

Tasmanian Disaster Resilience Strategy 2020-2025: Background and supporting information



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Purpose of this background paper

This paper provides background and supporting information for:

- the Tasmanian Disaster Resilience Strategy 2020-2025; and
- the State Emergency Management Committee (SEMC) Strategic Directions Framework. The SEMC guides the Tasmanian Government's disaster resilience and emergency management (EM) actions.

This paper includes further details on:

- the reasons for focusing on disaster resilience;
- a proposed vision of a disaster resilient Tasmania and the goals to achieving the visions;
- proposed strategies to achieve the Tasmanian Government's strategic directions, recognising disaster resilience relies on broad collaboration;
- existing related initiatives. This is the first Tasmanian Disaster Resilience Strategy, but many plans and actions currently contribute to disaster resilience. This Strategy recognises them and aims to build on them;
- challenges and opportunities identified during the preparation of the Strategy; and
- definitions, acronyms and additional references.

Disaster resilience relies on:

- interconnected systems, services, policies and plans; and
- broad engagement and collaboration.

Why focus on disaster resilience?

Disaster resilience is the ability of all sectors of society and individuals to survive, adapt and thrive in the face of turbulent change or acute stresses¹. The primary reason for focusing on disaster resilience is to help ensure people's safety and wellbeing. Disaster resilience helps to reduce the impacts of disasters, such as death, injury and illness and the trauma and loss that often comes with being impacted by a disaster. Many reports have proved the need to focus on it for other reasons as well, including:

- Disaster response and recovery costs have risen and will continue to rise. Deloitte forecast natural disaster loss increases of 3.4% a year in Australia so the total cost could be about \$39.3 billion per year by 2050, compared with \$13.2 billion in 2017². For Tasmania, the costs could increase to about \$600 million in 2050. These estimates do not include intangible costs such as social, health, employment and economic impacts.

¹ <https://www.unisdr.org/we/inform/terminology>

² Deloitte Access Economics, [Building an open platform for natural disaster resilience decisions, Australian Business Roundtable for Disaster Resilience and Safer Communities](#) 2014

- Currently about \$1 is spent on reducing disaster risks for every \$10 spent on response and recovery³. This ratio is expected to widen if disaster risks are not proactively reduced. Disaster impacts are an increasing contingent liability for governments.
- Much of this growth in disasters has been due to climate related events⁴. There is momentum to address the increased risk of disasters and the potential for cascading disaster events⁵.
- People and assets are increasingly vulnerable as populations grow. Direct disaster impacts can have wide-ranging consequences for critical infrastructure and essential services.
- There is a moral imperative to reduce disaster impacts where possible. As well as risks of death, injury and other losses, disaster impacts are a major obstacle to reducing poverty and sharing prosperity. Disasters have long-term, complex social and economic impacts that can span generations. Individual and household disaster impacts threaten macro-level socio-economic stability by affecting employment and economic activity.
- Severe to catastrophic disasters would exceed the capability of current state and territory emergency management (EM) response agencies across Australia no matter how well resourced and capable. Responses to such disasters relies on a cross-sector and whole-of-society approach⁶.
- Reducing risks can reduce the costs of disasters by more than 50%⁷ and reduce social hardship during and after a disaster.
- Disaster resilience measures have benefits even if a disaster does not occur.

Like many other nations, Australia still relies largely on post-disaster funding. While there are many initiatives that focus on increasing disaster resilience, the current state of relying on post-disaster funding and focusing on response and recovery:

- encourages high risk behaviour and limits incentives for reducing risk exposure;
- can cause further economic harm by diverting funds from other public programs, including ones that might underpin resilience; and
- affects credit worthiness and investment⁸.

National and international Frameworks, such as the United Nation's Sendai Framework for Disaster Risk Reduction, promote an increased emphasis on managing disaster risk. The Tasmanian Disaster Resilience Strategy focuses on implementing the Sendai Framework in Tasmania and the alignment of plans and actions with such national and international Frameworks. This will help to ensure consistency with other jurisdictions and with established standards of best practice.

³ Australian Business Roundtable for Disaster Resilience & Safer Communities, [Building our Nation's Resilience to Natural Disasters Report Fact Sheet](#), June 2013

⁴ Moody's Investors Service, *Evaluating potential impacts from climate change on the Australian States*, October 2018, Australian Government, National Resilience Taskforce, [Profiling Australia's Vulnerability](#) 2018

⁵ For example, <https://www.apra.gov.au/media-centre/speeches/australias-new-horizon-climate-change-challenges-and-prudential-risk> , <https://asic.gov.au/about-asic/news-centre/speeches/climate-change> 26 March 2019

⁶ ANZEMC Community Outcomes and Recovery Sub-committee, *Catastrophic Recovery Planning Project Business Case for Delivery Support*, 2018

⁷ Australian Business Roundtable for Disaster Resilience & Safer Communities, [Building our Nation's Resilience to Natural Disasters Report Fact Sheet](#), June 2013

⁸ Moody's Investors Service, *Evaluating potential impacts from climate change on the Australian States*, October 2018

"Strong evidence suggests that the mere possibility of the future disaster has real impacts on present-day decisions and economic growth... not investing in disaster risk management is a missed opportunity for social, economic and environmental progress."

- GFDRR and ODI World Bank, *Unlocking the triple dividend of resilience...* 2015 p 5

THE TRIPLE DIVIDEND OF RESILIENCE

Disaster risk refers to the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, due to a combination of hazard, exposure, vulnerability and capacity⁹.

Disaster risks cause economic and other losses even before a disaster strikes¹⁰. Investing in reducing disaster risks can contribute to wealth, well-being and economic growth - even without disasters occurring. The triple dividend of resilience recognises that reducing disaster risks provides value by:

1. **saving lives and avoiding losses.** However, benefits still accrue from investments, even if a disaster does not occur;
2. **unlocking economic potential** through stimulating confidence, innovation and economic growth;
3. leveraging co-benefits.

Investing in disaster risk reduction and community resilience contributes to:

- reduced diversion of resources to disaster response and recovery;
- increased local citizen participation, such as volunteering or attending forums;
- increased investment in anticipation of fewer disaster losses; and
- more balanced ecosystems from, for example, fuel reduction burns leading to greater variety of flora and fauna, with flow tourism and other benefits¹¹.

REDUCING RISKS AS AN ENABLER OF ECONOMIC GROWTH

The real or perceived threat of a future disaster can impact on current decisions and economic growth. Reducing these background risks can have immediate economic benefits at all levels. Increased resilience enables more forward-looking planning, long term investments and entrepreneurial activity. Disaster resilience measures contribute to development, poverty alleviation and fiscal stability and growth.

If risks are seen to be reduced, studies have shown individuals, households and firms are more likely to take entrepreneurial risks and pursue innovation which can stimulate socio-economic benefits¹². Measures such as flood protection can enable economic activity, long-term planning and investments. Cities with high risk profiles such as New York, Rotterdam and Singapore use their

⁹ <https://www.unisdr.org/we/inform/terminology>

¹⁰ Overseas Development Institute/ World Bank/ GFDRR, *Interim Policy Note: Unlocking the 'Triple dividend' of resilience: Why investing in disaster risk management pays off*, 2015

¹¹ UNISDR's *Words into Action: Implementation guide for local risk reduction and resilience strategies*, 2018

¹² GFDRR and Overseas Development Institute, World Bank, *Unlocking the triple dividend of resilience: why investing in DRM pays off*, 2015

disaster and climate change resilience achievements to attract investment¹³. Disaster resilience investments protect not only large firms and their assets, but also their workers, suppliers and supply chains, so the entire area can benefit¹⁴.

CO-BENEFITS OF DISASTER RESILIENCE INVESTMENTS

Many actions to reduce risks provide benefits beyond reduced disaster impacts. Different measures will provide various levels of benefits and have differing timespans. For example, land use planning can greatly reduce risk exposure, but the benefits may not be realised for some time.

Examples of risk reduction investments	Examples of co-benefits
Building with disaster resilience in mind	Creates employment and flow-on economic benefits, Lower insurance and maintenance costs
Environmental services, such as tree planting	Ecosystem health benefits
Fuel reduction burns	Greater ecosystem diversity
Emergency shelters	Buildings used for multiple community purposes
Flood mitigation measures	Better year-round water supply, improved water sanitation and flow on health benefits
Household all-hazards preparedness	Families and individuals better able to deal with other uncertainties and household crises. Enhances sense of security and wellbeing.
Community training for evacuation/ community involvement in, for example, early warning systems, local risk assessments, planning	Improved social cohesion and connectedness, local community advocacy, inclusiveness and networks, increased volunteering
Protection of business district	Wider supply chain development, and economic growth and diversity
Emergency management volunteering	Increased social connectedness and skill development
Co-generated power such as solar with off-grid capabilities	Reduced fuel bills and fossil fuel reliance and reduced exposure to international market volatility.

¹³ Watson et al, [Financing for reducing disaster risk: 10 things you need to know](#), UNDP 2015

¹⁴ GFDRR/ World Bank Group, [Financial protection against natural disasters: An operational framework for disaster risk financing and insurance](#), 2014

DISASTERS AS GOVERNMENTS' LARGEST CONTINGENT LIABILITY

Disasters are generally the biggest source of governments' contingent liabilities¹⁵. Investments in reducing disaster risk also reduce these liabilities. They can help stabilise public finances and allow governments to focus on longer term issues and strategic investments.

Disaster risk reduction and resilience is complex to justify. Disaster recovery costs tend to dominate decisions as they are more immediate and tangible, while the benefits are long term and often less visible. Although methods to appraise the value of risk mitigation investments have improved, they still struggle to adequately price loss of amenities, cultural assets, psychosocial effects and risks to ecosystems.

Definitions, acronyms and abbreviations

Definitions used in this strategy align with the *International Sendai Framework for Disaster Risk Reduction's* definitions. See Appendix I for a list of definitions, acronyms and abbreviations used.

WHAT DO WE MEAN BY A DISASTER?

A disaster is an event or the threat of an event that endangers human life, property or the environment that needs a significant response.

This definition aligns with the definition of emergency in the *Emergency Management Act 2006*. The Sendai Framework describes 'emergency' and 'disaster' as interchangeable, although in the context of some hazards or health emergencies can relate to hazardous events that do not result in wider disruption.

Disasters include events such as:

- natural disasters, for example, fire, flood, storms or other extreme weather events, tsunamis; or earthquakes;
- biosecurity hazards;
- pandemics;
- mass casualty events such as terrorism;
- other human induced catastrophes, for example cyberattacks, high-impact industrial accidents, extreme building collapses or plane crashes.

The Sendai Framework also includes slow onset disasters, such as landslides, coastal erosion and land or soil degradation and other effects of climate change. This Strategy applies to all hazards. It focuses on disaster impacts and addressing vulnerabilities through prevention and preparedness activities, rather than the specific causes.

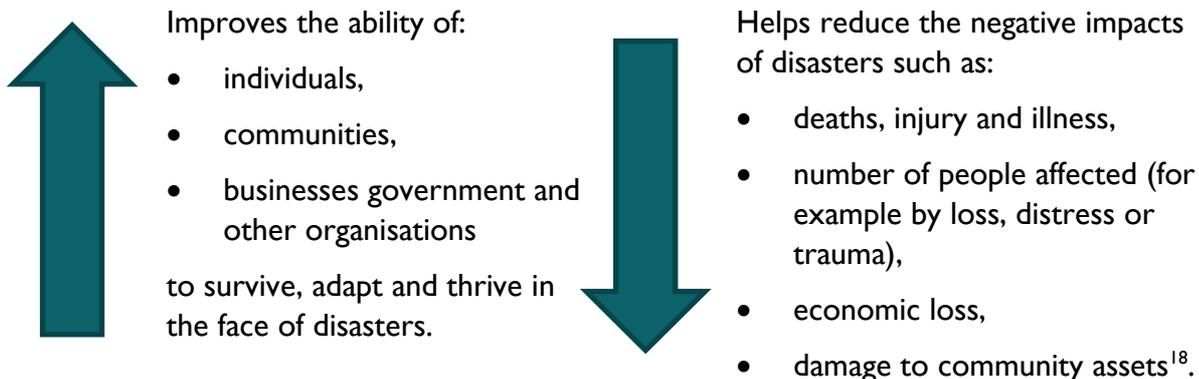
¹⁵ GFDRR et al, [Unlocking the triple dividend of resilience: why investing in DRM pays off](#), 2015

DISASTER RESILIENCE

Disaster resilience is the ability of all sectors of society and individuals to survive, adapt and thrive in the face of turbulent change or acute stresses¹⁶. If a community is resilient then everybody is responsible, accountable and works together using evidence to:

- reduce disaster risk; and
- better withstand, recover from and adapt if disasters do occur¹⁷.

Disaster resilience:



In order to thrive, communities need to learn and adjust to be resilient to disasters.

REDUCING VULNERABILITY TO STRENGTHEN RESILIENCE

Resilience relies on understanding and appreciating individual and shared vulnerabilities¹⁹. Increasing resilience means reducing vulnerabilities of:

- people;
- land use and the built environment; and
- the systems and networks that connect us.

Vulnerability refers to the susceptibility of individuals, communities, assets or systems to the impact of hazards due to physical, social, economic and/or environmental factors²⁰. This Strategy recognises individuals are both resilient and vulnerable, as are the systems that connect our communities and economies. Disasters expose or exacerbate both individual and collective vulnerabilities.

