joining the University, Sylvia had five years of legal experience in insurance litigation across national law firms. She holds qualifications in Law and Commerce (Advanced Business Leadership) and has most recently worked in the public sector in corporate governance and risk management.

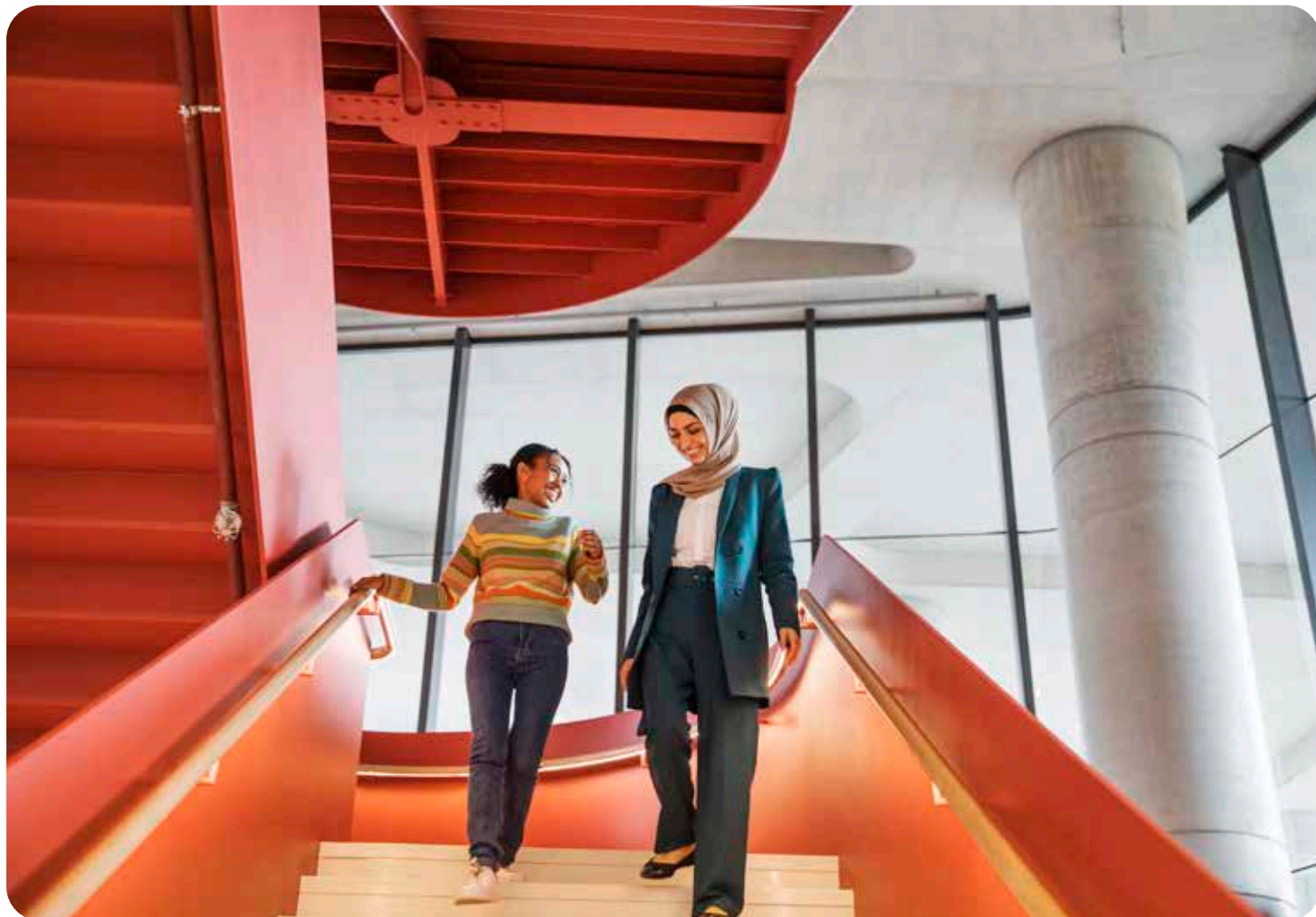




IDEAS WITH IMPACT.

Thought leadership
pieces from the Alliance.

UNIVERSITY ALLIANCES: SEVEN CRITERIA FOR SUCCESS.



Vinita Chanan.

Director of Alliances at UNSW Sydney,
and a member of the NUW Alliance
Management Committee.

