

Climate Change Transformations

Engaging with society's
climate change challenges

**Centre for Urban
Research Program**

Partner with us

Please contact cur@rmit.edu.au or the individual researchers listed on the Climate Change Transformations research program page

cur.org.au/research-programs/climate-change-transformations

Who we are

Our vision

The Climate Change Transformation (CCT) research program helps society understand and address the far-reaching challenges of climate change. We are committed to social, environmental and climate justice, and our work fosters positive transformational change across cities and regions. We engage with both theory and practice to coproduce research with practitioners, policymakers and communities.



Mittul Vahanvati, Co-Convener
Climate Change Transformation
Research Program



Erica Kuligowski, Co-Convener,
Climate Change Transformation
Research Program

1 We work across and within four broad themes:

Adaptation governance and practice

Climate change adaptation requires deep changes to our governance, institutions and policies, across all sectors and levels of government. We help policy-makers, organisations, businesses and communities make sense of the adaptation challenge, to enable them to take effective adaptation action. We work with practical tools to accelerate action and provide high level insights about the scope of the challenge and strategic advice about the risks, opportunities and tensions in adaptation action.

Key capabilities:

- Decision-making under uncertainty, ambiguity and contestation
- The science-policy interface
- Monitoring, evaluation and reporting
- Transformative adaptation
- Adaptation and resilience in developing countries
- Sustainable & resilient city-making
- Climate adaptive neighbourhoods
- Systems thinking
- Scenario use
- Adaptation planning, including concepts such as adaptive pathways
- Place-based and sector-based planning.

Sustainable and just transitions

Our work focuses on transitioning society onto a more sustainable and socially just pathway. We identify approaches already being adopted by individuals, groups and communities to work towards a sustainable and just transition, so that we can better understand and facilitate such pathways. We work with stakeholders to transition energy systems onto a lower carbon basis in a way that improves social justice, climate adaptation and other sustainable development outcomes.

Key Capabilities:

- Energy efficiency & demand
- Sustainable fashion
- Labour-nature relations
- Co-production of knowledge
- Civil society (the role of NGOs, community engagement and collective action)
- Public advocacy
- Human rights
- Decentred and emergent governance
- Urban climate governance
- Community-based approaches on the Asia-Pacific region
- Local and regional transformations and transitions
- Hope, distress, and the embodied experiences of climate change
- Decolonising adaptation.

Regenerative social-ecological systems

In the face of climate change and other pressures it is increasingly apparent that it is not enough to just protect social-ecological systems; they need to be made more regenerative. We are working with stakeholders to help rethink, reboot and redesign agriculture and natural resource management in ambitious ways that celebrate the turn to catchment and landscape scale interventions, soil health, resilience thinking, strengthened rural-urban relations and transformational climate change adaptation.

Key Capabilities:

- Social-ecological systems governance and adaptation
- Natural Resource Management
- Environmental policy
- Soil & carbon
- Rural-urban relations
- Catchment management
- Fluvial geomorphology
- Hydrological systems
- Land-use planning
- Systems thinking
- Eco-agriculture
- Rethinking extension
- Rural land use.

Disasters, development, and resilience

The way we prevent, respond to and learn from disasters is a key activity in the context of climate change. Our researchers examine social drivers of disasters and use analytical tools and insights to improve Disaster Risk Reduction efforts with regard for climate change adaptation. Our work develops approaches that foster socio-ecological resilience, justice and the achievement of UN Sustainable Development Goals.

Key capabilities:

- Pedagogy
- Disaster governance
- Community-based disaster risk management
- Child participation in disaster risk reduction
- Enabling sustainable emergency volunteering
- Community resilience
- Community development
- School emergency management.





2 Key application areas

Federal, State and local governments

Statutory Authorities

Water Authorities, Catchment Management Authorities

Health & Community Services

Primary Care Partnerships, Non-government organisations, community sector organisations

Emergency Management

Private sector

e.g. energy, agriculture, technology, finance, fashion

Communities

Community organisations, civil society, communities and individuals



3 Networks and engagement

Contribution to panels and working groups

- Attorney General's Disaster Resilience Education Strategy Group.
- Victorian Government Expert Ad-Hoc Panel on Climate Change Adaptation.
- Working group for the Victorian Government's Strategic Action Plan for involvement of children and youth in emergency management.
- Australasian Fire and Emergency Services Council (AFAC) Climate Change Advisory Group.
- Australasian Fire & Emergency Services Council (AFAC) Volunteer Management & Community engagement Technical Groups.

Expert input to assessments and policy

Co-authorship of Intergovernmental Panel on Climate Change, Sixth Assessment Report, Working Group II

- The IPCC is the United Nations body for assessing the science on climate change.