DISASTER RESILIENCE AND EMERGENCY MANAGEMENT

Emergency management covers the 'PPRR Spectrum' of:

- Prevention;
- Preparation;

¹⁶ <https://www.unisdr.org/we/inform/terminology>

¹⁷ Based on Emergency Management Victoria *Resilient Recovery Discussion Paper* 2017 p 11 and Torrens Institute descriptions of a resilient community, NSDR p 4 and Barnes 2016 p 11)

¹⁸ Sendai Framework for Disaster Risk Reduction 2015-2030

¹⁹ Australian Government, National Resilience Taskforce, *Profiling Australia's Vulnerability* 2018

²⁰ Ibid

- Response; and
- Recovery.

Disaster resilience promotes preventing disaster risks and preparing for response and recovery.

EM also focuses primarily on specialists' responsibilities while disaster resilience recognises everyone has a part to play. The Disaster Resilience Strategy provides a vision and directions that complement the *Tasmanian Emergency Management Arrangements (TEMA)*, which operationalise formal arrangements under the *Emergency Management Act 2006*.

TASMANIA'S EMERGENCY MANAGEMENT (EM) SECTOR

Tasmania's EM sector includes specialist individuals and organisations with accountabilities and/or formally defined roles relating to:

- response and/or relief and recovery support; and/or
- enabling and supporting prevention and preparedness actions.

The sector includes management authorities and support agencies in line with the TEMA.

- Management Authorities are responsible for coordinating and providing guidance for comprehensive emergency management across the PRR Spectrum. The TEMA outlines these responsibilities, and the Management Authorities for specific hazards. Examples of Management Authorities include:
 - the Department of Primary Industries, Parks, Water and Environment (DPIPWE) for biosecurity;
 - the State Emergency Service (SES) for floods; and
 - the Department of Health (DoH) for heatwaves and pandemic influenza.

Please refer to the TEMA for details on specific management authorities.

- Support Agencies provide functional support activities. For example:
 - amongst other support, DPIPWE provides advice on protecting Aboriginal and historic heritage sites and natural values during response operations;
 - the Bureau of Meteorology (BoM) provides weather warnings; and
 - DPAC provides the Tasmanian Emergency Information Service (TEIS).

Please see the TEMA for specific details on support agencies, and emergency management roles and responsibilities.

Other organisations also play key roles and are part of the EM sector.

- Local governments have key responsibilities in managing disaster risks and facilitating local recovery;
- Critical service and infrastructure providers actively work to ensure communities have access to critical services and infrastructure during and after disasters as much as possible;
- Not-for-profit organisations play many roles. For example:

- Red Cross support individual and community disaster risk preparedness, relief and recovery;
- Save the Children support young people following a disaster;
- St John Ambulance and Surf Life Saving Tasmania support response in specific areas; and
- regional Natural Resource Management (NRM) bodies enable recovery and longer-term environmental resilience.

There are many other not-for-profit organisations supporting community resilience.

- Contractors supporting responsible and supporting agencies can also be considered part of the EM sector. For example, roadworks contractors play key roles in repairing critical transport infrastructure after a disaster.
- Individuals in other organisations with formal roles relating to disaster risk reduction, emergency preparedness and recovery relating to their organisation.

While everyone in Tasmania has roles and responsibilities relating to disaster resilience, those in the EM sector have specialist skills and formal roles to support others in disaster prevention, preparation, response and recovery. Please see the TEMA for further details on roles and responsibilities.

EVERYBODY – INDIVIDUALS, ORGANISATIONS, COMMUNITIES

Everybody, in the context of this Disaster Resilience Strategy, means all individuals, households, landowners, businesses, government agencies and other organisations, industry, the community sector and local and other communities in Tasmania. All government agencies, private businesses and other organisations and their employees have a role in disaster resilience.

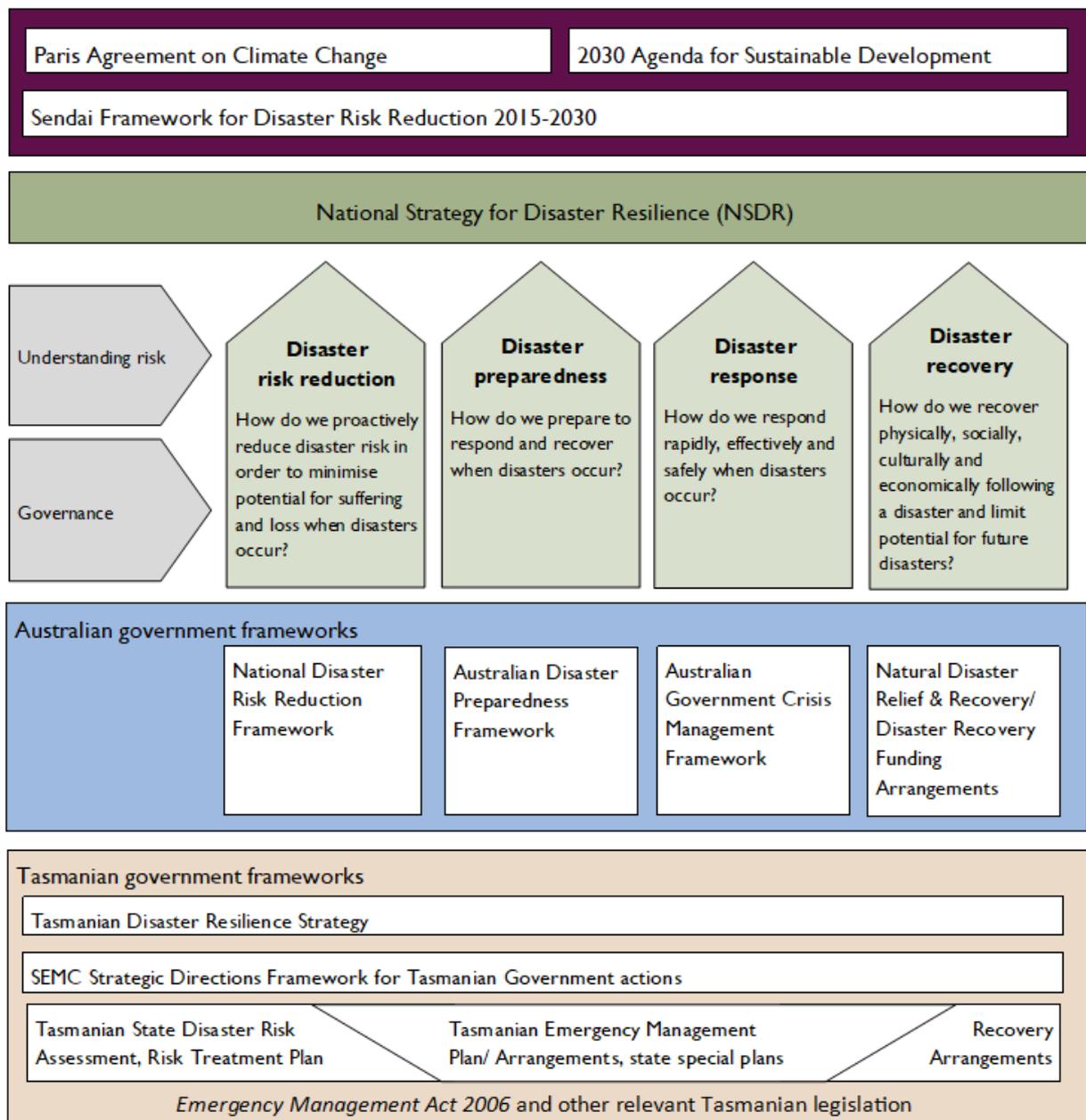
Scope and context

Disaster resilience underpins the whole PPRR spectrum for emergency management. However, in line with national and international frameworks the primary focus is on risk reduction and preparedness. The Strategy aims to identify and address gaps, barriers or issues from a whole of system perspective to form detailed priorities to implement the *Sendai Framework* and the National Strategy for Disaster Resilience (NSDR) and the National Disaster Risk Reduction Framework (NDRRF) in Tasmania.

Most other Australian states and New Zealand have or are developing disaster resilience strategies. The SEMC Strategic Directions Framework is the Tasmanian Government's primary mechanism for implementing the Tasmanian Disaster Resilience Strategy.



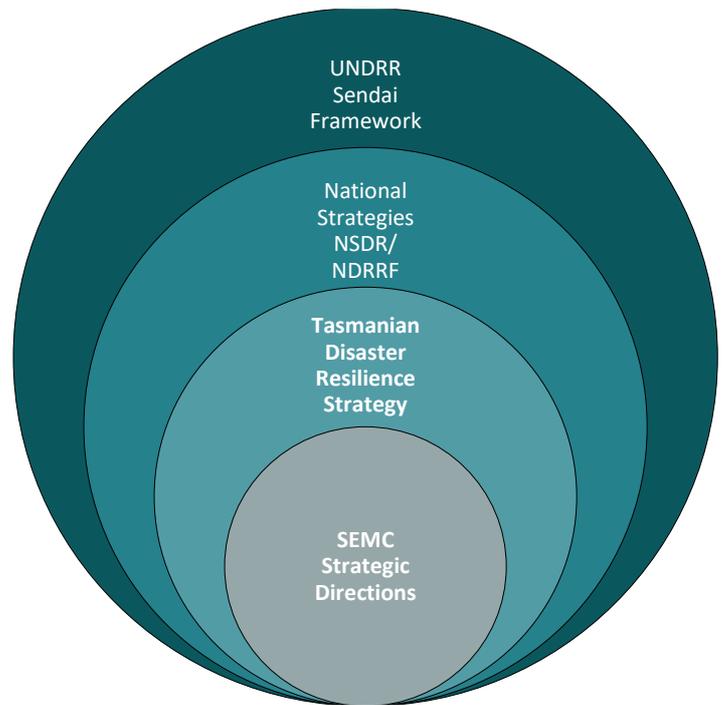
Tasmania’s approach to disaster resilience is aligned with national and international strategic frameworks. As outlined by the United Nation’s Sendai Framework, disaster resilience relies on:



- **Understanding** risks, threats and vulnerabilities by people who can take measures to prevent, mitigate or plan for those risks;
- **Governance** outlining clear responsibilities and enabling a coordinated and collaborative approach;
- **Risk reduction** measures to prevent or mitigate threats or vulnerabilities;
- **Preparation** to respond and recover from disasters when they do occur.

This *Tasmanian Disaster Resilience Strategy* and related actions are part of a complex system that includes:

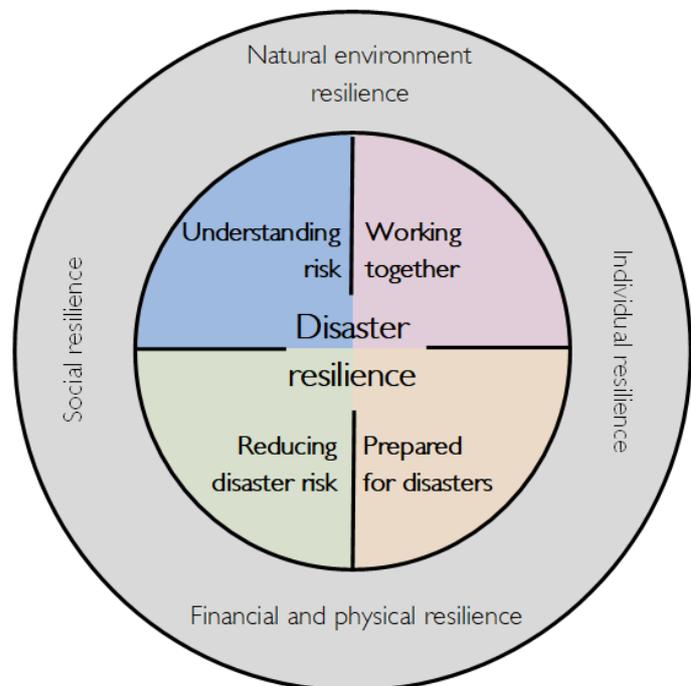
- national frameworks, plans and initiatives;
- ongoing Tasmanian Government agency plans and actions, for example risk management in facilities services, protective security measures and business continuity planning;
- local government initiatives and plans;
- NGO and local community initiatives.



The Tasmanian Disaster Resilience Strategy ensures a cohesive approach across Tasmanian Government actions and policies, as well as providing strategic leadership at all levels of government and across sectors. This Strategy envisages the Tasmanian Government working in collaboration with all levels of government, business and non-government sectors and local communities to continually enhance the State’s resilience to disasters. The State Emergency Management Committee (SEMC) oversees the Tasmanian Government’s strategies and actions relating to emergencies.

Although outside the scope of this strategy, there are close links between disaster resilience and other types of resilience that rely on:

- **Natural environment resilience** – for example, topography, geology, water assets;
- **Social resilience** – for example, norms, values, culture, social connectedness;
- **Human resilience** – individual knowledge, skills, physical and mental health which enable them to take part in society;
- **Financial and physical resilience** – for example, houses, roads, buildings, hospitals and financial assets supporting the economy and communities.



A disaster resilient Tasmania

The *Tasmanian Disaster Resilience Strategy* has a vision which is underpinned by four goals.

The Vision

Using the best available evidence, everyone works together to reduce their disaster risk, to prepare to withstand and adapt to the impacts of disasters.

The Goals

The four goals that underpin this vision are:

- 1 Understanding disaster risk - everyone understands the disaster risks affecting them.
- 2 Working together - everyone collaborates to reduce risks and prepare for disasters.
- 3 Reducing disaster risk - everyone reduces disaster risks in ways that have everyday benefits.
- 4 Being prepared for disasters - when a disaster occurs, everyone knows what to do and can do it.