*“Fifty percent of strategic alliances fail
in the first five years.”*

This was the premise of a paper I came across in 2015 when researching the set-up of UNSW’s first alliance under its 2025 Strategy, the PLuS Alliance. That headline stuck with me, and six years down the track, with a portfolio of alliances and the associated battle scars and triumphs, I realise how easy it can be for an alliance to fail or succeed.

As the higher education sector evolves under Covid-19, we are already experiencing changes to the way we work, teach and learn, and conduct research.

University alliances could and should contribute to this transformation as the sector resets in the face of financial and resource constraints and changing business models.

This piece draws from firsthand experience of setting up strategic institutional alliances globally and locally and notes seven criteria to set up new alliances in higher education for success.

Understand the need for a new partnership.

Clarity on why you'd want a partner or partners is critical. Identify the gaps in expertise or experience you're looking to fill that can only occur in partnership (e.g., addressing education inequality, climate change). Then make a list of potential partners who may assist.

Ask 'What added benefit can be delivered in partnership?' Seek to embrace and leverage differences between you and your potential partner(s).

An alliance needs to deliver more than the sum of its parts.

Find partners with shared institutional values.

Finding partners that fill gaps in expertise isn't sufficient. Understanding your shared values are essential. Values driven culture and decision-making set the tone for collaboration in the partnership.

Have early discussions with a potential partner regarding their own values and the shared values for the alliance to allow a strong foundation for governance, decision-making, collaboration and operations.

Key traits include flexibility, agility, diversity of thought, genuine collaborative intent, inclusivity, compromise, the ability to listen, and robust decision-making processes.

Agree on a common purpose and goals.

Building trust between senior institutional leaders of the alliance is critical.

Leaders drive an alliance's vision, ambition and goals. Top-down alliances demonstrate institutional commitment at the highest level but are not enough to sustain them in the long run.

Involving engaged and passionate university members in setting purpose and goals ensures alignment with individual university strategies and greatly assists with buy-in at the levels below. Once the purpose and goals are clearly articulated, the strategy, structure, funding and activities can then be easily aligned.

Set up fit-for-purpose governance and impact-focussed performance measures.

Alliance governance structures don't need to be complicated. The larger the alliance, the simpler its governance and decision-making should be. While an Alliance secretariat or central function can be independent of partner institutions, strategic alliance decisions must be approved by decision makers at the partner institutions.

Setting up Alliance Boards or Executive Committees that comprise university leaders authorised to make decisions for their institutions enables this.

Set up realistic performance measures aligned to goals and strategy but recognise that new alliances, like start-ups, take time to establish and enable collaboration for results.

Alliance performance measure should be impact focused. Where there is a mandate to become financially sustainable, revenue targets should be clearly defined.

Resource operations adequately.

During setup, it is important for partners to commit adequate seed funding to enable operations and pilot activities. Further commitment towards staff buyouts for key projects, and in-kind provision of infrastructure, systems and resources should also be considered.

Partners require autonomy in how they operationalise the alliance within their own institution; however, dedicated contacts including an Alliance Manager or Coordinator (and team) with a collaboration and problem-solving mindset is an asset to the partnership.

To drive impact, teams should be encouraged to work with speed and agility, and in test environments. Impactful alliances are exploratory in their very nature and best outcomes are achieved in safe experimentation.

Execute a Communications and Engagement strategy.

An alliance communications and engagement strategy is as critical as its overarching strategy. No matter how lofty the ambition of the alliance or commendable the activities, if no one knows, it's irrelevant.

Along with goals and governance, implementing a stakeholder engagement (internal and external) plan for buy-in, participation, funding or support is a key success criterion. A clear narrative of purpose, value and impact is core to the communications and engagement strategy. This activity should be embedded as a responsibility for all key alliance staff and project teams.

Identify communication channels for the alliance and at the partners to enable dissemination of key messages.

Set clear success measures and timeframes for evaluation.

