



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Business School

Business Sustainability Initiative Hub 2022





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Message from Hub Lead



Sustainability has always been an important preoccupation for Australian businesses, but in 2022 – a year of carbon targets, mega renewable energy projects, and natural disasters – it became the defining preoccupation. The need to manage growth in a sustainable way is frequently described as a “wicked problem” because it requires cooperation among interdependent sets of stakeholders with competing demands and constraints. Understanding the problem – and generating solutions – requires research expertise across diverse disciplines. The Business Sustainability Initiative comprises over 40 academics who are dedicated to finding those solutions, housed within a Business School that is committed to showing leadership in responding to global challenges.

Creating a sustainable future will require rapid and deep transformations in how Australians live and do business. Sometimes the challenges can be daunting. But reading through this report gives me hope that the solutions are at hand, and the pathway is clear. In collaboration with our partners in industry and government, it is wonderful to see this year’s snapshot of how UQ’s Business Sustainability Initiative is driving meaningful change.

Professor Matthew Hornsey
Business Sustainability Initiative Lead

SDG-related coverage in the Business Sustainability Initiative

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AFFORDABLE AND
CLEAN ENERGY

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INDUSTRY, INNOVATION
AND INFRASTRUCTURE

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SUSTAINABLE CITIES
AND COMMUNITIES

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CLIMATE
ACTION



The Business School acknowledges the Traditional Owners and their custodianship of the lands on which the School operates.

We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country. We recognise their valuable contributions to Australian and global society.

Why BSI research?

The Business Sustainability Initiative (BSI) Research Hub leads the way in a rapidly changing business landscape, championing environmentally and socially conscious business practices and strategies for a sustainable future.

The initiative is headed by UQ researchers who are international leaders in their fields, with a depth of knowledge spanning corporate sustainability, social impact and entrepreneurship, capital markets, and tourism.

Industry and government partnerships play a key role in the Business Sustainability Initiative, with a vast array of funded projects underway engaging stakeholders of all levels from the public through to small business and large enterprises.

The projects aim to understand and advance the adaption of business ecosystems and the transformations necessary to accelerate the path to a sustainable future.

Our research is internationally recognised in the following four areas of excellence:

- Corporate sustainability - decarbonisation, circular economy, climate change and natural resources
- Capital markets - social and environmental performance and measurement
- Social - social impact and entrepreneurship
- Risk and resilience - climate impacts and environmental uncertainty

Our vision

Establish the UQ Business School as the Australasian leader in adaptation and resilience research within five to ten years.

Our mission

To deliver high quality, impactful, ground-breaking research and provide thought leadership and practical solutions for a climate-changed and resource-constrained future.

Our Capacity



43 UQ researchers



14 PhD students



33 domestic and International partner organisations



3 external members

Our Partners



Government agencies



Local industry and business



Charities and not-for-profit organisations



Industry bodies

Our Impact



Informing policy



Influencing change



Solving problems



Managing risks

Our Outcomes



Industry grants



Publications



Industry affiliations

*2022 figures



For more information on BSI research Hib visit:
business.uq.edu.au/business-sustainability-initiative

Industry Engagement

External grants

BSI researchers have received prestigious government and industry grants enabling them to tackle key sustainability issues.

Dr Anya Phelan and Professor Hurriyet Babacan have been awarded \$50,000 in the Outback Major Grant scheme from the Connellan Airways Trust. Their Cape York Recycling Project in partnership with the Weipa Town Authority, the Napranum Aboriginal Shire Council and Torres and Cape Indigenous Councils Alliance, will support the advancement of people living in Far North Queensland through innovative recycling solutions and new employment opportunities. Anya has also been awarded \$30,000 from CSIRO as Entrepreneur in Residence - Circular Economy & Business Model Innovation for the Australia-Indonesia Plastics Innovation Hub. This is part of the CSIRO SWITCH program.

Dr Cristyn Meath and Professor John Mangan (Australian Institute for Business and Economics) were successful with their Industrial Transformation Research Hubs application. The aim of their research is to advance timber for Australia's Future Built Environment, and received \$2,959,803 funding over 4 years.