<p>1. Understanding disaster risk</p> <p>Goal: Everyone understands disaster risks affecting them.</p> <p>What success looks like:</p> <ul style="list-style-type: none"> 1.1 There is relevant, accessible and useful data and research. 1.2 Everyone is aware of the risks affecting them. 1.3 Tasmanians are supported and empowered to manage disaster risk. 1.4 Everyone prioritises and manages risks affecting them based on evidence. 	Using the best available evidence
<p>2. Working together</p> <p>Goal: Everyone collaborates to reduce risks and prepare for disasters.</p> <p>What success looks like:</p> <ul style="list-style-type: none"> 2.1 Everyone plays their part in reducing and preparing for disaster risks. 2.2 All parties collaborate to ensure cohesive action. 2.3 All levels of government work together and with others for continual improvement. 2.4 Available resources are strategically allocated in line with risk-based priorities. 	everyone works together to

<p>3. Reducing disaster risk</p> <p>Goal: Everyone reduces disaster risk in ways that have everyday benefits.</p> <p>What success looks like:</p> <ul style="list-style-type: none"> 3.1 Land use and the development of the built environment manages long-term vulnerabilities. 3.2 Critical infrastructure and services are reliable and operational during and after disasters. 3.3 Everyone includes disaster risk reduction in everyday planning and operations. 3.4 Prioritised key industry, economic, social, natural and cultural asset protection. 	<p>reduce their disaster risks to</p>
<p>4. Being prepared for disasters</p> <p>Goal: When a disaster occurs, everyone knows what to do and can do it.</p> <p>What success looks like:</p> <ul style="list-style-type: none"> 4.1 Individuals, businesses, organisations and communities are prepared for disasters. 4.2 There are practiced plans and arrangements covering all hazards. 4.3 Tasmania’s emergency management sector can capably respond and enable relief and recovery. 4.4 Relief and recovery support facilitates long-term disaster resilience. 	<p>prepare to withstand and adapt</p>

The following sections of the paper focus on the four goals, what success looks like, the strategies to progress the goals, the current actions related to the strategies and the challenges and opportunities identified during the development of the Tasmanian Disaster Resilience Strategy.

I. Understanding disaster risk

Goal I: Understanding disaster risk - everyone understands the disaster risks affecting them.

Evidence and understanding of risks, threats and vulnerabilities must drive disaster resilience decisions and actions. Effective risk reduction and preparedness relies on robust and useful information. Many different players collect, collate and provide access to risk data for different audiences.

Individuals, households, landowners, businesses, government agencies and other organisations need to appreciate and understand the risks affecting them, and have the capacity to act on that knowledge. Everyone's understanding of risk, threats and vulnerabilities, and their engagement with and capability to address these issues, underpins disaster resilience actions.

We need to learn from our own experiences, plus the latest thinking from others nationally and internationally. The goal is that everybody understands the risks affecting them and their potential impacts based on sound evidence and acts on that knowledge. That is, there is informed risk management underpinned by everyone's awareness, capacity and engagement. This is based on:

- 1.1 useful data and research;
- 1.2 risk awareness, capacity and engagement;
- 1.3 Tasmanians being supported and empowered; and
- 1.4 informed risk management.

I.1 Useful data and research outputs

What success looks like

There is relevant, accessible and useful risk related data and research outputs.

Strategy

Improve the quality, scope, usefulness and accessibility of risk and hazard information and analysis.

The Tasmanian Government will work with others to:

- continue to fill priority data and knowledge gaps;
- improve prioritisation measures for risks, hazards and vulnerabilities across hazards; and
- continue to improve integrated access to natural disaster information.

Scope and rationale

Data needs to be fit for many purposes, regularly updated and provided in a useful form. Disaster risk assessment, prioritisation, treatments and their review rely on quality, up-to-date, practical, and accessible foundational hazard and impact data and analysis. The data is used by many groups including all levels of government, businesses and other organisations, communities, individuals and households.

Current actions related to this strategy

There are many initiatives that currently complement this strategy, with many parties already providing data for a wide range of audiences

Foundational data	Example custodians ²¹
Demographics	Australian Bureau of Statistics (ABS)
Topography	DPIPWE Bathymetry, Geological - Geoscience Australia Elevation data - state, local government and private firms Vegetation – TERN (Terrestrial Ecosystem Research Network)
Weather	Bureau of Meteorology, tide gauges - local government
Asset location/ characteristics	Housing location, Australian Bureau of Statistics (ABS), Australia Post, Public sector agencies, local governments, private firms, critical infrastructure services DPIPWE
Hazard data	
Flood/ Bushfire/ Landslide mapping Coastal Hazards, Man-made hazards	Emergency response agencies, local government, private firms Wind hazards - Australian building codes board, Levee mapping - local governments, private firms, researchers Flood maps - local governments, Geoscience Australia, Tasmanian Government, Insurance Council of Australia Man-made hazards – law enforcement and intelligence agency threat assessments Geological hazard mapping – Mineral Resources Tasmania
Impact data	
Costs and damage Current and future value at risk	Losses - Emergency Management Australia, Tasmanian Government, Earthquake impact assessment on critical facilities – Geoscience Australia Insured losses - industry bodies, insurers, Tasmanian Risk Management Fund

²¹ Derived from Deloitte Access Economics, [Building an open platform for natural disaster resilience decisions](#), 2014, pp34-36

	<p>Climate change risk assessments – eg Climate Futures Report</p> <p>Post event health data – Tasmanian Department of Health</p> <p>Impact on livelihood- Centrelink</p> <p>Essential services impact- Private firms, Government Business Enterprises, State Growth, research bodies</p> <p>Tasmanian Government agencies and local governments capture Impact and Damage Assessment data after an event</p> <p>Calls for assistance data, displaced population data, insurance claims locality data, social media measures, self-reported damage assessments</p>
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Internationally and nationally

- UNDRR initiatives, for example, international assessments of risk.
- [National Emergency Risk Assessment Guidelines](#) aligned with AS/NZS ISO 31000 (2018).
- Natural hazard, impact and risk assessments by [Geoscience Australia](#).
- Emergency Management LINK (EM-LINK) for geospatial regional data (Australian Government Department of Home Affairs).
- Australian Government Department of Health publications, for example, [Environmental Health Risk Assessment and Exposure Factor Guide](#).
- Australian law enforcement and intelligence agencies terrorism threat assessments.
- [Australian Cyber Security Centre](#) (ACSC) in the Australian Signals Directorate collaborates with the private and public sector to share information on threats.
- 2010 Australian Government declaration of open government, open data standards.
- [National Monitoring and Evaluation Framework](#) (2016).
- [National Exposure Information System](#) (NEXIS) (GeoScience Australia).
- [Australian Vulnerability Profile](#) (Emergency Management Australia/ National Resilience Taskforce/ CSIRO 2019).
- [Bushfire and Natural Hazard Co-operative Research Centre](#).
- [National Climate Change Adaptation Research Facility](#) and [Climate Futures project](#).
- [Terrestrial Ecosystem Research Network \(TERN\)](#).
- Other Australian Government research capabilities, for example, the [Bureau of Meteorology](#), [Australian Cyber Security Centre](#).
- Australasian Fire and Emergency Services Authorities Council (AFAC) reports, for example, [Climate Change and the Emergency Management Sector](#).
- Insurance Council of Australia programs, such as [Building resilience](#) property risk assessment.
- <https://www.healthmap.org/en/> to track and inform about global health issues such as emergent pandemics (Boston Children’s Hospital).

- University of Tasmania and other Australian research institutions' relevant research.
- External industry group research and reports, for example, the [Business Roundtable](#).
- [PreventionWeb](#) - international platform for disaster risk reduction knowledge sharing.

Tasmania

- [Tasmanian State Natural Risk Assessment](#) (TSNDRA) 2016 plus Risk Treatment Plans covering pandemic and heatwaves as well as other natural disasters.
- Land Information System Tasmania (LISTMap)/ Common Operating Platform (COP) – web based mapping application with aggregated spatial data supporting all aspects of the PPRR spectrum (DPIPWE).
- DPIPWE's [Bushfire Risk Assessment Model](#) (BRAM) - conducted annually.
- TFS annual dynamic risk assessment modelling and relative risk modelling by the Bushfire Risk Unit, to inform [Fire Protection Plans](#) covering all areas of the State.
- The [Tasmanian Climate Action Plan 2017-2021](#) - Work is underway to understand interdependencies between natural hazards and their causes, including climate change. Through this Plan, the Tasmanian Government supports the activities of the National Climate Change Centre.
- [Climate Futures](#) reports (Antarctic Climate and Ecosystems Cooperative Research Centre).
- Tsunami risk assessment, [Coastal Hazards Report](#) and related work underway by SES/ DPAC's Tasmanian Climate Change Office (TCCO) on taking a statewide approach to managing coastal hazard issues.
- DPIPWE's [Biosecurity Tasmania](#) ongoing risk assessments.
- [Tasmanian Landslide Map Series](#) (Mineral Resources Tasmania).
- [Geological Hazards in Tasmania](#) (Mineral Resources Tasmania).
- Tasmanian Flood Map Project – LIDAR Capture.
- [Flood Plain Risk Assessment Guidelines](#) (SES 2016) and NPA funded local flood plain mapping projects 2016-2018, Establishment of Flood Policy Unit 2018.
- [Communicable Diseases Prevention Unit](#) within Public Health Services' surveillance and investigation of notifiable diseases and emerging threats.
- Coordination of the statewide immunisation strategy by Public Health Services.
- Public Health Services' environmental health risk assessment and management including water quality monitoring and programs for waste management, surveillance of food borne illness.
- Tasmania Police's [Special Response and Counter Terrorism Command](#) research and policy advice on counter-terrorism security issues.
- Internal Tasmanian Government capabilities in DPAC, DPIPWE, DPFEM and DoH to assess specific areas of risk and SES's role in overseeing statewide risk assessments and treatment plans plus associated skills and expertise.

Challenges and opportunities

Issues identified during the development of the draft Strategy included the following.

- There are some data gaps, for example, mapping of flood risks and bushfire risk zones (underway) and historic impact data.
- There is scope to further consider emerging risks and risks associated with co-incident or compounding risks.
- Dissemination of data in easy to use formats could be enhanced.
- It is important to ensure disaster impact data is consistent, reliable and useful.
- Impact data analysis capacity within government is challenging for extended or widespread events.
- Intellectual property rights need consideration if private sector is further engaged.
- Effective capture and use of local and Aboriginal knowledge could be enhanced.
- Multiple agencies facilitate information on some hazards. For example, air quality monitoring and advice involves BoM, DPIPWE's Environment Protection Authority, DoH's Public Health and DPFEM's TFS. Arrangements may not be sustainable over longer periods.

Ideas identified during the development of the Strategy included the following.

- Extend 2020 Tasmanian State Disaster Risk Assessment to other hazards as resources allow.
- Continue to enhance and extend LISTMap / COP/ Geographic Information System (GIS) to enable more integrated and easier access to geographical risk data.
- Develop a disaster risk data sharing and access policy.
- Explore decision support tools.
- Further define and clarify impact and damage assessment processes.
- Further explore potential emerging risks and their impacts. This may include policy or governance issues as well as research and data analysis.

1.2 Risk awareness, capacity and engagement

What success looks like

Everyone is aware of and understands the risks affecting them.

Strategy

Enable and encourage Tasmanians to access and use risk and hazard information and support.

The Tasmanian Government will work with others to:

- improve the accessibility of risk data and analysis for non-specialists and their diverse needs;
- link local risk information to practical guidance on how to manage risks and prepare; and
- promote risk awareness in ways that suit individual, community and group diverse needs.

Scope and rationale

While many Tasmanians are resilient, a common issue raised during consultation was that many people lack awareness of the disaster risks affecting them, including climate change risks. For example, people may purchase property without understanding the historic or emerging risks associated with that property. Disaster resilience relies on shared and defined responsibilities in managing disaster risks and preparing for disasters.

Often those with experience of a significant disaster event have much greater awareness of risks and threats, and are more likely to take measures to reduce their vulnerability. Ideally, people should be able to gain awareness of potential disaster consequences without the negative experience.

Risk awareness, capacity and engagement includes:

- access to practical and fit-for-purpose information meeting the diverse needs of non-specialist individuals and groups;
- public awareness campaigns;
- inclusion of risk awareness in school education and professional training; and
- local and cross sectoral collaboration to help disseminate risk information.

Current actions related to this strategy

- [UN International Day for Disaster Reduction](#) (13 October).
- National Security website including the National Terrorism Threat Advisory System and guidance.
- The [Australian Cyber Security Centre](#) (ACSC) aims to raise awareness of cyber security. For example [Stay Smart Online](#) is aimed at the broader community.
- Australian Prudential Regulation Authority (APRA), [Climate Change: Awareness to action](#) (2019).
- www.iplan.tas.gov.au – maps hazard such as bushfires, landslides and coastal erosion.
- Hazard specific public awareness campaigns, for example, TFS's annual bushfire preparedness, SES and BOM extreme weather events, Public Health information, TasALERT Get Ready pages.
- Red Cross programs, such as RediPlan and the Get Prepared app, promote 'identify your risks' and disaster resilience workshops for community service organisations.
- Land Tasmania natural values and land use risk register.

- Councils take measures to inform ratepayers of disaster risks. For example, some councils include hazard information on rates notices.
- Visitor information support measures such as brochures and other information for travellers during bushfire events, and Visitor Information Centre staff training.

Children and school education

- [Disaster Resilient Australia – New Zealand School Education Network](#) (DRANZSEN).
- The Australian Council of State Emergency Service’s [Li'l Iarrikins natural hazards program](#).
- [Building best practice in child-centred risk reduction](#) (Bushfires & Natural Hazards CRC).
- Tasmanian Disaster Resilience Education Tasmania curriculum resources for grades 5-8.
- TFS’s [Disaster resilient school fire safety education programs](#)

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- There is uneven understanding of disaster risks and application of that knowledge. While many underestimate risks, there can also be unreasonable fears that need to be managed.
- There is a need to ensure clear and consistent messaging across services.
- There is scope to expand or better disseminate risk awareness programs or school curriculum resources focused on youth.
- There are many competing pressures on the school curriculum.
- There is scope to improve the accessibility of hazard/ risk data available on the LIST.
- People new to Tasmania and travelers often lack awareness of local disaster risks.