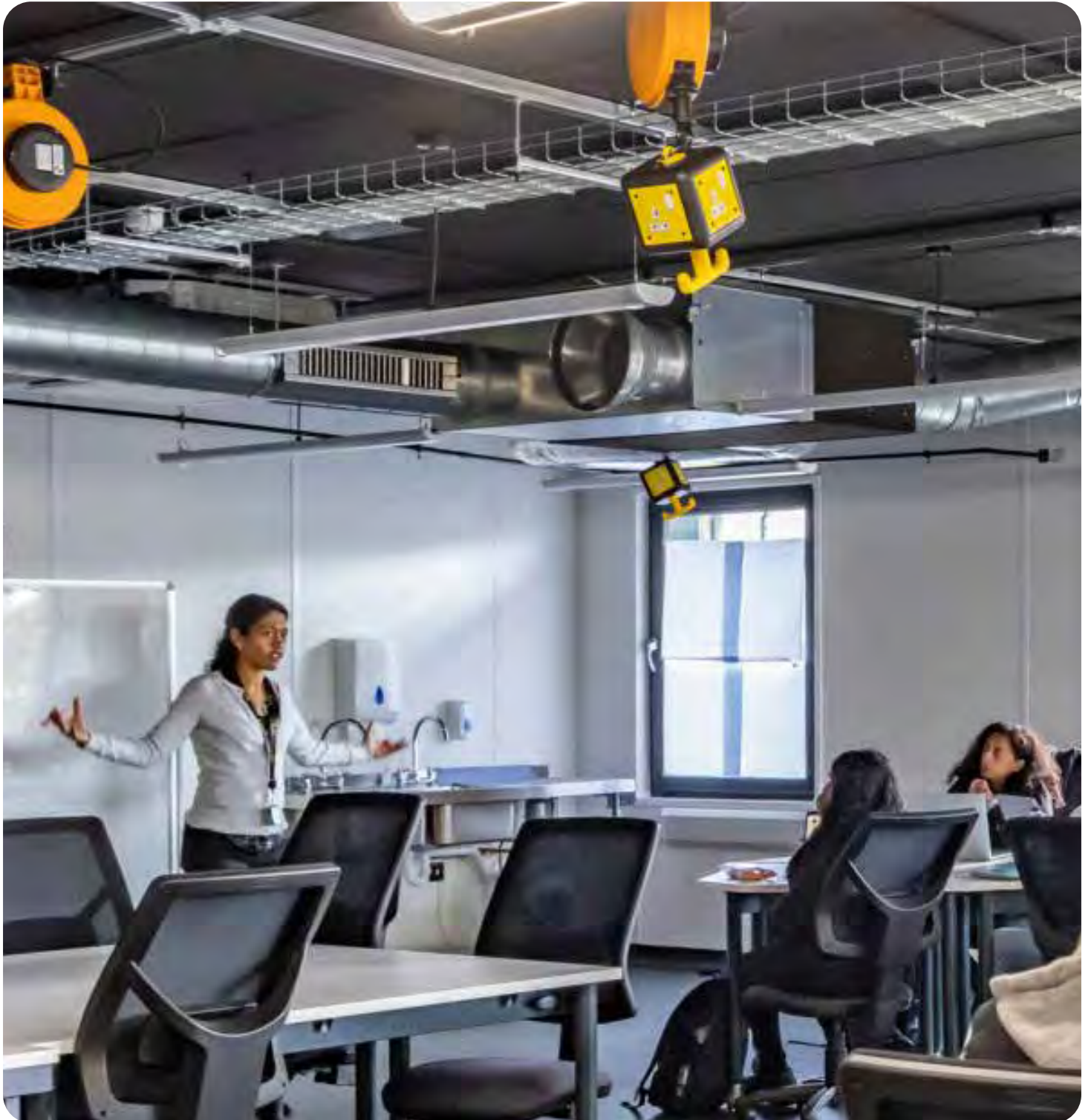
Alliance success doesn't happen overnight. Managing expectations of senior leaders around ROI are crucial and an important Board-level conversation.

Depending on the ambitions of an alliance, benefits may take up to 10 years to materialise and may not be solely based on financial return. Partners must consider if they are willing to stay for the long term and formalise their commitment via agreements.

Alliances involves ambiguity, challenges, and rewards. Keeping alliance teams motivated and appropriately resourced is crucial to driving progress, engagement, and innovation. Boards and leaders should permit alliance initiatives to fail quickly while innovating and celebrate big and small wins along the way.

Bringing diverse groups of people together under strategic alliances can add enormous benefits and value to organisations. Strong leadership, appropriate operations and impactful projects in alliances lead to very rewarding experiences for institutions and all involved.

**Values driven culture and
decision-making set the
tone for collaboration
in the partnership.**



ENGINEERING PLUS.



Associate Professor Rodney Vickers.

Education Lead for the NUW Alliance.
Honorary Principal Fellow UOW.

7 years as Associate Dean Education for
Engineering at University of Wollongong.

7 years as member of University of
Wollongong Council.

I was shocked to hear from women undergraduate students that they received misogynistic comments from their male peers. I thought that the current generation of males were well past such prejudice. I was obviously wrong. No wonder that core programs such as Electrical, Civil or mechanical engineering still only average around 15% of females.