Co-authorship of Australasian Fire and Emergency Services Council – Climate Change and the Emergency Management Sector Discussion Paper

- The Australasian Fire and Emergency Service Authorities Council (AFAC) is the peak body for public sector fire, land management and emergency service organisations in Australia and New Zealand.

Expert review Victoria's Pilot Water Sector Adaptation Action Plan

- Adaptation Action Plans are a legislated requirement for the water sector, as specified in the Climate Change Act 2017 (Vic).

Co-authorship of Communities Responding to Disasters: Planning for Spontaneous Volunteers Handbook

- Sponsored by the Australian Government Attorney-General's Department, this handbook supports the national Spontaneous Volunteer Strategy endorsed by the Australia-New Zealand Emergency Management Committee on 2 October 2015.

Technical advice to climate change adaptation planning in the Victorian Department of Jobs, Precincts and Regions.

Submissions to relevant parliamentary and other inquiries

Contribution to external research centres and programs

- Research Fellows, Bushfire and Natural Hazards Cooperative Research Centre bnhcrc.com.au
- Co-Investigator, International Network on Urban Low Carbon Transitions community.dur.ac.uk/incut
- RMIT lead of the Natural Capital Constellation of the Food Agility Cooperative Research Centre foodagility.com

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4 Research into practice

State-wide strategic framework to support Victoria's regions to adapt to climate change

We co-designed a state-wide, strategic framework to support Victoria's regions in developing climate change adaptation plans. Working with the Victorian Government Department of Environment, Land, Water and Planning (DELWP) and Australian Resilience Centre, we developed guidance materials and a monitoring, evaluation, reporting and improvement framework for the 'Supporting Our Regions to Adapt' (SORAd) program. These materials aim to support DELWP regions in exploring complex drivers of risks and vulnerabilities, and in developing regional adaptation strategies and associated annual adaptation action plans.

How Well Are We Adapting? Working with local councils to address climate change risks

To help understand and address the impacts of climate change on service delivery and assets, we are working with Victorian local governments to co-design a monitoring, evaluation and reporting framework for climate change adaptation. We have worked with the Western Alliance for Greenhouse Action councils, Net Balance Foundation and Fed Uni to develop a fit-for-purpose online tool, with funding support from the Victorian Government. This tool allows council decision-makers across twenty participating local governments to create an evidence base for informed decision-making, identify where services might be impacted in the future, and help protect those residents most at risk.

Disaster risk reduction and resilience education for children

We are providing Australian emergency management agencies with strategic, evidence-based guidance for the design, implementation and evaluation of school-based disaster risk reduction and resilience education programs for children. This project is funded by the Bushfire and Natural Hazards Cooperative Research Centre and is run in partnership with the Victorian Country Fire Authority, the New South Wales Rural Fire Service, New South Fire and Rescue, the Tasmanian Fire Service, the State Emergency Service, the South Australian Country Fire Service, the Western Australian Department of Fire and Emergency Services and the Australian Red Cross. The evidence-based practice framework supports the development and delivery of education programs that harness children's capacities as agents of change in their schools, households and communities.

Reducing climate change risks to the water sector by transforming biosolids and wastewater into assets

We are working on two projects with RMIT scientists and engineers to help water utilities, the Environment Protection Authority and Victorian Government reduce climate change risks and produce new resources. The first project is enhancing water security by making it easier to produce safe, recycled water by improving how the risk of Helminths (tapeworms) in wastewater is managed.

The second project addresses the other component of sewage: biosolids. It is using an RMIT-designed zero-carbon pyrolysis (combustion) machine to convert biosolids into biochar. This generates two key benefits. First, it avoids stockpiling biosolids for long periods – thus reducing greenhouse gas emissions and the risk of the biosolids causing pollution in the event of heavy rain. Second, it produces biochar, which helps reduce climate change by drawing down carbon from the atmosphere, and climate resilience benefits by increasing the soil health of farm systems.

Sustainable Development Goals and Universities

Climate Change Transformations researchers are taking a leading role in helping deepen RMIT and the university sector's engagement with the UN Sustainable Development Goals, notably SDG 13 on Climate Action.



Acknowledgement of Country

The Climate Change Transformations research group brings together scholars concerned with climate justice. As a group, we wish to acknowledge the Boon Wurrung and Woi Wurrung peoples of the Eastern Kulin Nation as the Traditional Custodians of the unceded lands on which we research, teach and work, and pay respect to their Elders past, present and emerging. We also wish to acknowledge and pay respect to the Aboriginal and Torres Strait Islander peoples, Ancestors and Traditional Custodians of all the lands and waters on which we live, work, and learn. We acknowledge that sovereignty was never ceded and through our work we seek to understand how we might honour our collective obligations to Country, peoples, and cultures.