Ideas identified during the development of the Strategy included the following.

- Further embed disaster safety, risk reduction and preparedness in the Tasmanian School Curriculum through learning resources that support core educational outcomes such as literacy, numeracy, science and/or history.
- Develop focused awareness and engagement campaigns on youth who tend to lack experience of disaster events and efforts can have greater long-term benefits.
- Explore ways to engage with youth before, during and after disaster events to help harness their knowledge and skills for everybody’s benefit.
- Enable collaborative networks and governance to facilitate integrated, clear and consistent messaging to support public awareness of disaster risks.
- Implement and extend the ‘Risk Ready’ initiative/ extend the LIST Premium Property Report to cover hazards/ extend usage of izone.tas.gov.au to enable easier access to property specific risk data.
- Consider further models to highlight risk exposures to property buyers and renters, for example the Victorian inclusion of risk information on vendor statements.
- Provide information for tourists, overseas students and migrants in languages other than English.

- Promote great examples of risk reduction and preparedness.
- Consider using internal Tasmanian Government staff information mechanisms to disseminate information about disaster risk reduction and preparedness cost effectively. Pursue opportunities to encourage other large employers or industry groups to do likewise.
- Use broader established communications networks where possible to disseminate preparedness information, for example community service provider client networks.
- Find ways to use stories of past local disaster events and their impacts and the implications of good or poor preparedness to raise awareness of risks and engage communities in planning.
- British Columbia has a “ShakeOut day” where individuals, communities and businesses run earthquake drills to help prepare and identify areas for risk mitigation. This could be explored as a model for other hazards in Tasmania.

I.3 Tasmanians are supported and empowered

What success looks like

Tasmanians are supported and empowered to manage disaster risks.

Strategy to achieve the vision

Enable inclusive community capacity building programs across all hazards to suit local and individual needs.

The Tasmanian Government will work with others to:

- facilitate inclusive policies and programs based on community engagement, awareness and local or individual needs to ensure broad understanding of disaster risks and risk management across all hazards.

Scope and rationale

Tasmanians need the skills and knowledge to manage risks relevant to them. This includes:

- building everybody’s risk awareness and risk reduction knowledge and skills through inclusive policies to suit specific needs and address individual and local community vulnerability, capacity and exposure to risk;
- incorporating disaster risk awareness and risk management knowledge into formal and non-formal education, professional development and other training; and
- applying risk information to reducing disaster risks and preparedness.

This recognises that many Tasmanians have specific needs, for example language or literacy issues, mobility or other health issues, as well as local risk factors.

Community awareness and understanding of risks, and the capacity to act upon that knowledge was a major theme during early strategy consultations.

Local councils directly support their communities through a variety of measures, but also welcome support to enable these activities.

Current actions related to this strategy

Local councils and communities

- UNDRR [My city is getting ready](#) program for urban councils.
- [100 Resilient Cities program](#) initiated by the Rockefeller Foundation to assist cities worldwide to become more resilient.
- [AIDR National Resilience Handbook Collection](#).
- Funding mechanisms for local government through NPA initiatives.

Businesses and organisations

- Australian Government [Good Business Guide: Organisational Resilience](#) (2016).
- Australian Government [Risky Business - a resource to help local governments manage environmental health risks](#) (2012).
- Business and enterprise support such as:
 - State Growth's Business Tasmania workshops and online information resources;
 - DPIPWE's biosecurity planning support; and
 - DPIPWE Agrigrowth support for farms.

Individuals, households and landowners

- Not for profit support initiatives such as Red Cross RediPlan accessible via [TasALERT](#) and the [Get Prepared app for households](#).
- Local councils coordinate significant community resilience building activities, such as property preparation workshops, community forums and field days.
- *People at Increased Risk in an Emergency: a guide for government and non-government community service providers* offers strategies for organisations and individuals to work together to reduce the impact on people who are less able to prepare for, respond to or recover from emergencies.

Community

- TFS's Bushfire Ready Neighbourhoods program.
- JFlip program – a juvenile arson prevention initiative program initiated from court orders.
- Project Wakeup – facilitating fire alert systems for hearing impaired, infirm and others.
- Building community resilience in relation to floods projects (2014-16).
- Many councils provide emergency advice and support for residents, for example, the Hobart City Council.

- Red Cross initiatives such as Disaster Ready workshops for community organisations and the Climate Ready community guide. Red Cross has worked with local councils and other agencies to build resilience. For example, it provides all-hazard household preparedness content at local TFS Bushfire Ready Neighbourhood community forums.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- There is uneven community awareness and perceptions of risk.
- Tasmanian community demographic factors impact on individual and collective vulnerabilities. Such factors include an aging population, literacy levels, educational attainment, social engagement or isolation, employment levels, access to health, transport and other services.
- Reducing risks and preparing a property against disasters can be strenuous and need specialist equipment. Hiring someone can be expensive. This can mean those on low incomes or with a disability can find it difficult to reduce risks around their home.
- While there are current programs focusing on primary aged school students, there are fewer education programs for high school and college students.
- Like many organisations, the understanding/ awareness of disaster risks across all Government agencies can be improved.
- There is scope to leverage government and non-government community-based organisations as conduits into local communities, particularly in rural and remote areas.
- Many existing government programs focus on single hazards. An all hazards approach should sit alongside hazard specific programs where relevant.

Ideas identified during the development of the Strategy included the following.

- Consider extending current hazard specific community engagement and hazard awareness programs to other hazards.
- Further promote available tools and resources.
- Consider mechanisms to include disaster resilience considerations in support programs for people with specific needs.
- Promote programs for practical risk reduction and preparedness assistance for people on low incomes.
- Consider measures to ensure emergency management programs meet diverse or specific needs, for example literacy, mobility or health vulnerabilities.
- Consider partnerships with government and non-government community-based organisations to facilitate delivery of or awareness of disaster resilience related information and services.

1.4 Informed risk management

What success looks like

Everyone prioritises and manages risks affecting them based on evidence.

Strategy

Encourage and enable all parties to reduce their risks and vulnerabilities based on sound evidence and clear priorities.

The Tasmanian Government will work with others to:

- Ensure decision-makers have access to relevant risk information to inform decision making;
- Support councils to manage local risks through local plans, activities and policies.

Scope and rationale

Tasmanians need to manage risks relevant to them through understanding available data and other evidence. This includes:

- building everybody's risk awareness and risk reduction knowledge through inclusive policies to suit specific needs and address people's vulnerability, capacity and exposure to risk;
- incorporating disaster risk awareness and risk management knowledge into formal and non-formal education, professional development and other training;
- applying risk information to reduce disaster risks; and
- local collaboration to help disseminate risk information.

Community awareness and understanding of risks, and the capacity and willingness to act upon that knowledge was a major theme during strategy consultations.



Current actions related to this strategy

In addition to initiatives already mentioned:

- SES, regional and municipal risk treatment plans, [Tasmanian Emergency Risks Assessment Guidelines](#) (TERAG) 2017.
- Tasmanian [Climate Change Action Plan](#) and Australian Government [Climate Compass](#).
- [Australia's Strategy for Protecting Crowded Places from Terrorism](#) (Australian Government).
- [AustCyber](#) aims to support the development of a vibrant and globally competitive Australian cyber security sector.
- Tasmanian Government agency risk management plans.

- Many Tasmanian businesses and other organisations, households and individuals actively manage disaster risks affecting them.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- All parties need to ensure risk treatment plans are not siloed or uneven across local areas and sectors.
- Capability and capacity to include cybersecurity as a component of risk management can be improved in many organisations.
- While local councils have considerable disaster risk management and preparedness responsibilities, they face resourcing challenges and competing priorities.
- There are complexities in assessing priorities across hazards.

Ideas identified during the development of the Strategy included the following.

- Explore decision support tools for risk treatment planning.
- Extend hazard specific models for community education to other hazards.
- Further encourage Tasmanian small businesses to actively manage disaster risk.
- Explore and pursue measures to address risks raised by the *Climate Futures* report.

"During disasters when the available emergency service response is overwhelmed, it will be the effectiveness of risk reduction measures and individual, household and community resilience which will determine the community impact and ability to not only bounce back, but progress forward."

- AFAC Strategic Directions 2017-2021 p 5

2. Working together

Goal 2: Working together - everyone plays their part in reducing and preparing for disaster risks.

Disaster resilience actions operate in a complex and rich environment that includes many different players. The goal is that there are shared responsibilities, collaborative networks and governance enabling strategic resource use. In such an environment, it is critical that:

- 2.1 everyone plays their part in reducing and preparing for disaster risks. All parties have clearly understood and agreed accountabilities across all sectors and levels;
- 2.2 all parties collaborate to ensure cohesive action;
- 2.3 all levels of government work together and with each other for continual improvement; and
- 2.4 available resources are strategically allocated in line with risk-based priorities.

Governance is a complex but key issue for disaster resilience²². All parties need to be consulted and not just informed, with an emphasis on working with rather than providing services to people.

There is a need for a new focus on shared responsibility; one where political leaders, governments, business and community leaders, and the not-for-profit sector all adopt increased or improved emergency management and advisory roles, and contribute to achieving integrated and coordinated disaster resilience.

In turn, communities, individuals and households need to take greater responsibility for their own safety and act on information, advice and other cues provided before, during and after a disaster.

- National Strategy for Disaster Resilience 2011 page 2

"Disaster resilience is the collective responsibility of all sectors of society, including all levels of government, business, the non-government sector, and individuals."

- COAG National Strategy for Resilience Statement 2009

2.1 Sharing responsibilities

What success looks like

Everyone plays their part in reducing and preparing for disaster risks.

Strategy

Ensure there are agreed shared roles and responsibilities across all sectors.

The Tasmanian Government will work with others to:

²² UNISDR, [Governance in Disaster Risk Management](#) AIRDR Project Report No 3 2014

- clarify and communicate responsibilities for individuals, landowners, businesses and other organisations to reduce risks and be prepared for disasters; and
- clarify responsibilities regarding slow onset disasters.

Scope and rationale

Everyone contributes to Tasmania's disaster resilience for individual and collective benefits including:

- individuals and households;
- businesses and other organisations;
- communities;
- NGOs; and
- governments at all levels and across all sectors.

Disaster resilience relies on individuals, households, businesses and other organisations understanding and acting on risks that affect them and their communities.

Sharing responsibilities is an ongoing collaborative process, rather than a defined or definite end point²³. While the vision of shared responsibility is a common vision in Australia, in practice when it comes to sharing responsibility there are diverse, overlapping and interacting challenges.

Disaster resilience actions operate in a complex environment with many players. In such an environment, it is critical that all parties have understood and agreed accountabilities²⁴.

Responsibilities include facets such as obligation, accountability, trustworthiness and causality. If these responsibilities are inadequately agreed and understood, various parties are blamed for not meeting their assumed responsibilities. While detailed consideration of disaster resilience responsibilities includes issues such as the contractual relationship between the state and its citizens, multiple interpretations of responsibilities and the relationship between rights and responsibilities, in practice questions of resilience can usefully consider the following:

- In a catastrophic disaster, it is unlikely the EM sector will have the capacity to be everywhere for everyone, no matter how well resourced and capable. What should people do to ensure their individual and collective safety and minimise potential loss beforehand?
- The EM sector has clear responsibilities across the PPRR spectrum. To what degree should individuals have the right to expect the EM sector to respond to disaster impacts that were caused or exacerbated by poor decisions or a lack of action on their part?

Current actions related to this strategy

All levels of government have disaster resilience obligations, as outlined in the:

- [National Partnership Agreement for Natural Disaster Resilience](#) (2017) to implement the NSDR;
- Australian Government's [Critical Infrastructure Strategy](#) (2015); and
- [National Climate Resilience and Adaptation Strategy](#) (2015).

²³ McLennan B and Handmer J, [Sharing responsibility in Australian Disaster Management](#), RMIT University 2014

²⁴ Ibid

The [*Principles for the consideration of natural hazards*](#) (2013) outline key responsibilities, namely:

- private natural hazard risks are the responsibility of individuals and business;
- governments encourage public and private risks to be factored into investment decisions;
- governments can support individuals to understand and manage private risks and how those risks may change in future;
- governments should ensure that private investment minimises unacceptable public risk; and
- governments should avoid investment, regulation, zoning, or policy that gives rise to unacceptable public or private risks.

The TEMA specifies key accountabilities within government. For example, Regional Emergency Management Committees (REMCs) and Municipal Emergency Management Committees (MEMCs) are responsible for researching, assessing and acting on regional and local risks respectively. State Special Emergency Management Plans (SSEMPs) cover responsibilities, accountabilities and governance structures in relation to specific hazards.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- Many Tasmanians can do more to actively reduce risks and are prepared for disasters.
- Responsibilities for disaster resilience within and beyond government can be more clearly defined.

Ideas identified during the development of the Strategy included the following.

- Collaboratively clarify responsibilities through TEMA, SSEMPs, the disaster resilience strategy and other means as needed.
- Consider related public awareness and community engagement campaigns.
- Clarify responsibilities around disaster clean up, for example, debris and carcasses in river systems, limitations of responsibilities around asbestos removal or soil remediation and rights eg gravel and stone removal post floods.

2.2 Collaborative networks and governance

What success looks like

All parties collaborate to ensure cohesive action.

Strategy to achieve the vision

Facilitate and support collaborative cross-sector networks and governance structures.

The Tasmanian Government will work with others to:

- renew and maintain effective committees and other collaborative networks across sectors and levels of government to facilitate continual improvement; and

- encourage private/ public partnerships for community disaster resilience benefits.