Dr Ya-Yen Sun was part of the team which received a Climate Change Engagement Grant of \$406,569 from the Department of Foreign Affairs and Trade. The project is titled "Optimization of refuse-derived fuels to decarbonize electricity sectors and achieve Nationally Determined Contributions targets in Indonesia" and runs for the next four years. The team will be collaborating with academics from the Resilience Development Initiative in Indonesia.

Dr Ya-Yen Sun is also engaging with two projects aiming at setting up a tourism carbon emissions inventory for the regional destinations with the German Ministry for Economics and Climate Action (\$44,312 budget) and the Research Council of Norway (\$2 million fund).

Dr Jie Wang, with Associate Professor Yunxia Zhu, have been awarded \$30,000 from the Australia-Indonesia Institute for a project entitled "Australia-Indonesia Business Resilience Hub: Tourism Thriving and Capability Building". The project is a collaboration with DFAT and the Australia-Indonesia. In total, the grant is worth \$86,894 and involves colleagues from Universitas Andalas, Indonesia.

Professor Matthew Hornsey was successful in the 2022 ARC DP grant round, obtaining \$407,915. The project - led by Prof. Winnifred Louis - will examine the psychology of gridlock in decision-making as we move to decarbonise our society.



The Infrastructure CoLab

UQ is a co-founder of the Infrastructure CoLab, a collaboration with Business Models Inc that ran through the Australian Institute for Business and Economics. Supported by the Queensland Government (Department of Environment and Science, and Department of State Development, Infrastructure, Local Government and Planning), it is designed to support the infrastructure industry to transition to a decarbonised and circular economy.

The team of academics and industry experts (pictured) collaborate on three main projects:

- Reimagining the business case for circular infrastructure: Led by Arup, this project team is working to develop a new 'blueprint' for embedding circular principles in the business case for public infrastructure. The vision for this project is to enable a better account of the broader impacts that drive sustainable solutions and positive society-wide benefits.
- Next generation risk modelling and decision support: Led by Downer EDI, this project team is working to develop an exciting technology transfer opportunity — applying advanced modelling and reasoning technology from the military intelligence arena in the private infrastructure sector. The vision for this project is to optimise both the design and management of work.
- Costing carbon externalities in infrastructure: Led by KBR, this project team is working to develop a carbon costing framework that factors whole-life carbon estimates into strategic decision-making on infrastructure investments. The vision for this project is to influence the prioritisation of what is built, and when, to both decarbonize infrastructure and deliver on the private and public sector commitments to reducing greenhouse gas emissions.

The Infrastructure CoLab received a Commendation for the prestigious UQ Innovative Partnerships Award in 2021, which is part of the UQ Research and Innovation Awards for Excellence. The award recognised the innovative nature and valuable contribution of the collaboration between staff from The University of Queensland, Business Models Inc. and the Infrastructure Sustainability Council.



Research Impact

Creating Out Loud: Peer-coaching support to revive the arts and culture sector during Covid-19 times

After 18-months of close collaboration with national peak bodies, arts companies, and independent artists and arts workers around Australia, Dr Kate Power (pictured) officially launched in July the Creating Out Loud peer coaching program for the arts and culture sector.

This new program supports arts workers in sharing knowledge and building relationships of mutual support, meeting regularly in small groups for courageous conversations about their artistic and business practices.

Participants can choose to join either:

- a topic-based program, addressing key issues facing the sector, or
- a goal-focused approach, where participants bring their own questions or challenges to each session and receive input from the group.

All of the Creating Out Loud program materials are freely available online and can be downloaded from the project website, by independent artists or arts companies who are looking for new approaches to knowledge-sharing, collaboration, and mutual support.

Creating Out Loud was supported by an Industry Research Fellowship funded by the Queensland Minister for State Development, Tourism and Innovation, under the Advance Queensland Industry Research Fellowship program.

