ANU Climate Update 2026
Adaptation from soil to stars

UNIVERSITY OF CANBERRA

Implementing local adaptation in a complex federated system

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What talk about?

The adaptation implementation challenge

Local adaptation

Case examples

- Housing and climate change
- Remediation of contaminated soil
- Street trees, urban cooling and electricity infrastructure

Implications and what do we need to do next?

The adaptation challenge

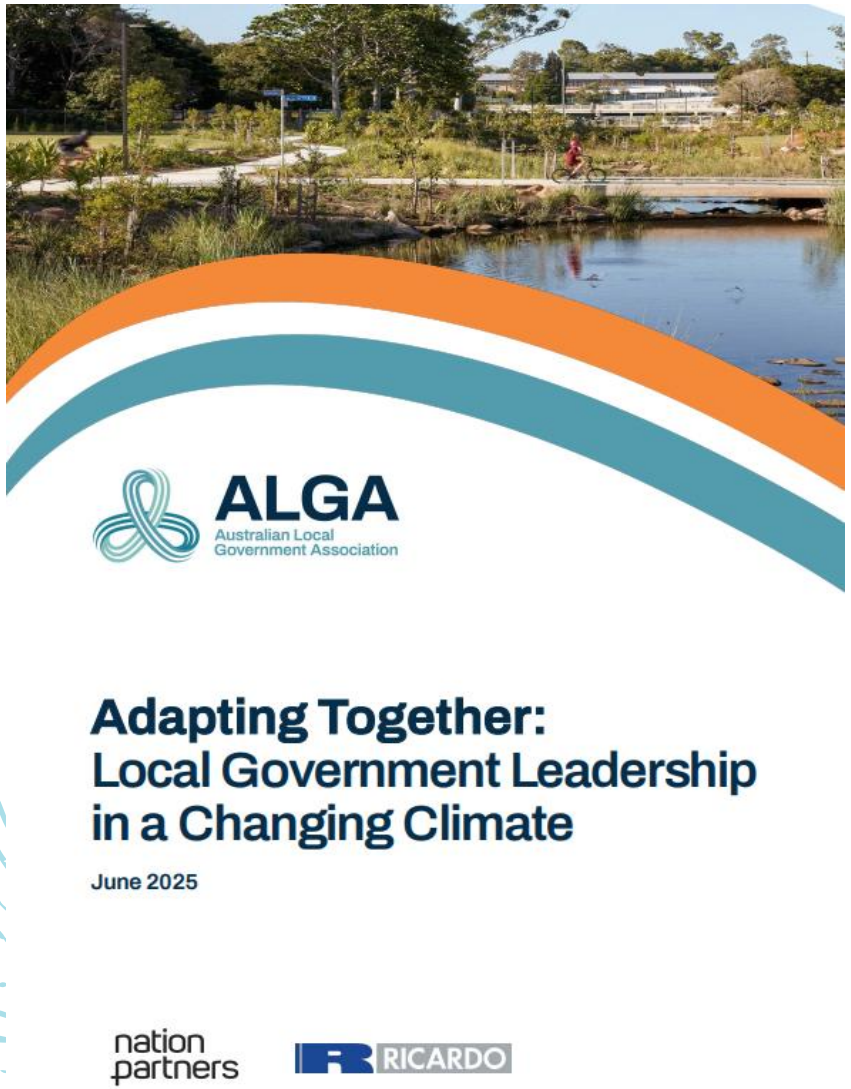
Adaptation is hard – many decision systems not well designed to take into account

- **longer term futures**
- **multiple values beyond short ROI**
- **ongoing uncertainty**
- **the need for change**

'most observed adaptation is fragmented, small in scale, incremental, sector-specific, designed to respond to current impacts or near-term risks and focused more on planning rather than implementation'

We are understanding adaptation barriers better

- **cognitive hard-wiring to discount future**
- **short term political cycles**
- **multiple deficiencies in leadership and resourcing**



Local adaptation

Important roles re climate risks and adaptation

- environment and land-use planning
- local infrastructure and buildings
- emergency management
- place-based community solutions

In a complex federated system

- reliance on other govts for data, funding and legislative frameworks

ALGA report

- most local measures in shared risk areas
- low cost updates, risk assessments, plans
- useful steps to value benefits

Resource, capacity constraints

Governance for climate adapted housing

- Multifaceted – regulation, urban planning, insurance, social housing, property market, powerful industry associations
- Gaps in regulation re climate resilience – heatwaves, flood intensity, bushfire smoke, cyclone paths, science interface
- Areas of high risk known – immense local challenge
- Tensions in housing objectives – cost minimisation prioritised over resilience. Equity challenges growing
- Insurance affordability – partnerships needed to reduce risk
- Long term planning to house another 10-15 million people?
- Climate adaptation has challenges to governance rules, processes, knowledges, resources, frameworks
- Adaptation – need integrative, forward-looking national strategy

Climate change and the remediation of contaminated soil

Australian soil contaminated for decades – 160,000 sites

- >50,000 abandoned mines – historical gold processing left tailings dumps uncovered with mercury, arsenic
- Old petrol stations – leak benzene, xylene
- Old landfill sites – heavy metals, ammonia, asbestos, PFAS

Climate change facilitating movement of contaminants

- Increasing temperature increases bioavailability
- More dust storms spreading toxic pollutants
- Intense rainfall and flooding increasing leachates to groundwater
- Sea level rise and coastal erosion affecting old landfills

Adaptation requires new action and investment

- Local capacity can be challenged
- Updated risk information, attention to major health & env risks
- Shift from static to dynamic management, future scenarios
- Where need to bring forward funding for remediation

Street trees, urban cooling and electricity infrastructure

Many greening cities initiatives to support urban cooling

City of Sydney example – partnership with Ausgrid, electricity distribution network service provider, and other Councils

Ausgrid proposed aerial bundling of cables – upgrade to bare wires to be safer near trees, allow street canopy

Mostly rejected by the Australian Energy Regulator (acting in accord with National Electricity Regulations) – who argued

- Lack of causal link between expenditure, local extreme weather impacts (too uncertain)
- (therefore) Investment not financially efficient

Critical context - National Electricity Law and Regulations limit recognition of non-market values in investment decision-making

Adaptation – methods to value resilience benefits to communities, new partnerships, regulatory & guidance reform

Implications and where to next

Climate change will challenge existing approaches – reforms needed

- Scale of impacts calls for multi-level solutions
- System (not siloed) approaches – e.g. climate resilient housing
- The right enabling frameworks aren't yet in place for robust local achievement of community resilience
- Expenditure will be needed, e.g. brought forward such as for urgent remediation

A priority now is to value climate resilience and adaptation and incorporate into governance and decision systems

The adaptation community needs to professionalise – an Australian Society for Adaptation Professionals

Local governments have an important role in building a compelling case for action, lessons learned, how community resilience affected. A strong local voice in a professional society needed

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The University of Canberra acknowledges the Ngunnawal people, traditional custodians of the lands where Bruce Campus is situated. We wish to acknowledge and respect their continuing culture and the contribution they make to the life of Canberra and the region. We also acknowledge all other First Nations Peoples on whose lands we gather.

A “grey rhino” is a metaphor for a known risk that is being ignored.