Scope and rationale

Disaster governance is itself a potential path for risk reduction. Weak governance structures are a risk driver²⁵. Governance needs to account for the complex disaster resilience stakeholder context and be inclusive, cooperative and flexible²⁶. Collaborative networks including not-for-profit, community and industry organisations enable cohesive action.

NGOs play an important role in relief and recovery. Some also provide practical guidance and support to help people with diverse needs to prepare.

Disaster risk reduction and other resilience actions must include businesses as private investment largely determines disaster risk. The private sector accounts for between 70% to 85% of overall investment in most economies²⁷. Land use, building and other infrastructure spending, supply chain resilience and other factors determined by the private sector can shape overall community disaster resilience. Disaster resilience also provides value to businesses by:

- ensuring business continuity, competitiveness and sustainability;
- supporting a stable environment by reducing social and economic vulnerability;
- protecting employees and their communities; and
- safeguarding long-term investments²⁸.

Current actions related to this strategy

Current national and state government disaster resilience responsibilities reflect those for disaster response and recovery, as outlined in the TEMA. The SEMC's subcommittee structures aim to enable a holistic approach where all parties accept their role in EM as well as their responsibilities in mitigating risk. Other parties are engaged via REMCs and MEMCs. There are other related governance structures not linked with the SEMC, such as the Climate Change Interdepartmental Committee. Under the [Fire Service Act 1979](#), the State Fire Management Council and associated Fire Management Area Committees oversee fire related disaster resilience plans and actions.

Non-government entities such as NGO community partners and critical infrastructure providers are included via REMCs, MEMCs, Social Recovery Committees, Critical Infrastructure Committees, the Recovery Partners Network and other structures.

The [Joint Cyber Security Centre \(JCSC\) program](#) enhances collaboration between business, government, academia and others on cyber security.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- Current SEMC governance reflects previous national and international policy priorities and structures.

²⁵ <https://www.preventionweb.net/risk/weak-governance>

²⁶ Ibid

²⁷ UNISDR [Disaster Risk Reduction Private Sector Partnership: Post 2015 Framework - Private Sector Blueprint](#) 2015

²⁸ Ibid

- Some connections between SEMC and related governance structures could be clearer.
- There is scope to further develop SEMC's cybersecurity governance capabilities.
- There are some gaps in representation within current collaborative networks and some current collaborative networks and governance structures have scope to improve the meaningful engagement of their members.

Ideas identified during the development of the Strategy included the following.

- Renew SEMC subcommittees and working groups to provide strategic oversight and expert advice on disaster resilience for specific outcomes;
- Facilitate strengthened collaborative networks with the private sector, NGOs and other partners.

Resilience in the face of natural disasters... is often held as a defining Australian characteristic... However, decisions and choices made throughout history about where communities and infrastructure are placed, and our increasing reliance on systems, have inadvertently contributed to an erosion of resilience.

Resilience is not a given, especially in a rapidly changing natural environment...Against this backdrop, catastrophic consequences from natural hazards intersecting with societies are not only possible but are highly plausible, and their effects will likely exceed the capacity of the nation. The consequential damage, loss and suffering would be immense and enduring.

- Australian Government, National Resilience Taskforce, Profiling Australia's Vulnerability 2018 page 9

2.3 Governments working together

What success looks like

All levels of government work together and with others for continual improvement.

Strategy

Tasmanian, Australian and local governments collaborate to facilitate national, state and local disaster resilience continual improvements.

The Tasmanian Government will work with others to:

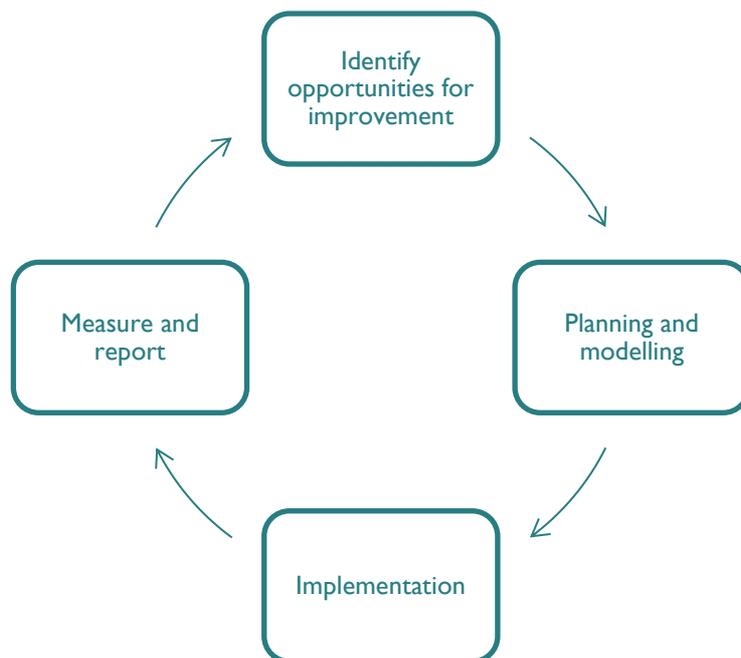
- contribute to local, national and international strategic directions and initiatives;
- support local councils in managing risks, disaster preparation and recovery; and
- enable continuous improvement mechanisms and reporting on disaster resilience actions and outcomes.

Scope and rationale

Disaster resilience relies on collaboration within and between governments. While recognising that external to government parties also need to be included and consulted, the complexities of the operating environment mean that relationships and collaboration between government organisations can have a significant impact.

All levels of government are responsible for providing strategic leadership and ensuring all parties work together for continual improvement. They need to:

- assess technical, financial and administrative disaster risk management capacity;
- enable incentives and mechanisms to ensure compliance with relevant safety laws and regulations, for example, building codes, resource management, and health and safety standards, and to ensure relevant laws and regulations address disaster risk reduction; and
- assess and publicly report on progress against plans, and promote wide review and consideration of disaster risk resilience actions, including by parliamentarians, to:
 - ensure wide appropriate engagement in disaster resilience as well as disaster response and recovery; and
 - assist the robustness of disaster risk reduction and preparedness plans²⁹.



While there are key and complex relationships between government agencies and all levels of government, the public sector does not operate in isolation. Governments aim to work in partnership with other key stakeholders such as local communities, community and not-for-profit groups plus businesses and industry groups. The involvement of all parties, including government and non-government players, is covered in 3.2: All parties collaborate to ensure cohesive action.

Current arrangements related to this strategy

Nationally, disaster resilience actions are overseen by the Australian Government Department of Home Affairs. The National Sendai Framework Working Group (Tasmania is represented by the SES) reports to ANZEMC while the Ministerial Council for Police and Emergency Management (MCPEM) provides ministerial oversight. Other relevant groups include:

- Australia New Zealand Counter Terrorism Committee (ANZCTC);
- Australian Government Disaster and Climate Change Resilience Reference Group;
- [AFAC National Council for Fire and Emergency Services](#);
- [Australian Business Roundtable for Disaster Resilience and Community Safety](#); and
- The National Cyber Security Committee.

²⁹ UNDRR Sendai Framework for Disaster Risk Reduction

Tasmania is represented on most of these groups.

The National Audit Office produces productivity reports and audits, for example [Administration of the Natural Disaster Relief and Recovery Arrangements by Emergency Management Australia](#) (2015) and [The management of risk by public sector entities](#) (2017).

The Local Government Association of Tasmania (LGAT) and representatives of local councils are included and consulted on Tasmanian Government led disaster resilience committees and initiatives.

DPFEM is currently reviewing the *Fire Service Act 1979*.

Challenges and opportunities

Across jurisdictions, disaster risk governance traditionally has been:

- fragmented across levels of government and lacked cohesion; and
- viewed through the lens of emergency management departments, often with little interaction with other government organisations and the private sector³⁰.

Ideas identified during the development of the Strategy included the following.

- Consider implementing and supporting continual improvement mechanisms.
- Continue contributing to specific national networks, strategies and initiatives.
- Facilitate Tasmanian non-government input into specific relevant national disaster resilience frameworks.
- Better identify local currently untapped resources to reduce the need to call on other jurisdictions or external bodies (eg tents, catering).
- Clarify NDSR/ NDRRF local responsibilities.

2.4 Strategic allocation of resources

What success looks like

Available resources are strategically allocated in line with risk based priorities.

Strategy to achieve the vision

Encourage risk reduction investment, insurance uptake and other means to reduce risk exposure and maximise broad benefits.

The Tasmanian Government will work with others to:

- ensure project governance and oversight across funding pools enables clear outcome realisation and best use of resources;
- continue to encourage uptake of insurance; and
- continue to consider disaster risks in major investment decisions.

³⁰ UNISDR, [Governance in Disaster Risk Management](#) AIRDR Project Report No 3 2014

Scope and rationale

Appropriate allocation of available resources is key to disaster risk reduction. This includes:

- resourcing and administering disaster risk reduction and preparedness strategies, policies, plan implementation as well as development;
- promoting insurance, risk sharing and financial protection through private and public sector investments. Although there are households without the capacity for insurance, increased uptake of relevant insurance across the community has benefits for the whole community as well as specific individuals affected; and
- strengthening public and private sector investment in disaster risk reduction particularly for key infrastructure such as hospitals and schools.

Current actions related to this strategy

- Risk management initiatives within the Tasmanian Government and other organisations.
- National Partnership Agreement and linked state grants programs, other SES programs.
- Insurance schemes and awareness programs.
- Tasmanian Risk Management Fund to minimise natural disaster risk costs to government through efficient self-insurance arrangements.
- Tasmanian Government external catastrophe insurance for property losses to government-owned assets exceeding \$5.25 million.
- Australian Government's Australian Reinsurance Pool Corporation terrorism reinsurance.

In addition to NPA co-funding for disaster resilience actions, Tasmanian government agencies and local government allocate resources to risk reduction as part of normal operations. For example:

- DoE's Facilities Services covers disaster risk management. All schools and other public facilities also have evacuation and emergency response procedures;
- Health facilities development and maintenance programs take disaster resilience into consideration within resourcing constraints;
- State Growth and Tasmanian local councils build key infrastructure to recognised standards to withstand potential disasters;
- Most Tasmanian Government agencies have emergency management officers focusing on aspects of the PPRR spectrum relevant to that department and/or risk management officers.

Dedicated departmental resourcing for disaster resilience helps ensure resources are not diverted by other immediate or pressing needs.

The [Tasmanian Climate Action Plan 2017-2021](#) outlines measures to help reduce climate change drivers in line with the *United Nations Framework Convention on Climate Change (Paris Agreement)*. As well as outlining response measures to enhance capacity to withstand and recover from extreme weather events and growing a climate-ready economy, the Plan focuses risk reduction measures to help implement the Paris Agreement locally.

Tasmanian Government [Structured Infrastructure Investment Review Process \(SIIRP\)](#) includes a general risk assessment component.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- There is a risk of uneven allocation of resourcing against risk priorities and limited outcomes focus, with decisions often reactive to recent disasters.
- Cost benefit justifications for risk reduction are complex.
- There is limited uptake of insurance and underinsurance. Some households do not have available resources for insurance.
- The consideration of disaster risks in Tasmanian Government financial and fiscal instruments is in the context of other drivers.
- Insurance for existing buildings in high risk areas, for example flood plains, involves complex issues.

Ideas identified during the development of the Strategy included the following.

- Consider developing a resilience and mitigation investment framework, for example, similar to Queensland's Framework.
- Review the grants selection processes as part of new NPA funding arrangements to ensure prioritisation against risk assessments and other criteria and enable efficiencies in project selection and project oversight.
- Specific measures to ensure major State Government projects include reasonable and practical steps to reduce disaster losses.
- Insurance uptake encouragement programs.
- Consider measures to improve access for Tasmanians on low incomes to access affordable house and contents insurance products (eg [Good Shepherd Microfinance](#)).
- Liaise with the insurance industry to explore measures that encourage disaster resilience.

3. Reducing disaster risk

Goal 3: Reducing disaster risk - everyone reduces disaster risks in ways that have everyday benefits.

Reducing risk is the core of disaster resilience. When governments, businesses, households and individuals reduce risks there are direct benefits even if a disaster does not occur³¹. Disaster risk reduction measures underpin economic confidence and growth for individuals and businesses. In summary, it makes good business sense to reduce risk where possible.

Risk reduction can include engineering or construction ('grey measures') and also 'green' or nature-based solutions³². In many cases risk reduction measures are best embedded in normal everyday plans and operations for households, businesses and other organisations. The goal is to include disaster risk reduction in normal activities and enable broader or everyday benefits where possible. This includes:

- 3.1 land use and the development of the built environment helping to minimise long-term vulnerabilities;
- 3.2 critical infrastructure and services are operational and as reliable as possible during and after disasters;
- 3.3 everybody includes disaster reduction in everyday planning and operations; and
- 3.4 prioritising key industry, economic, social, natural and cultural asset protection.

Example: Launceston Flood levee upgrade

Cost of improved levees to withstand 1:200 year flood:	\$58 million over 5 years
Avoided losses:	\$157.6 million
2016 floods:	1:50-100 year flood (estimated)
Estimated savings due to levee from this one event:	\$216 million

Co-benefits of the levees

Benefits of the levees outweigh the cost of the project fourfold even excluding social impacts from more widespread damage had the levees not been completed such as:

- Functional linkage for city (pathways along the river)
- Flow on tourism
- Community use of waterfront space likely also to increase investor confidence in Launceston.

Deloitte Access Economics, [Building Resilience to natural Disasters in our States and Territories](#)
Australian Business Round Table for Disaster Resilience and Safer Communities 2017, p34

³¹ as outlined in Part B, section 4.1.