The Australian Council of Engineering Deans (ACED) has created a wonderful vision of “The future of engineering education in Australia” via the [Engineering 2035 project](#).

The report states “Insufficient women are attracted to engineering, which represents an ongoing massive loss of potential talent for the profession and the nation. The low proportion of Aboriginal and Torres Strait Islander students must also be addressed”. Solutions include “Industry wants to see a re-balancing of the theory-practice components of professional

engineering education, with a greater emphasis on practice, including the human dimensions of engineering”

The Multiversity is contemplating creating an Engineering Plus program that would meet the requirements set out by ACED. The engineering schools within the NUW Alliance can combine to create an advanced manufacturing program that combines the best of their already stellar programs and as a by-product attract a new diverse cohort of students.

It is estimated that Sydney’s Western Parklands City with the Aerotropolis at its heart will create 200,000 jobs. Here is a chance to upskill workers in Western Sydney to take advantage of new opportunities as well as to encourage school leavers to aspire to take jobs that are highly skilled. Australia has outsourced many manufacturing tasks to markets that have cheaper labour costs.

Advanced manufacturing techniques are shifting manufacturing from a high percentage of labour to innovative technologies that lower labour costs. We have an opportunity to capitalise on this trend by moving manufacturing onshore and become strongly competitive in terms of both cost and quality. We may not have the capacity yet to manufacture nuclear submarines, but we certainly can create light rail carriages for Australian conditions.

Australia has the technical skills embedded in our graduates to accomplish all we require. What we need to develop is individuals who have the networking, entrepreneurial and managerial skills along with technical knowhow to persuade those who finance large projects that Australian manufacturing is value for money.

The issue is not technology, but the interaction of technology with people.



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Why do we have processes for instance where in some cities plastic bottles are encouraged to have lids attached for recycling while other cities ban them on plastic bottles for recycling.

Australia can create a cost effective, circular economy with advanced manufacturing processes if we graduate students from all backgrounds who have the right mix of technology and people skills.

ENERGY TRANSITION AND SOCIETY: A SOCIO-TECHNICAL CHALLENGE.



Ty Christopher

Director of the Energy Futures Network

Senior Professor Pauline McGuirk

School of Geography and Sustainable Communities and Director of the Australian Centre for Culture, Environment, Society & Space (ACCESS)

Dr Chantel Carr

ARC DECRA Fellow, School of Geography and Sustainable Communities

Mr Daniel Daly

Early Career Researcher, Sustainable Buildings Research Centre

Dr Theresa Harada

Associate Research Fellow, School of Geography and Sustainable Communities

University of Wollongong

Australia's energy landscape is undergoing unprecedented change. New technologies for energy supply, distribution and storage, and their pricing and policy regimes are available now. Large scale technology changes can create friction with social and economic imperatives unless designed and implemented wisely.

Historically, development of policy for energy tended to separate the social, economic and technical issues into silos in relation to an energy system rapidly becoming obsolete.

An effective and equitable societal transition to a clean energy future requires much better understandings of the intersection of energy systems with communities' experience of energy as part of their everyday lived experience.

The combined capabilities of the NUW Alliance provide an independent and objective voice on this journey by applying

a multidisciplinary approach to the complex interactions between social, economic and technical dimensions of energy use. This is essential to proactively plan for an energy future that supports a just transition and positive community outcomes.

Recent research by UOW's Australian Centre for Culture, Environment, Society and Space (ACCESS) and the Sustainable Buildings Research Centre (SBRC)^{1, 2}, for example, has found that technological 'fixes' are often constrained by social practices, workplace cultures, governance regimes, business models, and established market 'norms'.

Preferences for lowest-cost servicing of buildings for example is one of the most significant barriers to energy efficiency³.

For economically challenged social groups, other ACCESS and SBRC research has shown how social housing tenants experience energy bills, associated with rising energy prices and fuel poverty, as anxiety that disrupts their sense of home as a place of well-being^{4, 5}. However, improving energy efficiency knowledge helped low income families to improve comfort and reduce anxiety about the cost of energy⁵.

The links between fuel poverty and thermal discomfort have been identified in social housing internationally and linked with possible health risks for tenants.

Statistically, many of the known factors linking poor thermal performance of dwellings and increased health risk are comparatively over-represented in Australia⁶.