The Industry Reference Group comprises Theatre Network Australia (TNA), Queensland Ballet, La Boite Theatre, NAVA, Arts Nexus, and BlakDance. TNA also co-hosted three quarters of the peer coaching circles, through which the final program was developed.

Since launch, feedback from participants has been outstanding. Ninety two per cent of participants say they are likely or very likely to recommend Creating Out Loud to other colleagues working in the arts.

Dr Power hopes that governments and peak bodies will follow TNA's lead in curating circles that connect people across the sector – particularly independent artists. Arts companies can help connect staff from different teams, by enabling the voluntary formation of in-house circles, and people whose job type means they often work alone within their company can form circles with people in similar job types at other companies. Independent artists can also use the program like a book club, getting together with people they already know.



Helping businesses and financial institutions on their pathway to a zero-carbon future

Business School researchers are part of an initiative championed by Princeton University and called the Rapid Switch Project.

The research assists in moving Australia from a fossil fuel-dependent economy to a strategic leader in rapid decarbonisation.

UQ Business School researchers, Dr Saphira Rekker, Dr Belinda Wade (pictured), Professor Matthew Hornsey and Princeton researcher Dr Chris Grieg are pursuing three key topics for transitioning to a zero-carbon 2050:

- Assessment: the evaluation of corporations alignment with Paris-compliant decarbonisation scenarios;
- Investment: the examining of portfolio compliance with Paris aligned deep decarbonisation pathways;
- Business management: the managerial decision-making required to drive accelerated action.

Dr Saphira Rekker published her initial findings in *Nature Communications*, showing that 10 global cement companies and nine Australian utility companies were not complying with Paris Agreement targets to tackle climate change. In a follow-up study in partnership with Norges Bank Investment Management, she also examined emissions data from 25 steel production companies and discovered most of the enterprises had by 2019 already emitted more than their entire carbon budget allowance under a Paris-compliant pathway.



Researcher profile: Dr Sam Pearson

Dr Sam Pearson is a postdoctoral research fellow specialised in decarbonisation. He has recently joined the Rapid Switch Project and is working on the psychological factors underpinning progress towards net-zero.

In collaboration with other BSI academics, including Professor Matthew Hornsey and Associate Professor Cassandra Chapman, he published a paper in *Nature Climate Change* 'A political experiment may have extracted Australia from the climate wars'. This paper discusses the strategies that helped independents, running on a climate platform, to achieve victories in conservative Australian electorates. This year, Dr Pearson also examined cross-national differences in willingness to believe conspiracy theories.

Capacity Building

The University of Queensland invests in future researchers through internal grants, seminar series and professional development workshops.

Internal grants

Here are a few examples of grants funded by the University of Queensland and the Business School.

Dr Cristyn Meath and her team received \$8,000 in Round 2 of the UQ Global Strategy and Partnerships Seed Funding Scheme. Their project is titled “Sustainable and Resilient Infrastructure”.

Associate Professor Jacquelyn Humphrey received \$9,492 on her project ‘Enabling climate awareness in schools and their communities’.

Dr Saphira Rekker, Dr Belinda Wade, Associate Professor Kelvin Tan, Dr Samuel Pearson, Dr Vincent Emodi, Professor Matthew Hornsey and Professor Chris Greig received \$14,037 to look at ‘Barriers and Opportunities in Mobilising Capital towards Climate Solutions’.

Seminar series

Engagement and affiliations with other research groups such as the Network of Environmental Social Scientists, provided opportunities to develop BSI projects further.