³² Swiss NGO DRR Platform, [From grey to green: Nature based solutions for disaster risk reduction and resilience building](#).

Levees are only one measure to reduce flood risk and should not be used in isolation. The Launceston City Council and the SES have organised a range of other risk reduction and preparedness measures, such as:

- Flood markers to aid communications;
- Locally specific practical advice to residents;
- Practiced processes for evacuation standby notices;
- Local school education programs on flooding;
- Notification of flood risks to potential vendors via conveyancing documentation.

3.1 Managing disaster risk through land use, built environment development and natural resource management

What success looks like

Land use and development of the built environment manage long-term vulnerabilities.

Strategy

Address vulnerabilities through land use planning schemes, building and other regulations and natural resource management plans. This includes:

- land use planning, regional land use strategies, development controls in policy, planning schemes, and their implementation;
- building and other regulations; and
- natural resource management plans and their application.

The Tasmanian Government will work with others to:

- Develop strategic policy on managing vulnerabilities through EM experts, planners and others collaboration;
- Include risk considerations in land use and natural resource management plans, policies, strategies and use and development controls when developed or reviewed.

Rationale and scope

Decisions made about how land is used and developed can have significant positive or negative disaster resilience impacts. Governments play a significant role in enabling or disabling long-term risk reduction with policies, plans, strategies and regulations shaping land use and development. This includes:

- land use planning;
- related building and other standards; and

- natural resource management plans.

These areas are considered separately below.

Current actions related to this strategy

Land use planning

The [Resource Management and Planning System \(RMPS\)](#) includes an integrated system of laws, policies and procedures to ensure decisions about the use and development of land and natural resources in Tasmania help achieve sustainable use and development of natural and physical resources in accordance with the RMPS objectives.

The [Land Use Planning and Approvals Act 1993 \(LUPAA\)](#) is the key Act in the RMPS, along with the:

- Environmental Management and Pollution Control Act 1994 (EMPCA); and
- State Policies and Projects Act 1993.

LUPAA requirements that apply to new use and development is implemented through land use planning instruments that include:

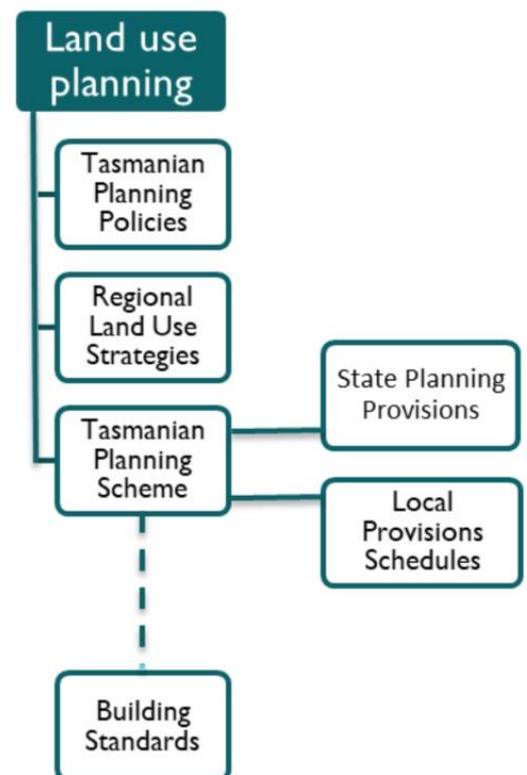
- regional land use strategies;
- existing planning schemes and the Tasmanian Planning Scheme once it becomes operational; and
- future Tasmanian Planning Policies.

The Tasmanian Planning Scheme was introduced in 2015 to deliver greater statewide consistency in the planning rules across the State. It will be one single planning scheme for the State that will replace 30 planning schemes. It includes:

- State Planning Provisions (SPPs) comprising:
 - a consistent set of statewide planning rules;
 - zone provisions that indicate what land use and development is appropriate; and
 - codes that provide clear pathways for dealing with land use issues such as natural hazards and other hazards.
- local councils' Local Provision Schedules (LPSs) that apply the SPPs at the municipal level. The LPSs are currently being prepared by local councils for each municipal area.

The Tasmanian Planning Scheme commenced in 2017. Once each LPS has been developed for each municipal area and approved by the Planning Commission, it will replace the existing planning schemes.

The [regional land use strategies](#) set the strategic planning goals for the three planning regions in Tasmania in line with legislation and the Planning Scheme. These strategies provide the linkage between the Schedule 1 objectives of LUPAA, State Policies, such as the Tasmanian Coastal Policy, that are established under the *State Policies and Projects Act 1993* and the Tasmanian Planning Policies, with the exiting planning schemes and the Tasmanian Planning Scheme. The Southern



Tasmania Regional Land Use Strategy and Cradle Coast Regional Land Use Planning Framework include policies and actions to assist in protecting people and property. The Northern Tasmania Regional Land Use Strategy also covers risk mitigation although less explicitly.

The [Tasmanian Planning Policies](#) will cover specific matters of State interest in land use planning, including strategic directions for considering natural hazards and other hazards.

Other initiatives also inform the land use planning system, for example:

- [Framework for the mitigation of risks from natural hazards through land use planning and building controls](#) (DPAC 2013);
- [Landslip hazard bands](#) (Mineral Resources Tasmania);
- [Mitigating Natural Hazards through Land Use Planning and Building Control: Coastal Hazards in Tasmania: Summary Report of Coastal Technical Hazards](#) (DPAC 2016); and
- The [Tasmanian Coastal Policy](#) (DPAC 1996).

Related disaster resilience and land use national guidelines and plans include:

- [AIDR's Handbook on Land Use Planning for Natural Hazards Handbook](#);
- Planning Institute of Australia/ Australian Government Attorney General's Department [National Land Use Planning Guidelines for Disaster Resilient Communities](#) (2015);
- ANZEMC Land Use Planning and Building Codes Taskforce [Roadmap for Enhancing Disaster Resilience in the Built Environment](#) (2012);
- Crime Prevention Through Environmental Design (CPTED) guidelines; and
- the *(draft) AFAC Flood and Severe Weather Community Safety Position* outlines measures for reducing risks associated with land use planning and building regulatory frameworks and recommends EM sector involvement in land use planning and policy.

Building standards

- [Tasmanian Building Standards and Regulations](#) include guidelines for building in hazardous areas in line with the [Building Regulations 2016](#). These are backed up by hazard specific guidelines, such as the TFS's [Building for Bushfires Guidelines](#).
- Tasmania's [Building Act 2016](#) and [Building Regulations 2016](#) cover [requirements for building in hazardous areas](#). This legislation prohibits certain works in hazardous areas (landslip, bushfire, flooding, coastal erosion and coastal inundation) unless done in accordance with the specific standards relevant to those hazards. These provisions will commence when the Tasmanian Planning Scheme comes into effect in each municipality, as hazardous areas are shown on planning scheme maps. When this occurs, the Director of Building Control will issue hazardous area determinations which will contain further restrictions and technical requirements for building in hazardous areas.
- Until the Tasmanian Planning Scheme commences in all local government areas, the building requirements for hazardous areas are covered by the [Building Act 2000](#) and [Building Regulations 2014](#).
- The Director of Building Control's Determinations outline the [requirements](#), and the [application](#) of those requirements for building in bushfire-prone areas.

- The TFS has also published [guidance information and fact sheets](#) on building for bushfire, siting and design, property access, water supply, and other hazard management issues.

Infrastructure standards

- State Growth and local councils use roads and bridges construction standards.
- There are State [Guidelines for the construction of earth-fill dams](#) (DPIPWE).

Natural resource management plans

DPIPWE oversees natural resource management. Many natural resource management plans cover disaster risk management but some do not. For example:

- the [Natural Heritage Strategy](#) includes goals relevant to disaster risk reduction;
- the [Tasmanian Wilderness World Heritage Area Management Plan](#) (2016) focuses on protection and conservation in the face of fire, biosecurity, climate change and other threats;
- the 2002 [Natural Resource Management Framework](#) does not address risk management or disaster resilience. The [Natural Resource Management Review](#) (2015) recommended the current strategy should be updated to “better reflect managing current and emerging risks to natural resources and enhancing mechanisms to prioritise and manage effort.”³³; and
- the [Tasmanian Coastal Policy](#) (DPAC 1996) specifies the need to identify hazards and minimise the need for engineering or remediation work to protect land, property or life.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- The Tasmanian Planning Scheme is currently being implemented across local government areas and should resolve many past/ current issues.
- Overarching strategic policy direction is needed on development in high risk areas and other land use planning matters as outlined in the [Framework for the mitigation of risks from natural hazards through land use planning and building controls](#) (DPAC 2013). This could be articulated in future Tasmanian Planning Policies.
- There are adaptation issues associated with high risk areas for example, landslide or coastal erosion zones.
- Compounding or coincident disaster events, for example, flooding plus storm surge plus coastal erosion should be considered.
- Building and other standards may prevent death and injury during a disaster but not enable ongoing use of key infrastructure following a disaster. For example, a road bridge may be built to avoid collapse and injuries under stress, but not be suitable for ongoing use afterwards.
- Ownership issues, for example along river systems, could be better clarified as they can impinge on effective response, relief and recovery efforts.

Ideas identified during the development of the Strategy included the following.

³³ Natural and Cultural Division, DPIPWE, [2015 NRM Review – Final report and Recommendations](#), page 8

- The Tasmanian Planning Scheme will help resolve many current issues relating to new developments once implemented.
- Ensure disaster risks are considered in the preparation of Tasmanian Planning Policies, State Policies and strategies and plans through involving EM experts.
- Consider how best to enforce existing regulations to ensure compliance.

“Development for housing, employment, community service, and essential infrastructure purposes should generally be restricted to locations where the level of risk is low or where it is reasonable to take measures which can avoid, mitigate or manage to provide a low level of risk.”

- Cradle Coast Regional Land Use Strategy 2010 – 2030

“Avoid locating land designated for housing, industry, community and infrastructure services within or adjacent to areas which are vulnerable to an unacceptable level of risk, including coastal inundation, landslip, flooding or contaminated land.”

- Northern Tasmania Regional Land Use Strategy

“Land use planning, which takes into account hazards and risks, has been identified as the single most important mitigation measure in preventing future disaster losses in areas of new development. Effective land use planning is therefore a critical component of any strategy to reduce exposure to natural disasters in the medium to long term.”

- Southern Tasmania Regional Land Use Strategy 2010–2035

3.2 Critical infrastructure and services

What success looks like

Critical infrastructure / services (CI&S) are operational and as reliable as possible during and after disasters.

Strategy

Enhance collaboration to manage vulnerabilities related to critical infrastructure and services.

The Tasmanian Government will work with others to:

- further define Tasmania’s vital functions, critical services and infrastructure;
- collaborate to address vulnerabilities and local participation in national initiatives;
- support CI&S providers to enhance their physical and organisational resilience; and
- continue to develop Tasmania’s health services resilience.

Scope and rationale

As agreed by national and state governments in Australia, critical infrastructure includes “those physical facilities, supply chains, information technologies and communication networks which, if destroyed, would significantly impact on the social well-being of the nation or affect Australia’s

ability to conduct national defence or security”³⁴. The Australian Government’s [Critical Infrastructure Resilience Strategy](#) defines critical infrastructure as:

- energy – power and fuel supply;
- water and sanitation;
- telecommunications;
- transport infrastructure and services, including ports, airports and public information systems as well as road/ rail infrastructure;
- food supply chains;
- health facilities and services; and
- banking and finance.

Some jurisdictions include other vital functions, such as data centres, police and emergency services/ infrastructure through a whole of jurisdictional business continuity approach.

Current actions related to this strategy

- [National Security of Critical Infrastructure Act \(2018\)](#).
- The [Trusted Information Sharing Network](#) (TISN) is overseen by the Critical Infrastructure Advisory Council (CIAC) and enables business and government to share information.
- The Australian Government’s [Critical Infrastructure Resilience Strategy](#) is based on business-government partnerships to enable critical infrastructure owners and operators to manage their own risks.
- The Australian Government’s [Critical Infrastructure Centre](#) works across all levels of government and owners/ operators to identify and manage risks to critical infrastructure.
- The [Infrastructure Sustainability Council of Australia](#) (ISCA) has an infrastructure rating tool (v 2 2018) which supports critical infrastructure disaster resilience.
- Critical infrastructure suppliers coordinate their own risk management and disaster plans.
- Infrastructure Australia’s [Australian Infrastructure Plan](#) (2016) focuses on resilience and sustainability, including diversification of supply and mechanisms to ensure faults can be isolated and resolved quickly.
- Australia-New Zealand Counter-Terrorism Committee (ANZCTC)’s [National Guidelines for Protecting Critical Infrastructure From Terrorism](#).
- [State Infrastructure Strategy](#) (State Growth – under development).
- Tasmanian Government involvement in national initiatives via State Growth.
- Tasmanian Critical Infrastructure Emergency Management Committee
- REMC established connections to energy and telecommunications providers to assist in the protection of those assets and ongoing services delivery during a disaster.

³⁴ Australian Government, [Critical Infrastructure Resilience Strategy: Policy Statement](#), 2015, p 3

Energy

Energy supplies include electrical power and fuel. Many other critical services rely on power. A lack of access to fuel can also impact on other critical infrastructure such as food supply chains. The [Energy Supply Emergency Management Plan](#) (State Growth) and sub plans cover specific industry sectors. The [Australian Energy Market Operator](#) (AEMO) has a core role in ensuring the reliability of the wholesale electricity market and gas supply nationally. This includes, for example:

- emergency protocols;
- the Australian Energy Sector Cyber Security Framework (AESCSF); and
- System Strength Impact Assessment Guidelines

Water and sanitation

- International Water, Sanitation and Hygiene (WASH) guidelines in emergencies (World Health Organisation (WHO))
- Water resource management during extreme dry conditions (DPIPWE)
- Tasmania's Guiding principles for water management planning do not specifically address risk management or disaster resilience.
- TasWater risk management plans and programs.