Interdisciplinary research indicated many dwellings in Australia frequently operate outside the WHO healthy temperature range both in winter and summer, highlighting the difficult choices tenants are forced to make between thermal comfort and manageable energy bills⁷. Clearly, understanding how energy is connected to social well-being is a key dimension of achieving just transitions to clean energy.

Much energy research activity is still defined by disciplinary silos and a lack of attention to socio-technical challenges. This risks repeating historical missteps of shaping energy markets around incomplete economic assumptions and techno-optimism, ignoring critical social dimensions. New technologies facilitate a growing desire for individuals to control their own energy generation and use, but the capacity to do this is unevenly distributed.

A just energy transition must ultimately entitle all members of society to participate in a clean energy future. NUW Alliance R&D skills can ensure that the most vulnerable are not overlooked.

A just energy transition must ultimately entitle all members of society to participate in a clean energy future.

THE FUTURE WE WANT: USING ALLIANCES TO AMPLIFY IMPACT.



Natalie Downing
Director of Operations
at the NUW Alliance

Sylvia Malicki
Project Officer, Alliances
at Western Sydney University

The Grand Challenges of the world need more than just competitive forces to support their resolution. In a short timeframe, the NUW Alliance has led the way through its research and educational vision, with multiple projects already in train.

In response to both international and domestic calls for action, the NUW Alliance is tackling several Sustainable Development Goals set by the United Nations 2030 agenda to address global challenges.

The Alliance's impact is amplified through its collective power, collaborating on initiatives such as the 'Multiversity' and the joint research vision with UTS for the Advanced Manufacturing Research Facility (AMRF).

Amplifying industry, innovation and infrastructure.

The importance of investing in research and development (R&D) has never been

more apparent, with the rapid development of COVID-19 vaccines demonstrating the critical role of innovation in unexpected crises.

The NUW Alliance's vision for the AMRF realises the need for collaborative research, technology and innovation to drive social and economic change in the Western Parkland City.

The facility will provide opportunities in disciplines such as Neuromorphic Engineering, Nanofabrication, AR/VR Human-Machine Interaction, Robotics + Automation and Cybersecurity, in direct alignment with the United Nations 2030 agenda. For future residents of the Western Sydney region, the AMRF will help to contain skills in the region and provide unique opportunities to develop industry-ready skills for the modern workplace.

Amplifying quality education.

Rapid advancements in high-tech and digitally driven manufacturing have also resulted in the need for an agile and evolving workplaces. The NUW Alliance has begun developing the 'Engineering Plus' program, set to incorporate new and innovative ways of thinking to align with industry expectations.

The 'Engineering Plus' program aims to address social inequality, by providing increased opportunities for women and culturally diverse students to enrol in the program.

Barriers to entry will be reduced and any requisite knowledge will be scaffolded into the program to support student access. The program will have internationalisation and global human centred design at its core to strengthen graduate employability.

Continuing education and training are key to improved livelihoods and to developing a labour force resilient to economic shocks and adaptable to technological change. This has been a driving force behind the development of the NUW Alliance's Multiversity, seeking to deliver genuine, generational socioeconomic transformation in New South Wales.

The first collaboration between NUW Alliance partner universities and TAFE NSW is revolutionising the educational landscape by breaking down traditional barriers between schools, technical and university education.

Amplifying climate action.