2 December 2022 - Measuring corporate Paris Compliance using a strict science-based approach - Dr Saphira Rekker (UQ)

23 November 2022 - Do hope and optimism support or undermine conservation engagement? - Dr Angela Dean (UQ)

14 September 2022 - Tackling plastic pollution: a social science journey - Dr Anya Phelan (UQ) and Professor Emeritus Helen Ross (UQ)

26 August 2022 - Understanding climate action in regional Australia’s energy producing communities - Dr Bec Colvin (Australian National University)

22 July 2022 - Coping with eco-anxiety in a pandemic: Perspectives from young people in the UK, US and Caribbean - Dr Ans Vercammen (UQ)

01 June 2022 - The climate science culture wars: Depressing past, interesting present, hopeful future? - Professor Matthew Hornsey (UQ)

29 April 2022 - Locating and learning from ‘Bright Spots’ among the World’s coral reefs - Professor Joshua Cinner (James Cook University)

18 March 2022 - The 4D Project: a holistic, interdisciplinary response to climate misinformation - Dr John Cook (Monash University)

25 November 2021 - Climate change collective action: what it looks like and what it achieves - Dr Robyn Gulliver (UQ)

Researcher profile: Dr Corinne Unger

An expert in mine rehabilitation and closure, Dr Corinne Unger’s PhD research focused on how organisations manage slowly developing and often inconspicuous ‘insidious’ risk. Her research draws upon examples from the mining sector as well as oil refining, aluminium production, banking and aerospace. Open cut mining provided a valuable context for her research because the outcome from managing insidious (socio-environmental) risk over many decades is often not obvious until the end of mining: “Where multiple mines approach closure there are cumulative impacts of many mines facing environmental rehabilitation as well as social transition for communities reliant upon mining economies,” Dr Unger stated. “My research studies both leading practice and failure to manage these risks,” she explained.

This year, Dr Unger gave a presentation at the Closure Planning Practitioners Association seminar where she outlined to mine closure planners the practical applications of her PhD research. She was also featured in two articles published in the *Newcastle Herald* that delved into coal mining transitions through rehabilitation and closure in the Hunter Valley, New South Wales.



Professional development workshops

The BSI hub offered continuous workshops, seminars and professional development opportunities.

24 Oct 2022 - Brown Bag Lunch with a panel discussion on how to find and manage partners for research

29 Sept 2022 - Brown Bag Lunch on winning grants and grant opportunities in the sustainability space

1 July 2022 - Welcome of new members and discussion on future activities

24 May 2022 - Seminar ‘What should business schools do to address the climate crisis? Professor Jennifer Howard-Grenville, from the University of Cambridge, was the keynote speaker

20 May 2022 - Brown Bag Lunch on the specialist sustainability journals that are listed A and A* on the ABDC list

17 May 2022 - Risk & Resilience Seminar on Queensland’s emergency management arrangement and research priorities

1 April 2022 - Writing workshop for HDR students

13 March 2022 - Brown Bag Lunch to discuss specialist sustainability journals that are listed A and A* on the ABDC list

7 Dec 2021 - Brown Bag Lunch on publishing in Nature journals

21 Oct 2021 - Brown Bag Lunch on how to do large-scale textual analyses

Reputation outcomes

BSI members continue to showcase leadership in their respective field of expertise via the many recognitions and awards received.

- Professor Sara Dolnicar and Dr Ya-Yen Sun (pictured) received the Australian Information Industry iAward, valuing the Low Harm Hedonism Global Sustainability Lab.
- Professor Sara Dolnicar was named as a finalist in Australia’s leading science awards, the 2022 Australian Museum Eureka Prize for ‘Outstanding Mentorship of Young Researchers’.
- Dr Saphira Rekker, Associate Professor Jacquie Humphrey, and Dr Katherine O’Brien’s paper ‘Do sustainability rating schemes capture climate goals?’ was chosen by the journal editors of Business and Society as best paper in 2021.
- Dr Ya-Yen Sun was awarded the CAUTHE Fellow’s Award for her contribution to Tourism, Hospitality and Events.



Future Plans

Industry and government partnerships play a key role in the BSI, with a wide range of funded projects engaging stakeholders of all levels from small businesses to large enterprises. Here we summarise a handful of projects for which BSI staff are currently seeking partnerships in 2023 and beyond.

An analysis of capital providers’ climate change risk exposure - led by Prof. Kathleen Herbohn

There is growing concern among capital providers about the absence of disclosures on climate change related risk exposure by business. This project aims to document the changing landscape of reporting and assurance of material on climate change related risks and the economic consequences of different reporting and assurance decisions. This allows investigation of the economic consequences that flow from these disclosures.