Telecommunications and key information assets

The private sector plays a key role in ensuring the resilience of communications and key information assets such as data centres nationally. For example, Telstra has a [Network Resilience Program](#) and produces an annual security report.

Transport

For an island state, transport critical infrastructure includes both intra and interstate transport facilities and systems such as roads, bridges, rail, airports, aircraft, ports, wharves and shipping, as well as public transport systems etc.

- UNDRR [Transport sector resilience: opportunities to build resilience](#) (2018).
- Process to enable fast track recovery funding for critical road infrastructure (State Growth 2018).
- Protocols to manage traffic during a disaster (Tasmania Police /State Growth).
- Road and bridge infrastructure standards used by State Growth and local councils.

Food and grocery

- [Resilience in the Australian food supply chain](#) (2012).

Health facilities and services

Health and the capacity of health systems is a key aspect of disaster risk reduction and resilience. The [Bangkok Principles for the implementation of the health aspects of the Sendai Framework](#) recommend measures countries can take to improve health related disaster risk reduction.

While health and emergency response are primarily the responsibility of state governments, the Australian Government enables backup when needed, and provides health emergency response arrangements, plans, advices and guidelines, for example:

- Health for Development Strategy 2015-2020;
- National Health Emergency Response Arrangements (NHERA) and various enablers across the health emergency domain;
- Australian Health Protection Principal Committee (AHPPC) - Provides strategic national oversight of health disaster management, along with the numerous standing committees for specific functions;
- National Incident Room - To ensure a consistent response to a health emergency;
- National medical stockpile;
- International engagement via the WHO and other structures;
- National immunisation programs, infection control guidelines; and
- National safety and quality health services standards.

Tasmanian initiatives to ensure the resilience of the State's health system include the following:

- the [Plan for the Delivery of Integrated Emergency Management within the Department of Health and Human Services](#) (2013) and response plans across DoH, Tasmanian Health Service (THS) and Communities Tasmania;
- the Strategic Risk Committee oversees the DoH's *Enterprise Risk Management Framework*;
- DoH's Emergency Committee and Public Health Emergencies Sub Committee undertake planning and preparedness to enhance resilience;
- DoH's Emergency Preparedness and Response Unit focuses on disaster resilience issues across the PPRR spectrum; and
- the [Tasmanian Health Action Plan for Pandemic Influenza](#) (DoH 2016) and pandemic influenza health system preparation initiatives.

Banking and finance services

As with telecommunications and food supply, the continuation of banking services during and after an emergency is managed nationally and primarily by the private sector.

Challenges and opportunities

Issues identified during the development of the Strategy included the following

- The closely interconnected nature of different critical infrastructure adds complexity.
- Many critical infrastructure providers are government owned in Tasmania, which makes coordination easier.
- Many people know individuals across sectors and so often communication and coordination can be easier than in other states. However, single key person dependencies and contact points need to be managed.
- Collaborative networks tend to be hazard or sector specific and may not include all relevant stakeholders. Some networks are opaque and there is limited government oversight across sectors and hazards.

- There is scope to better align local and statewide actions with related national strategies and improve local involvement in TISN.
- Government and private sector responsibilities for the resilience of critical infrastructure and services needs to be clear.
- Disaster resilience actions for aging infrastructure have to be balanced against the costs involved.
- All parties need to ensure business continuity planning for critical service providers is comprehensive and practiced.

Ideas identified during the development of the Strategy included the following.

- Strengthen collaborative networks and facilitate mutually beneficial initiatives raised through these networks as resources allow.
- Support Tasmanian involvement in national critical infrastructure initiatives, governance and local implementation of national initiatives.

Communities contribute to critical infrastructure and service continuity

During the 2019 Bushfires many evacuated from their homes leaving hoses running in gutters as a protective measure. This impacted on broader water supplies. TasWater staff had to check and turn off water as this private use impacted firefighting efforts.

3.3 Embedding disaster risk reduction in everyday actions

What success looks like

Everybody includes disaster risk reduction in everyday planning and operations.

Strategy

Encourage all parties to manage risk within normal operations and leverage other benefits where possible.

The Tasmanian Government will work with others to:

Encourage and support organisations and individuals to:

- Include disaster risk management as part of their normal activities;
- Develop and maintain contingency and business continuity plans; and
- Leverage everyday benefits where possible.

Scope and rationale

All sectors must manage risks that impact on them for their own and others' safety and benefit. This includes for example, minimising risks associated with physical property such as bushfire readiness actions. Disaster risk management is best achieved as part of normal activities, or 'mainstreamed' rather than treated as an isolated activity. Where possible, risk reduction should leverage other economic, social and well-being benefits to make best use of resources. For

example, disaster risk management for buildings should form part of an ongoing maintenance program that has other everyday benefits. Back-up power sources, such as a torch, a camping stove or a generator, have uses aside from during and after disasters. Business continuity planning can identify everyday business process improvements.

Current actions related to this strategy, challenges and opportunities

Many Tasmanian organisations actively manage risks or have contingency and business continuity plans. However, small businesses in particular lack resources for such actions. Individuals, businesses and other organisations should think about investing in measures that can have other everyday benefits. Ideas identified during the development of the Strategy included the following.

- Facilitate further uptake of available resources to manage risk.
- Assess and promote uptake of available resources for contingency and business continuity planning, especially for Tasmanian small businesses.
- Provide practical examples of risk reduction measures leveraging other benefits for individuals, households, businesses and other organisations.
- Consider convening business/ civic roundtables to discuss and address risk gaps.

3.4 Prioritising key economic, natural, social and cultural assets

What success looks like

Prioritised key industry, economic, social, natural and cultural asset protection.

Strategy

Prioritise risk prevention, preparedness, and recovery for key assets of significant community value.

The Tasmanian Government will work with others to:

Prioritise risk reduction and preparedness for:

- key state or community economic and social assets;
- crowded places;
- educational institutions; and
- irreplaceable state natural and cultural heritage assets.

Scope and rationale

From a community perspective, there are key economic, social, natural and cultural heritage assets with significant value that should be prioritised for collective benefit. Heritage and cultural assets, such as Aboriginal cultural sites, heritage buildings or other artifacts and library and museum collections are often irreplaceable if lost or damaged.

As well as physical infrastructure and economic impacts, reputational impacts also have to be managed. For example, tourism, international education and primary produce exports can be

greatly affected by messages and issues surrounding specific disaster. This can have long-term negative economic impacts.

Current actions related to this strategy

Emergency response agencies work with local communities, State Growth and others to prioritise protection for key economic and other assets during emergencies. Regional and municipal risk management plans identify such key assets and pursue measures to reduce risks and prepare.

Key economic assets

Many regional communities rely on specific industry or economic assets. In Tasmania, such industries include tourism plus land-based industries such as agriculture, aquaculture and forestry.

The Global Facility for Disaster Reduction and Recovery (GFDRR) and the World Bank cite farmers as one of four key groups that need special attention and support during and after a disaster, but this needs to be complemented by prevention and risk reduction measures³⁵. DPIPWE oversees the delivery of various initiatives that help Tasmanian farmers' disaster resilience such as:

- climate change and agriculture – adaption measures;
- biosecurity, various areas such as the [Biosecurity Plant Manual](#);
- [advice for farmers](#), for example on bushfires, floods and dry conditions;
- links to social services support such as the [Rural Financial Counselling Service](#) and [Rural Alive and Well](#); and
- [guidance for small and new landholders](#) covers biosecurity and planning for emergencies.

Rural development initiatives related to disaster resilience include the following:

- the [Australian Government's Agricultural White Paper](#) includes “Strengthening our approach to drought and risk management” as one of five key priority areas;
- [Regional Development Australia](#) aims to enable the development of regional communities. The [RDA Tasmania Regional Plan](#) addresses biosecurity risks, but not disaster resilience; and
- DPIPWE's [Sustainable Agri-Food Plan 2016-2018](#) addresses biosecurity issues and drought protection through irrigation schemes but does not cover other areas of disaster resilience.

Sustainable Timber Tasmania, the Parks and Wildlife Service (DPIPWE) and the TFS collaborate closely in both fire response and risk reduction measures such as fuel reduction burns. Business Tasmania (State Growth) provides a range of support to other industries and businesses.

Crowded places

In Tasmania, Tasmania Police's [Special Response and Counter-Terrorism Command \(SRCT\)](#) provides expertise and a coordination point for counter-terrorism arrangements including building resilience in owners/ operators of crowded places in line with the ANZCTC [Strategy for Protecting Crowded Places from Terrorism](#).

³⁵ GFDRR and Overseas Development Institute; World Bank, [Financial protection against natural disasters](#) 2014

AIDR's [Handbook on Safe and Healthy Crowded Places](#) (2018) provides additional advice on EM arrangements of relevance to crowded places and is consistent with the ANZCTC strategy.

Educational institutions

DoE coordinates a range of programs that focus on the safety of students and staff, and resilience measures for buildings and other assets, for example, the Bushfire Ready Schools program and the *Protective Security Framework* (2018).

State natural and cultural heritage assets

- The [Tasmanian Coastal Works Manual](#) covers risk assessments to protect heritage values.
- DPIPWE's Heritage Tasmania risk management and protective measures for 'built' heritage that is included in the Heritage Register.
- Aboriginal Heritage Tasmania administers the *Aboriginal Heritage Act 1975*. It manages the Aboriginal Heritage Register that contains over 13,500 Aboriginal heritage sites in Tasmania and its islands. This information is included in the COP layer of the LIST.
- Libraries Tasmania's *Collections Emergency Management Plan* (2018).
- The Tasmanian Museum and Art Gallery manages risk in line with [Spectrum museum standards](#).

Challenges and opportunities

Ideas identified during the development of the Strategy included:

- Continue to identify and manage risks for priority local assets through Regional and Municipal Emergency Management Plans and other plans.
- Continue support for land-based regional industries and key businesses to improve their disaster resilience.
- Extend the School Bushfire Ready program to other hazards relevant to local vulnerabilities.
- Ensure risk management and protection plans for key State natural and cultural heritage assets are kept current and practiced.

Example: Helping to ensure the preservation of our threatened alpine species

The recent bushfires and the Lake McKenzie fire in 2016 illustrate the increasing vulnerability of Tasmanian wilderness areas to wildfires. Through the Tasmanian Seed Conservation Centre (TSCC), the Royal Tasmanian Botanical Gardens works to collect, research and store conservation sized collections of seed of Tasmanian flora, with a current focus on threatened plant species. As an example of the value of the TSCC's work, seed collected from Tasmania's endemic conifers at Lake McKenzie is being used to research the regeneration of areas burnt in the 2016 fires. With increasing chances of dry summers and bushfire risks in alpine areas, such work will help to conserve our iconic and endemic flora.

4. Being prepared for disasters

Goal 4: Being prepared for disasters – when a disaster occurs, everyone knows what to do and can do it.

Preparedness measures can save lives, prevent or reduce losses and can help ensure effective recovery from disasters. Key areas include:

- 4.1 individuals, businesses, organisations and communities are prepared for disaster;
- 4.2 there are practiced plans and arrangements covering all hazards;
- 4.3 Tasmania's EM sector can capably respond and enable relief and recovery; and
- 4.4 relief and recovery facilitates long-term disaster resilience.

Example: The value of insurance when it counts

'The May 2019 severe weather event flooded the St Aloysius Catholic College in Kingston leaving 450 students without classrooms. Thankfully the buildings were insured.'

Co-principal Joe Sandric says it was heartbreaking to see classrooms and playgrounds destroyed by water and mud, with many rooms needing new floors, walls and ceilings after the wild weather hit...

He's thankful the school was adequately covered by insurance. "We didn't have to worry about counting costs, it was more the energy taken up with accounting for the damaged classrooms and relocating the students," he says. "We're definitely pleased to have everything back to normal now."

- by Linda Smith The Saturday Mercury, Tas Weekend, 11 May 2019, p 12

Keeping animals as well as people safe

Launceston City Council's Pet Pal initiative suggests people pre-organise someone who can look after pets and other animals during and after an emergency and to try and get animals to a safe place well ahead of danger. In previous floods many did not want to evacuate as they did not want to leave their animals behind. This initiative helps with evacuating people, as well as keeping loved animals safe.

4.1 Individual, household, organisational and community preparedness

What success looks like

Individuals, households, businesses, organisations and communities are prepared for disasters.

Strategy

Tasmanians have access to practical guidance. All levels of government and others support and encourage them to prepare for disasters.

The Tasmanian Government will work with others to:

- ensure consistency and clarity of preparedness information and support;
- facilitate the uptake of available preparedness information and support; and
- recognise and encourage excellent risk management and preparedness actions.

Scope and rationale

No matter how well resourced and capable Tasmania's EM sector is, all Tasmanians need to be prepared for disasters. In a widespread or catastrophic disaster, individuals need to be able to keep themselves and others around them safe. Everyone plays a part in Tasmania's disaster preparedness. This includes:

- Contingency planning, for individuals and organisations, for example, plans for disruptions to power, water or telecommunications and to minimise the impacts if loss or damage do occur. For instance, do individuals have back up light sources and are they able to boil water during extended power outages? Do they have enough food and water for a few days? Have they protected or backed up precious or irreplaceable things or information? Do they have plans on how and where to meet loved ones if telecommunications are inaccessible? If in areas with limited phone coverage, do they have alternative means of finding out warning and other information? While mobile phones can be useful communication tools during and after disasters, individuals need to recognise that coverage may not always be reliable, and they should not be relied upon completely.
- Business continuity planning for businesses, Government agencies and other organisations. What vital functions still need to function even if:
 - building and other physical assets are destroyed or damaged;
 - staff are not available due to a pandemic or other disasters; or
 - information and other systems or telecommunications are compromised?
- Ensuring reliable mechanisms to stay informed during and after a disaster.
- Preparedness to assist family, neighbours, and others. Community support networks can be critical during and after disasters³⁶, and are best established beforehand.

