



# Net Zero Initiative Projects in the Face of Climate Change Faculty of Engineering



## Our vision and mission

There is a growing concern over the rise in disturbances such as the climate crisis, biodiversity loss, social inequalities, political conflicts, pandemics, and other disasters. Societies and businesses are being affected at an unprecedented rate that necessitates continuous responses and protective measures to offset the impacts.

Projects are an effective form of organising resources and actions, both reactively and proactively. However, emerging disturbances are highly complex, can accelerate quickly, and often play out on unparalleled scales. As such, the challenges associated with project design differ from business as usual. Our goal is to initiate a paradigm shift for project planning and execution in the face of such grand challenges.

## Our approach

The Net Zero Initiative (NZI) draws on the expertise of researchers to address the unique questions regarding management of projects in the face of climate change. Our approach involves a range of quantitative, data-oriented research methods as well as in-depth qualitative and empirical research.

## Our research

A key Enabling Research Theme of the NZI is Climate Change Risk. Under the research pillar Projects in the Face of Climate change our researchers are investigating strategies to help government, industry and communities design and manage projects. This includes identifying ways to optimise conceptualisation, scoping, finance, delivery, and benefit realisation in the context of disturbances such as climate change.

The challenges being addressed include:

- Projects for transition to net zero in the face of climate change
- Projects to build resilience for communities and their built environment
- Agile project management in response to disasters
- Climate risk assessment and transition plan for buildings
- Recovery projects in disaster affected regions

This research will further explore NZI research on the role of organisations in climate crisis and is supported by the research area of 'Projects for Sustainable, Resilient and Just Future' at the John Grill Institute for Project Leadership.

### Meet our research experts

Our interdisciplinary research team leverages outstanding capabilities and infrastructure from different research centers and institutes, specifically the John Grill Institute for Project Leadership. Experts working under this pillar include:

#### **John Grill Institute for Project Leadership**

**Dr Nader Naderpajouh.** Specialises in risk and resilience in projects, disaster management, infrastructure development, project analytics and data-driven decision making.

**Dr Mahshid Tootoonchy.** Specialises in operations management, supply chain management and project management, specifically focused on data-driven decision making and analytics.

#### **The University of Sydney Business School**

**Prof Christopher Wright.** Specialises in organisational change, management innovation, sustainability and critical understandings of political economy and climate change.

#### **School of Architecture, Design and Planning**

**Dr Aysu Kuru.** Specialises in bio-inspired architecture, environmentally sustainable design and façade technology, centring around climate adaptation to develop innovative constructions and creative design processes.

### How your business will benefit

By partnering with us, your business will be able to:

- collaborate with leading academic and industry experts from the University of Sydney to address the challenges faced by your business;
- help shape the next generation of postgraduate students with skills relevant for your business needs;

### Contact us

For further information or to discuss in greater detail, please

contact: **Net Zero Initiative**

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- host one of our talented PhD students, who will be placed in your business for up to one year; and
- benefit (pending eligibility) for the Australian Government's R&D Tax Incentive Scheme.

### Past projects

We have a strong track record of research projects at the global stage to address climate change, including a €7.7M project – funded by the European Commission through the Horizon 2020 program – which integrated resilience into the asset management of the multi-modal railway transportation infrastructure. Other projects include a project on development of community risk assessment models for the NSW-State Emergency Services, a project to explore participatory planning for development of resilient communities, and a project to explore the industry primers for resilience in water infrastructure systems. Our research under this pillar is also based on the foundation of a series of past research projects with the energy industry to facilitate transition to future fuels, such as the development of decision-making models to be used for Australia standard for pipelines.



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