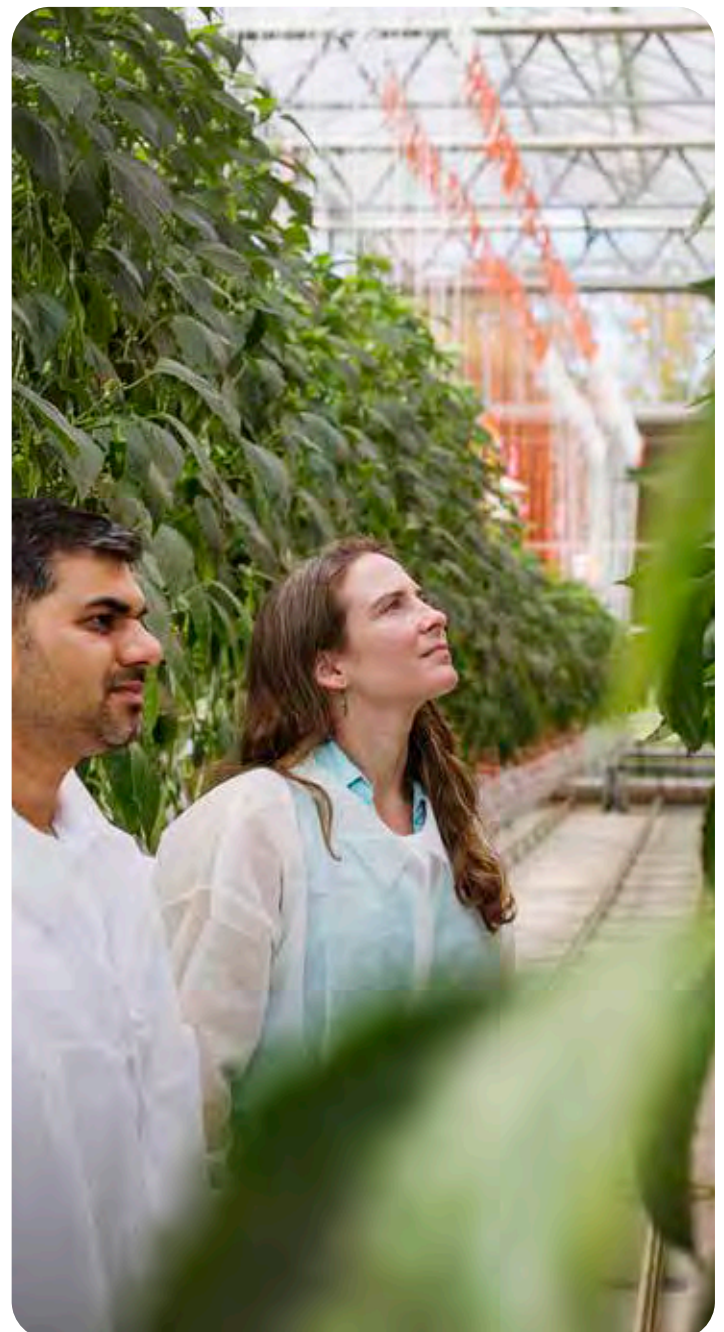
Goal 13 of the United Nations' Sustainable Development Goals is to combat climate change and promote sustainable cities (United Nations 2021). The NUW Alliance is seeking to drive climate action through a collaborative approach to support researchers, industry and government stakeholders on development of new technologies to decarbonise NSW.

This will directly contribute towards the NSW Government's plans to reduce state emissions by 50 per cent below 2005 levels by 2030; attract up to \$37 billion in private investment; support more than 9000 jobs and achieve Net Zero by 2050.

The NUW Alliance has harnessed opportunities to address global challenges and create a genuine positive impact for our local communities.

Through collaboration, the NUW Alliance continues to amplify its reach and impact to deliver transformational change.

The Alliance's impact is amplified through its collective power.



SIX CITIES STRATEGY.

Michelle Osborne

Senior Project Officer
at the NUW Alliance

Natalie Downing

Director of Operations
at the NUW Alliance

Sylvia Malicki

Project Officer, Alliances
at Western Sydney University

In December 2021, the NSW Government announced the evolution of the Greater Sydney Commission to become the Greater Cities Commission. The Commission will activate development and implementation of the six-cities strategy, led by the inaugural Minister for Cities, the Hon Rob Stokes, encompassing an area from Port Stephens to the Shoalhaven. The strategy will aim to unify the mega region.

The mega region, which is home to the NUW Alliance, a grouping of four leading Australian universities – the University of Newcastle, the University of Wollongong, UNSW Sydney and Western Sydney University – covers a geographic area home to more than 75 percent of the State's population and 25 percent of Australia's.

Unparalleled in expertise and scale, the NUW Alliance is committed to delivering social, economic and sustainability benefits not only for the mega region but to solving complex challenges that have global application by harnessing the collaborative capacity of our partnering universities across a multitude of disciplines.

With evidence-based action on critical areas such as infrastructure innovation and circular economy, the NUW Alliance is galvanized to collaborate, inform, and lead delivery on the six-cities strategy.

Covid-19 has highlighted that regardless of where we live, locally or globally, we were all impacted in some way. We have the opportunity to facilitate change in a thoughtful and sustainable way, recognizing the unique values and strengths each of the six cities bring to the mega region.

From Newcastle and Wollongong being northern and southern gateways for our seaports and centres of industrial innovation, to the lifestyle city of the Central Coast, the centre for finance and global trade in the Eastern Harbour City, due west to Parramatta, home to government, and beyond to the Western Parkland City and the emerging Aerotropolis and the nascent Western Sydney International Airport.

