Tasmanian Government submission:

Senate Inquiry into the current and future impacts of climate change on housing, buildings and infrastructure

July 2017

Tasmania
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Introduction

The Tasmanian Government submission to the Senate Inquiry into the current and future impacts of climate change on housing, buildings and infrastructure (the Senate Inquiry) focuses on Tasmania's climate change action plan, climate change projections and impacts for Tasmania, and the Tasmanian Government's response to building resilience in a changing climate.

Tasmanian Government's climate change action plan

Climate Action 21: Tasmania's Climate Change Action Plan 2017-2021 (Climate Action 21)[1] sets the Tasmanian Government's agenda for action on climate change through to 2021. It reflects the Government's commitment to addressing the critical issue of climate change and articulates how Tasmania will play its role in the global response to climate change.

Climate Action 21 includes 37 actions across the following six priority areas:

1. **Understanding Tasmania's future climate** commits to providing up-to-date information on climate change projections and impacts, and tailoring this information to support decision making across key industry sectors.
2. **Advancing our renewable energy capability** supports national energy security solutions in the transition to a low carbon generation network and delivers energy efficiency programs with local government, households and businesses.
3. **Reducing our transport emissions** promotes the uptake of electric vehicles and other alternative forms of transport, and optimises the use of vehicles to reduce costs and emissions.
4. **Growing a climate-ready economy** supports businesses and agricultural producers to reduce their emissions, be prepared for the impacts of climate change, and leverage opportunities.
5. **Building climate resilience** enhances our capacity to withstand and recover from extreme weather events, and better understand and manage the risks of a changing climate.
6. **Supporting community action** recognises that all Tasmanians have a role to play in tackling climate change, and assists the community to reduce emissions and energy use.

Climate Action 21 includes a commitment to establish an aspirational long-term target to achieve zero net emissions for Tasmania by 2050, which aligns with the Paris Agreement to limit global warming to well below two degrees Celsius above pre-industrial levels. Setting this target was identified as a key recommendation during the 2016 Independent Review[2] of the Tasmanian *Climate Change (State Action) Act 2008* (the Act), which sets the Tasmanian Government's legislative framework for action on climate change.

The Tasmanian Government has committed additional funding of $3 million to deliver Climate Action 21, as part of the 2017-18 State Budget. This builds on over $400 million already invested by the Tasmanian Government to support action on climate change.

[1] Further information on Climate Action 21 is available at www.climatechange.tas.gov.au
[2] Further information on the 2016 Independent Review of the Act is available at www.climatechange.tas.gov.au

Climate change projections and impacts for Tasmania

Tasmania has acutely felt the impacts of a changing climate in recent times, including resultant damage to infrastructure.

In 2013, the State experienced significant bushfires in the South-East which left the entire Tasman Peninsula without power supply for several weeks due to the destruction of its only two electricity feeders.

In 2016, the State experienced a significant bushfire event in the Tasmanian Wilderness World Heritage Area (TWWHA). In addition to impacting the natural and cultural values of the TWWHA, this bushfire event caused the destruction of transmission lines resulting in a power station being unable to dispatch electricity.

In addition to significant bushfires, in the last two years Tasmania has experienced a record marine heatwave off the East Coast, a prolonged dry period creating energy security concerns, and the worst statewide flooding seen in 40 years.

These events provide insight into the impacts of a changing climate on communities, businesses, industry and the built environment.

The Bureau of Meteorology's annual climate summary for Tasmania shows that 2016 was the warmest year on record, with the mean annual temperature 0.88 degrees Celsius above average. It was also the second wettest year on record for the State, with total rainfall 31 per cent above average.

The Intergovernmental Panel on Climate Change's Fifth Assessment Report shows that extreme weather events will become more frequent and intense in a changing climate, which is consistent with the Climate Futures for Tasmania (CFT) project[3].

CFT is the most important source of climate change projections for Tasmania. Published by the Antarctic Climate and Ecosystems Cooperative Research Centre between 2010 and 2012, CFT presented the first fine-scaled local climate information for Tasmania.

Through CFT, the Tasmanian Government has a better understanding of how the State's climate is likely to change between now and 2100, and what the likely impacts will be.

Under a changing climate Tasmania is expected to experience significant changes to rainfall patterns, rising sea levels, and more frequent and intense extreme weather events, which are likely to result in increased flooding, and coastal inundation and erosion. Tasmania is also expected to experience a rise in average annual temperature and longer fire seasons, with more frequent and intense bushfire events.

Furthermore, through coastal hazard mapping and CFT, the Tasmanian Government understands that with climate change storm tide events are likely to happen more often, and that some low lying areas can expect more frequent and dramatic inundation and erosion. These events and their impacts could have serious implications for both public and private assets in vulnerable coastal areas.

[3] Further information on Climate Futures for Tasmania is available at: acecrc.org.au/climate-futures-for-tasmania

Extreme weather events, as well as the long term decline in rainfall over Tasmania's hydro catchments, have the potential for significant short- and long-term impacts on the State's transport and critical health infrastructure and energy supply.

