

Climate change adaptation: Briefing note 2

Finance Officer

Who might this be relevant for:

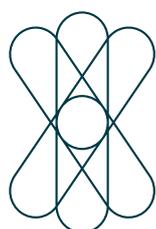
Accountants, business managers, government finance officers, insurance officers, infrastructure and asset managers

Climate change has the potential to impact organisations, their assets, supply chains and stakeholders. In addition, adapting to climate change often requires investment of resources. While the capital outlay can be large, there is evidence that in many cases the cost of investing in adaptation action is significantly less than the potential impact costs. Organisations need to consider the long-term costs and benefits to build a case for investing in adaptation.

The potential costs of adaptation, particularly capital investment in hard engineering solutions, have been identified as barriers to adaptation. It is important that financial officers are closely engaged in adaptation planning and action. In this briefing we outline the challenges that Finance Officers face in preparing for a climate changed future.

Table 1: Summary of climate projections and impacts. Developed using information from CSIRO and Bureau of Meteorology, Climate Change in Australia website (<http://www.climatechangeinaustralia.gov.au/>) [Accessed 13 May 2016].

Type of change	Timeframe/ certainty	Projections	Impacts relevant to your sector
Temperature change	Immediate changes High confidence	Average temperatures to increase by between 2.6 and 4.8°C by 2100	Increasing running costs of cooling technologies
Extremely hot days	Immediate changes High confidence	More than twice the number in some cities	More days too hot for outdoor workers, failure of or damage to infrastructure (e.g. electricity supply, metal warping)
Fire weather	Immediate changes High confidence	Increased frequency and severity of extreme fire danger. Greatest risk in south-eastern Australia	Greater risk of damage and loss to fire, more resources needed for fire preparation
Sea level rise	Mid century High confidence	Projected to rise by as much as 0.52 to 0.98m by 2100 bringing increased risk of coastal flooding during storms	Increased erosion and threat to property and infrastructure during storms, long term risk of more frequent or permanent inundation of housing
Rainfall extremes	Mid century Medium confidence	Extreme rainfall events or higher rainfall intensities likely to become more common in throughout Australia, and droughts are expected to be more intense and more frequent in southern Australia	For areas already flood prone, property and infrastructure will continue to be at risk of flood damage into the future with some possibility this may become more common. Droughts will also continue to be a feature of life in Australia and may be accompanied by higher temperatures. Demand for drought relief will continue.
Storms and cyclones	Mid century Medium confidence	Fewer extreme storms but increased intensity	Areas prone to cyclones and windstorms will continue to be at risk of damage and losses.



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Adaptation:

Action to limit the negative impacts of climate change and take advantage of any opportunities



What climate change may mean for your role

Climate variability (storms, fires, floods, extreme heat, drought) already puts financial pressure on organisations. Climate change is expected to affect the scale, intensity and frequency of these events, with associated economic changes including:

- **Climate change will bring both risks and opportunities**
Opportunities may include no-regrets adaptation actions that can improve productivity, bring design improvements, reduce climate emissions, reduce insurance premiums and increase competitive advantage.
- **Failure of infrastructure before end of expected working life** Climate change impacts on materials, design and location could shorten design life and change the balance of investment. Assets may become stranded where investments are made in high risk regions (e.g. bushfire or flood prone areas). For example, increased flood risk may prevent development approval on land assets.
- **Unexpected changes in service demands** For example, displacement and damage from bushfire could increase the demand for emergency shelter, emergency supplies and welfare payments.
- **Loss of services** For example loss of power, telecommunications, road closures during extreme weather. Power loss may affect other services such as water supply. Supply chains may also be impacted affecting otherwise well adapted assets, infrastructure or people.
- **Increased responsibility for adaptation actions by local government** Councils may be called upon to protect property or remedy impacts. Some of these actions can be potentially very expensive (e.g. sea walls).
- **New maintenance costs** Adaptation actions may entail design and construction of substantial new assets with associated increased maintenance costs.

How adaptation might help shape your response to these challenges

Adapting to climate change means making choices, planning and where appropriate taking action now to reduce the negative impacts of climate change now and in the future and maximise opportunities. In your sector some of these adaptation actions may already be part of your practice, but climate change may bring new considerations and different time frames. You may want be thinking about:

- **Engaging with high level decision makers** to raise awareness of the financial risks and positive opportunities attached to climate change.
- **Working closely with adaptation planners in your organisation** to ensure adaptation actions are prioritised and sequenced effectively to help stagger or reduce expenditure.
- **Looking for opportunities** to integrate adaptation options across different business operations and plans to identify solutions that might tap into existing funding, build resilience and support business continuity.
- **Understanding benefits and opportunities as well as costs of adaptation options** Like other decisions you are likely to look at both the costs and benefits of adaptation options. It may mean considering benefits like reduced operational expenditure (e.g. repair costs for infrastructure at risk of weather damage) and amenity benefits for the community over quite a long timeframe. For example, the extra cost of building a bridge above future flood risk levels might be offset by repair cost savings within the life of the bridge.
- **Considering maintenance costs of adaptation options early on** through business plans and cost benefit analyses.
- **Seeking finance for adaptation actions** Novel approaches for financing adaptation actions (such as resilience bonds) are beginning to garner more interest
- **Considering the economic benefits of investing in building adaptive capacity and resilience** This might be through supporting organisations best placed to increase community resilience (e.g. community service organisation and volunteer organisation), communication and information programs and community engagement programs.
- **Collaborating to reduce costs** Collaboration with the private sector, other similar organisations, and with stakeholders may help with sharing of resources and achieving economies of scale.
- **Building business cases for adaptation** need to be clear about short, medium and long term outcomes from actions, and social, economic and environmental outcomes that may be achieved.

This sector brief was developed drawing on the broad body of new adaptation research commissioned by NCCARF. The following reports and factsheets were relied on to develop this sector brief:

- Quantifying the cost of climate change impacts on local government assets
- Climate change adaptation in the boardroom
- Understanding the adaptive capacity of Australian small-to-medium enterprises to climate change and variability
- Making decisions under the risks and uncertainties of future climates
- Extractive resource development in a changing climate
- Climate adaptation decision support tool for local governments: CATLoG
- Investing through an adaptation lens

All documents are available for download at: www.nccarf.edu.au/adaptation-library
For more synthesis reports visit: www.nccarf.edu.au/synthesis