Investment strategies for carbon transition - led by Dr. Saphira Rekker

Investment strategies aligned with decarbonisation pathways can provide great benefits for meeting regulatory requirements, client demand, and global climate goals. The EU’s work on Sustainable Finance is changing how global capital markets examine the climate impacts of their investments. This project is concerned with understanding how investment portfolios, financial products, and investment strategies can be aligned with deep decarbonisation pathways. This project examines some of the following questions: what is the role of investors (lenders, pension funds, and hedge funds) in driving large corporates to rapidly decarbonise? How can portfolios be practically aligned with deep decarbonisation pathways? Which climate finance products are accelerating rapid decarbonisation?

Personal emissions reductions - led by Ass. Prof. Jacquelyn Humphrey

While much of the discussion on decarbonization has focussed on national or corporate emissions reductions schemes, change can also be driven at the individual level. Giving individuals tools to track their personal emissions can be empowering, allowing people to take ownership of their contribution to ameliorating climate change and reducing climate anxiety. This project makes use of an app via which individuals can measure their personal emissions from their own spending. The app is currently under development and pilot testing by BSI researchers. The project will analyse individuals’ emissions, and also build in AI-based prompts for ways individuals can reduce their emissions. The effectiveness of different types of prompts will be analysed to determine the most effective ways individuals can reduce their emissions.

Carbon footprint calculator for Brisbane 2032 Olympics - led by Dr. Ya-Yen Sun

Brisbane’s 2032 Olympics is the first Games to be contractually obliged to operate as “climate positive” – offsetting more emissions than generated through new stadium construction, event operation and tourism activities. Achieving this ambitious goal requires detailed knowledge on the amount of emissions produced by various activities and identification of better and cleaner alternatives. Carbon knowledge of these alternatives will determine how much emissions will be produced and can be saved. This project will develop customised “carbon footprint calculators” for builders, event operators, and tourists for the Brisbane 2032 Olympics. Each app will inform, compare, calculate and record emissions for key relevant dimensions for these three stakeholders. These apps will serve as the “climate coach” and allow major stakeholders to collectively achieve the most sustainable Olympic Games.

Acceptance of emerging and alternative technologies - led by Prof. Matthew Hornsey

Successful transition to a low-carbon society requires open-mindedness to a wide range of technological solutions. These include low-carbon fuel alternatives (e.g., solar, wind, hydrogen, nuclear); sequestration techniques (e.g., carbon capture and storage); low-carbon food and feed alternatives (e.g., cultured meat, land-based seaweed aquaculture); and geo-engineering and bio-engineering stopgaps. Drawing on Business Sustainability Initiative’s expertise in researching resistance to emerging technologies, this project will seek to understand community sensitivity toward these types of technologies, with an eye to creating communication strategies that smooth the process of change.

Mega events innovation - led by Ass. Prof. Judith Mair

The Mega Events Innovation Cooperative Research Centre will work with industry partners to co-develop innovative and sustainable solutions for events to deliver outstanding, engaged, and memorable experiences, and increased benefits and enduring legacies. This will extract more benefits and stronger outcomes from our events, position Australia to win hosting rights to more mega and major events, carve out a niche in the digital convergence space and create a new export industry for the country.

Making business operations more environmentally sustainable - led by Prof. Sara Dolnicar

The Low Harm Hedonism Initiative collaborates with businesses, mostly hotels and restaurants, to improve their environmental performance. In past projects, it managed to reduce by 63% unnecessary daily hotel room cleans (each using 1.5 kWh of electricity, 35l of water, 100ml of chemicals). It has also decreased buffet food waste among families by 34%, and electricity use from room heaters in student accommodation by 60%. The bonus is that all these improvements in environmental performance also save money!

When partnering with the initiative, the research team will:

- measure your baseline environmental performance,
- work with you to select suitable practical measures to test,
- deploy the practical measure we choose, and
- test its effectiveness.





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