Climate Action 21 invests in further research on Tasmania's climate change projections to ensure Tasmania has the most accurate and up-to-date climate science to inform decision making. This will involve the Tasmanian Government working with the Antarctic and climate science community, and other partners in government and industry, to undertake a review of climate science gaps and opportunities in the Tasmanian context. This review will identify priority research projects to build understanding of Tasmania's future climate, including determining the vulnerability of the State's built environment to extreme weather events.

Tasmanian Government response to building climate resilience in a changing climate

As outlined above, a key priority of the Tasmanian Government, under Climate Action 21, is to build climate resilience to enhance the State's capacity to withstand and recover from extreme weather events, and better understand and manage the risks of a changing climate. Provided below is a summary of the Tasmanian Government's response to building climate resilience in a changing climate.

Supporting local government to manage sea level rise, and coastal erosion and inundation

In 2016, the Tasmanian Government engaged CSIRO to provide accurate and up-to-date sea level rise projections and planning allowances for the State. This is the first time Tasmania has had sea level rise planning allowances unique to each coastal municipality, as well as statewide averages for 2050 and 2100. These updated sea level rise planning allowances align with the sea level rise projections provided in the Intergovernmental Panel on Climate Change Fifth Assessment Report, and are based on a high emissions (business as usual) scenario. The sea level planning projections and allowances are also consistent with the National Climate Change Adaptation Research Facility's sea level rise and future climate information used for the national CoastAdapt project.

The Tasmanian Government has used the sea level rise projections and planning allowances to develop coastal inundation and erosion maps to show how sea level rise and major storm events are projected to affect Tasmania's coastline. The coastal hazard maps are an important input into the new Tasmanian Planning Scheme, which will include statewide planning policies and provisions for risks, and hazards from coastal erosion and inundation.

The work undertaken to develop coastal hazard mapping and sea level rise planning allowances will help to ensure consistency and certainty in how planners, developers, property owners and managers take into account sea level rise in any new coastal developments.

Since 2011, the Tasmanian Government has been working with communities vulnerable to coastal hazards through the Tasmanian Coastal Adaptation Pathways (TCAP) project. The key aim of TCAP is to raise awareness of coastal hazards and partner with communities to manage risks into the future.

Through TCAP, the Government has worked in partnership with councils in 11 of the communities at risk from coastal erosion and inundation including, most recently, the municipalities of Hobart City, Huon Valley, Kingborough and Glamorgan Spring Bay.

Following on from TCAP, the Government is committed to providing further guidance and support to coastal managers on understanding and managing coastal hazards to build Tasmania's climate resilience.

Building community resilience to extreme weather

The Tasmanian Government is committed to helping Tasmanians to understand their risks from flood by implementing a community project to raise awareness of flood risks, and implementing a statewide system for flood warnings and alerts.

The Tasmanian Government supports the work of the Australian Building Codes Board to improve the thermal performance of new building construction, which can lead to improved health outcomes for Tasmanians during heatwaves.

Building business resilience to extreme weather

The Tasmanian Government has delivered a range of materials to support Tasmanian businesses to better prepare for, and recover from, extreme weather events, and will be extending that work in the coming months to ensure more businesses are being reached.

Incorporating climate change into government decision making

The Tasmanian Government is committed to building the capacity of Tasmanian Government agencies and local government to consider climate change risks in strategic planning, purchasing and decision making. This includes considering climate change projections and impacts in long-term decisions around assets and infrastructure. Incorporating climate change into government decision making was identified as a key recommendation through the 2016 Independent Review of the Act.

The Tasmanian Government recently commenced work on the Climate Resilient Councils project. Through this project, the Tasmanian Government is working closely with local government to enhance its consideration of climate change impacts when making business decisions in order to reduce long-term risks and costs to assets, infrastructure, services and the community.

Managing bushfire risk

The Tasmanian Government continues to deliver a comprehensive fuel reduction program which involves the Tasmania Fire Service, the Parks and Wildlife Service, Sustainable Timber Tasmania (previously called Forestry Tasmania), local government, private contractors, landowners and industry, conducting strategic fuel reduction burns to reduce bushfire risk.

The Tasmanian Government has also continued to deliver the Community Protection Planning, Bushfire-Ready Neighbourhoods and Bushfire-Ready Schools programs to assist communities at risk from bushfire.

In 2016, the Tasmanian Government delivered a $250,000 research project examining the impacts of climate change on bushfire risk in the TWWHA, and ways to improve how Tasmania prepares for, and responds to, bushfires in the TWWHA. The Tasmanian Government is leveraging the findings of the research project to support its commitment to protecting the natural and cultural values of the TWWHA, and the critical electricity generation and transmission infrastructure inside and adjacent to the TWWHA.

Energy security

Tasmania supports a coordinated national approach to improve energy security in Australia while transitioning to a low carbon economy.

The Tasmanian Energy Security Taskforce is undertaking an independent energy security risk assessment for Tasmania, including the potential impact of climate change on energy security and supply.

Tasmania is also actively involved with the COAG Energy Council process and participates in the formulation of both capacity and energy related plans for electricity, natural gas and liquid fuel supply emergencies and shortfalls.