The NUW Alliance can aid and drive innovation, economic value and social benefit - collectively, building sustainable cities and delivering on the goal of the 30-minute city whilst actively pursuing NetZero targets; delivering on innovative research using waste to produce new products as the basis of the circular economy; creating all manner of infrastructure innovations; supporting education and addressing the uplift and skills gap in preparation for Industry 4.0 and the jobs of the future, supporting health, housing, arts and transport – all critical areas to address and where we can solve these grand challenges together.

**We have the opportunity to
facilitate change in a thoughtful
and sustainable way.**



ADVANCED MANUFACTURING RESEARCH FACILITY

Delivered in two stages, with the first building expected to open in 2023, the Advanced Manufacturing Research Facility (AMRF) is the first building within the Aerotropolis, the preeminent epicenter for industry and research collaboration, showcasing cutting edge manufacturing developments and innovation advancements for Western Sydney and New South Wales.

The contract to design the AMRF has been awarded to Hassell, a leading international design practice, who have partnered with cultural design and research firm, Dijnjama. Invoking a design which encapsulates and celebrates Dharug country. The design sets the benchmark for sustainability aiming to achieve 6 star Green Star and the Living Building Challenge.

Envisioned as a testbed for researchers, industry and government to work collaboratively, the provision of flexible spaces allows ideas to be tested and nurtured from concept to reality.

The AMRF will house state of the art robots, machines and laboratories so that industry can test, prototype and rapidly scale products, processes and techniques. Spaces, which have proven to accelerate transformation and cultivate innovation on grand scales.

Drawing on experience from the United Kingdom's University of Sheffield's Advanced Manufacturing Research Centre, the AMRF is set to change the nexus between research, industry and government, by developing a highly collaborative, industry-engaged research ecosystem.

NUW+UTS VISION FOR THE AMRF.

To realise positive social and economic transformation for the Western Parkland City through the application of collaborative research, technology, and innovations at the Advanced Manufacturing Research Facility.

In November 2021, in collaboration with UTS, the NUW+UTS consortium launched its research vision and capability statement for the AMRF. Aligned with the research strengths of the consortia in areas such as neuromorphic engineering, AR-VR, robotics and automation, cybersecurity, composites, fabrication and nanofabrication – crucial areas that will catapult Western Sydney and New South Wales into becoming a forerunner on the global stage, equipped to respond to the requirements of Industry 4.0 and the 22nd century.

Realising outcomes and generating impact are compelling drivers to ensure the facility continues to evolve with rapidly changing industry and community needs. 2022 will see the NUW+UTS consortium deliver forums to delve deeper on particular areas of the vision, providing an opportunity to seek input from all stakeholders. We look forward to sharing details with you in due course. For more information, please visit our website.



**2023
FIRST BUILDING
2,000m²**

Next-Generation Fabrication

Broad advanced manufacturing capabilities to support a range of applications, and demonstrate the value chain from research to production.

Additive - Subtractive - Composites
Digital - Automated



**2026
FULL-SCALE
13,000m²**

Advanced Manufacturing and Electronics.

Specialised manufacturing system for high-capability, high-value electronics.

Nanofabrication - Packaging
Neuromorphic Systems - Assembly

MULTIVERSITY.

Borne out of the vision of propelling Western Sydney and beyond into an economic powerhouse, the Multiversity, a collaborative initiative backed by the collective education and research excellence of the NUW Alliance partner universities in conjunction with TAFE NSW – the first of its kind for Australia, promises to drive genuine, generational socioeconomic transformation in the Western Sydney community, and place New South Wales at the forefront of innovation globally.

Launched in June 2021, the Multiversity offered nine programs including two TAFE certificates, and a Diploma in Aerotropolis Industry 4.0 (Mechatronics Skills) from Western Sydney University which seeks to equip learners with a cultural induction to the Aerotropolis Industry, seamlessly aligned to the imminent opportunities to be generated by Western Sydney International Airport (WSIA), Sydney's first 24/7 airport set to open in 2026, and the Integrated Logistics Hub in the Aerotropolis, positioned to become Australia's global gateway for freight.

The vision for the Western Parkland City includes the establishment of Bradfield City Centre, home to an additional 500,000 residents in Western Sydney and the creation of 200,000 new jobs. Over the coming decades the Western Parkland City will become a thriving community for Western Sydney, delivering new jobs, homes, infrastructure, and services for people in the region.

By harnessing the opportunities generated by the Western Sydney International Airport, the Integrated Logistics Hub and the surrounding ecosystems, the Western Parkland City will attract new and emerging industries:

such as advanced manufacturing capabilities in 3D printing, quantum computing, artificial intelligence, to aerospace, defence and high-tech freight and logistics.

The scale of which is enormous – it will create Australia's 3rd largest economy. Not only will this create more jobs in Western Sydney, but a greater diversity of jobs. The new modern workforce will require unique training – not only to cater to current needs of industry, but to the emerging needs of the workforce and Industry 4.0, ensuring responsiveness and agility to adapt to continuous innovation and technological change.

Digital transformation is changing the face of old traditional manufacturing towards a new, cleaner, more high-tech focused and digitally-driven form of manufacturing. This change affects industry requirements and requires a rethink about the traditional divides between schools, trades and university training.

The Multiversity has been set up to develop and provide training for this future. The educational aim of the Multiversity model is to break down barriers between workplace-based training, vocational education and training, and higher education and inquiry.

2022 will see the Multiversity develop an 'Engineering Plus' program, a degree that will incorporate new and innovative ways of thinking and doing, a program unique from any offering currently provided for amongst our partners, which aims to address barriers between university, TAFE and industry whilst opening up opportunities in engineering to women and culturally diverse people.



Digital transformation is changing the face of old traditional manufacturing towards a new, cleaner, more high-tech focused and digitally driven form of manufacturing.

With multiple entry and exit points and stackable credentials, learners are able to create a learning plan and pathway that suits their goals. Industry co-design and co-delivery will ensure fit-for-purpose solutions as well as allowing for work integrated learning and work ready graduates at all AQF levels. Addressing these barriers is critical to ensuring the success of the Western Parkland City whilst supporting lifelong learning, reskilling and upskilling through the work lifecycle.

We are excited about the opportunities of widening participation to diverse cohorts whilst also futureproofing the workforce in anticipation of Industry 4.0 with a focus on agility, resilience and fresh thinking.

For more information, please visit our [website](#).

A MESSAGE FROM OUR CEO.



Professor Andy Marks.

Chief Executive Officer
at the NUW Alliance.

Pro Vice-Chancellor, Strategy,
Government and Alliances
at Western Sydney University.

Director of the Centre for Western
Sydney.



Collaborations aren't just about scale. They also bring different perspectives. Some of the best initiatives we've seen over the past year at the NUW Alliance are those forged through the convergence of differing views.

Generosity in spirit is critical. The successful progression of the NSW Decarbonisation Hub initiative was testament to what is possible when the natural competitive tensions between universities is set aside in the interests of improved community, industry and environmental outcomes in sustainability.

The Alliance proved in the past year that the spirit of collaboration can be contagious. We were delighted to welcome colleagues at the University of Technology Sydney into the development of a research vision for the proposed Advanced Manufacturing Research Facility at the coming Western

Sydney Airport. The resulting NUW+UTS manifesto equated to Australia's largest consolidated research plan. The response from industry has been enthusiastic, and the follow-up intensive and productive.

Progressive and ambitious projects like the Multiversity proved challenging. That is not unusual in the context of program innovations. Attracting students, and coordinating marketing, systems and supports across institutions introduced new learning challenges that the Alliance will learn from and improve. Equally, we learned that collaborations can produce innovations that outpace regulatory, legislative and policy frameworks. Bumping up against those constraints has been a productive exercise for all parties, via which new relationships and work-arounds have been forged.



This year brings exciting opportunities to the Alliance. The shift to 'mega-region' approaches to planning and policy development in government, affords our collaboration a chance to actively disrupt and improve those processes on a 'grand' and integrated platform more closely aligned to the interests of our constituent communities.

The best collaborations take you outside of yourself. They ask you to adjust your trajectory, broaden your horizon, and look at wider possibilities. The NUW Alliance has delivered on that front. It has done so at a moment when leadership from universities has never been more important.

The year ahead will present new challenges, discoveries and opportunities, and that is cause for enthusiasm and a redoubling of our efforts in partnership.

Very importantly, I want to thank our four Vice-Chancellor's - Trish, Attila, Alex and Barney - for their continued vision and commitment. I must also thank Paul Wellings and, in particular, Ian Jacobs for his championing of the Alliance and its imperative of "social good", from its very beginnings.

My thanks also to my predecessor as CEO, Matt Gijselman for steering the ship through remarkably challenging times. Special thanks also to Jane Reynaud who drove Alliance operations from the collaboration's earliest days with aplomb. Lastly, thank you to the NUW team, Natalie, Michelle and Sylvia for their support and dedication. Alliances are at the end of the day about people, and we are fortunate to have among the best.

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