³⁶ National Strategy for Disaster Resilience

Current actions related to this strategy

In addition to the initiatives listed elsewhere:

- TFS's Create your Bushfire Survival Plan Bushfire Ready Neighbourhoods;
- TFS's Community Protection Plans;
- NGO resources, for example, Red Cross':
 - [RediPlan](#) Household Emergency Preparedness kit. This includes easy English versions, an Auslan version, and preparedness guides for older people, people with chronic illness, a physical disability or who have just moved to a new area;
 - Get Prepared App for households;
 - Preparedness week activities;
 - Pillowcase school student preparedness program;
 - Disaster Ready emergency preparedness workshops for community service providers;
 - RediPlan community speakers program
- [Preparing your business for natural disasters](#) resources (Business Tasmania); and
- National [advice on preparing for pandemic influenza](#).

Challenges and opportunities

While many Tasmanian households, businesses and other organisations are prepared for a disaster, many are not. There is scope to increase the uptake of available information and support. Excellent preparedness by households, businesses and other organisations, communities and others could be recognised and promoted to encourage others' preparedness. Ideas identified during the development of the Strategy include the following.

- Promote practical measures for household and organisational disaster preparedness; encourage uptake of available information and guidance resources.
- Publicise 'good news' stories where individuals, organisations or communities are prepared.
- Ensure clear messaging on the consequences of not reducing risks and being unprepared.
- Develop 'just in time' resources for dissemination immediately before disaster events when uptake is more likely.
- Investigate collecting baseline data on household preparedness.
- Explore measures to ensure people know what to do with early warnings across hazards.
- Public sector managers can use existing guidance and information resources for business continuity planning, contingency planning and risk management to include risk reduction in everyday planning and operations across agencies.

Example: Protecting crops against threats and stresses

Huon Valley blueberry farmers Tony and Mandy O'Connell invested in overhead sprinklers to help protect their crop, and so their export earnings and livelihoods. The sprinklers also back up drip fed irrigation and are proving their value. As well as protecting against frost damage, the sprinklers help cool plants during times of heat stress and can protect against ember attack such as those the Huon Valley experienced in February 2019. As Tony says, "It's a worthwhile investment. With climate change there are likely to be more stresses and threats to our crops. We need to be proactive."

4.2 Plans and arrangements for response

What success looks like

There are practiced plans and arrangements covering all hazards. There are information mechanisms and other systems to ensure quick and effective response to disasters.

Strategy

Regularly update and improve EM plans and other arrangements based on lessons learned and other evidence.

The Tasmanian Government will work with others to:

- Continue to review to Tasmania's EM plans, information mechanisms and other arrangements.
- Use lessons learned from events and exercises, ongoing risk assessments and other evidence and evaluation to inform improvements.

Scope and rationale

Planning is a key aspect of disaster resilience. Tasmania's EM sector needs to deploy and escalate response and recovery actions like a well-oiled machine when needed. This relies on practical, practiced and up-to-date plans plus established public and operational information sharing mechanisms and administrative arrangements that are ready to be used when needed.

Current actions related to this strategy

- The *Emergency Management Act 2006* completed in 2018. The new Tasmanian Emergency Management Arrangements (TEMA) enable the implementation of those changes.
- There is a current review of the *Fire Service Act 1979* (DPFEM).
- TEMA renewal 2019, plus related state, regional and municipal plans.
- [Tasmanian Municipal Emergency Management Guidelines](#) (SES/ LGAT).
- State Special Emergency Management Plans covering many hazards and other related topics, as outlined in the TEMA, and other plans, for example:
 - Emergency evacuation framework DPFEM;
 - Health and community services related plans such as the DoH's *Plan for the Delivery of Integrated Emergency Management within the DHHS* (DoH) and THO (under

review);

- The [Tasmanian Marine Oil Spill Contingency Plan](#) (TasPlan) (DPIPWE EPA)
- Building evacuation procedures for Government buildings;
- Ambulance Tasmania Incident Response Plan (ATIRP);
- TFS/ DoE Bushfire Ready Schools program; and
- The Australian Government's [Cyber Incident Management Arrangements](#).

Public warnings and information

- 2015 *National Review of Warnings and Information* led to [Australia's Warning Principles](#) 2018 and the [Public Information and Warnings Handbook](#) (AIDR 2018).
- BoM weather reports and warnings/ close working relationship between BoM and state emergency services.
- National Fire Danger Rating System.
- [National Flood Warning Infrastructure Standard](#) (ANZEMC).
- [National Terrorism Threat Advisory System](#).
- National Security Public Information Guidelines.
- [Emergency Alert](#) - national telephone Emergency Warning system.
- [National Tsunami Warning System](#).
- [Open access alerts](#) and [National Relay Service](#) for hearing impaired.
- Deafemergencyinfo.com.au .
- [TasALERT](#), with information provided from twelve relevant areas including:
 - Bushfire alerts list/ map;
 - [Department of Health / Environmental Protection Authority Tasmania Air quality and other public health alerts](#);
 - [Bushfire Ready Neighbourhoods: Phone tree network advice \(community dependent\)](#);
 - DoE regarding school closures;
 - Specific threat communications - DPFEM (Tasmania Police/ TFS/ SES) regular updates on potential upcoming or current threats, road closures etcetera via media channels and online. Public Health warnings about air, water or other health risks.
- DPAC Public Information Unit collation and dissemination of key information during disasters.
- Tasmanian Emergency Information Service (TEIS) - up to 10 operators can respond to public calls to a published 1800 number (DPAC's Office of Security and Emergency Management (OSEM)/ Service Tasmania).
- FireComm, National Security Hotline, 000 and Police Assistance Line.

- Visitor Information Centre emergency preparedness program 2016 - training staff to deliver emergency and disaster related information to visitors.
- Cooperative flood warning and alert system for Hobart, Glenorchy and Kingborough municipalities.
- Incident management information mechanisms.
- WebEOC – DPFEM emergency information management system to support Tasmania's emergency response.
- LISTmap/ COP web-based EM spatial mapping application for cross-agency situational awareness and decision support application (DPIPWE).

Impact assessment

Quality and efficiently gathered and collated impact data is needed for a range of reasons. For example, Australian Government DRFA processes rely on impact data for funding. Impact data is also vital in planning the scale, nature and localities of relief and support needs.

- *State Special Emergency Management Plan for Impact and Damage Assessment 2018* and related Rapid Impact Assessment (RIA) systems and processes.
- National Impact Assessment Model (NIAM) and National Impact Assessment Framework (NIAF) (2016 Australian Department of Home Affairs).
- Other sources of information, including evacuation centre registrations, calls for assistance and insurance claim data sets.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- There is scope to improve the current suite of EM plans. There are challenges maintaining a regular review cycle and consistency of formatting for many of the plans. The readability and clarity of responsibilities within some plans could be improved and there is scope to apply better governance arrangements and reporting mechanisms.
- Connections between public information mechanisms need to be clear. Messages must be integrated and explicit. Some topics cover multiple agencies' functions, for example, school bus changes.
- Application of contemporary impact and damage assessment data capture requirements and related procedures and processes could help support relief and recovery efforts.

Ideas identified during the development of the Strategy included the following.

- Continue improvements to ensure Tasmania's early warning and emergency communications are adequate and operate in an integrated manner in line with national guidelines.
- Improve measures to capture and access impact assessment information.
- Develop and maintain a SSEMP covering cyber security.
- Continue measures to improve EM plans and their accessibility.

4.3 EM sector capabilities

What success looks like

Tasmania's EM sector can capably respond to disasters and enable relief and recovery. Agency and community partner personnel (paid and volunteer) have the capability and capacity for effective response and recovery.

Strategy

Pursue measures to ensure emergency management personnel (paid and volunteer) are valued, supported and developed.

The Tasmanian Government will work with others to:

- continue to develop EM sector capabilities in line with the [Australian Disaster Preparedness Framework](#);
- develop lessons management capabilities;
- enhance interoperability arrangements; and
- further enable and recognise volunteer contributions.

Scope and rationale

Effective response and recovery planning and actions rely on the capabilities of Tasmania's EM sector. As well as developing people and their skills, this relies on administrative and technical systems and support. Government agencies also need to adapt response strategies to address emerging risks, such as those associated with climate change.

Current actions related to this strategy

- UNDRR's [Strategic approach to capacity development for implementation of the Sendai Framework for Disaster Risk Reduction](#) (2018)
- The [Capability Roadmap: Enhancing Emergency Management in Australia 2016](#) underpins the [National Disaster Preparedness Framework](#) (2018)
- AFAC projects, to which the Tasmanian Government contributes.
- [National Emergency Management Volunteer Action Plan](#) (2012)
- [National Aerial Fire Fighting Centre](#) (NAFC)

Most EM plans include capability development related to that specific area. Example initiatives focusing specifically on EM capabilities include the following.

- Emergency Management Training Continuum (SES).
- Interoperability arrangements (DPAC's OSEM).
- Emergency Service Volunteer Working Group and associated initiatives.
- Ambulance Tasmania Volunteer Incident Support Team (VIST).
- St John Ambulance Mass Casualty Preparedness Project.

- Surf Life Saving Tasmania's Cert II Coxswain Maritime and Rescue training packages.
- Spontaneous Volunteers Project: Don't Wait for Disaster to Happen.
- Building emergency registration volunteer surge capacity (Red Cross/ local councils/ Volunteering Tasmania).

Scenario exercises

- The Interagency Exercise Coordination Group (IECG) aims to ensure multi-agency coordination and awareness of EM exercises.
- ANZCTC Counter-Terrorism Exercise Management Program which funds the delivery of counter-terrorism specific drill-style programs in Tasmanian, administered by SRCT.
- The ACSC National Exercise Program aims to clarify the roles and responsibilities of private sector and government organisations when responding to a cyber incident.

Workplace disaster resilience

- Tasmanian Government buildings have planned and regularly practiced evacuation procedures.
- Active Armed Offender protocols and lockdowns.
- Workplace Standards Tasmania support.
- Some organisations have protocols for communications and other mechanisms in a disaster.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- There is scope to extend exercise and lessons management capability and capacity.
- Resourcing for capability building across hazards should be cohesive.
- Developing a business case for many capability building initiatives can be complex.
- Response and recovery capabilities extends beyond first responders.
- Challenges relating to scaling up personnel requirements for response and adequately mitigating key single person dependencies should be explored.
- Interoperability arrangements successfully enable transfer of staff across agencies to support response and recovery but there are some limitations that could be explored.
- Communications infrastructure, for example limited mobile phone coverage in some parts of Tasmania, can impinge on the ability to provide and receive timely communications during and after disasters.
- Navigation and terminology on related government and agency websites needs to be consistent and structured with the user in mind.

Ideas identified during the development of the Strategy included the following.

- Develop lessons management and exercise capability and capacity.
- Implement a Volunteer Strategy.

- Implement the EM Training Continuum.
- Share information about NGO capabilities and capacity to enhance collaborative approaches to community disaster resilience.
- Further include NGOs in capability building initiatives and scenario exercising.
- Further develop interoperability arrangements and options.
- Explore issues and options associated with extending personnel support arrangements beyond the Tasmanian Government.
- Explore future strategic workforce planning and resourcing in the context of changing risk profiles.
- Consider communication measures that recognise mobile phone coverage is not always comprehensive.
- Review and further develop emergency related websites taking a whole-of-government community client-focused approach.
- Consider a knowledge management system to capture, share and track lessons learned from post-event inquiries, reviews, commissions and litigations and make the information widely available.

4.4 Enabling recovery

What success looks like

Relief and recovery facilitates long-term disaster resilience.

This means that:

- Tasmanian infrastructure /services are rebuilt or repaired during and after disasters to assist with long-term disaster resilience.
- Tasmanians actively enable their own and others' relief and recovery during and after disasters supported by all levels of government. Assistance and recovery programs support long-term resilience and maximise community benefits.

Strategies

Continually improve relief and recovery arrangements to enable quick escalation, community leadership and long-term resilience.

The Tasmanian Government will work with others to:

- continually improve the Tasmania's recovery arrangements to learn from experiences and enhance community outcomes;
- improve collaboration and coordination across sectors;
- collaborate to strengthen community capacity for locally-led recovery.

Scope and rationale

Support encompasses all aspects of recovery to facilitate long-term resilience. This encompasses social, infrastructure, economic and environmental recovery. Recovery aims to:

- support individuals, communities, businesses and the natural and cultural environment to deal with the impacts of a disaster;
- facilitate broad community participation in decision-making. All sectors of the community, including the private sector, can play important roles in community recovery. It is important that such involvement is coordinated and collaborative;
- ensure that resourcing is targeted and appropriate to risk;
- enhance ongoing disaster resilience³⁷.

Recovery includes:

- Social Recovery – assisting the community to manage its own recovery, rebuilding emotional, social and physical well-being through a coordinated and planned process.
- Infrastructure Recovery – the repair, restoration and replacement of government and community infrastructure such as schools, roads, transport, and communications.
- Economic Recovery – managing business, industry and employment impacts and, where appropriate, assisting the local economy to return to pre-emergency levels.
- Environmental Recovery – focuses on addressing the environmental impacts³⁸.

There are also recovery issues related to cultural heritage.

Current actions related to this strategy

- [National Principles of Disaster Recovery](#).
- [Disaster Recovery Funding Arrangements](#) (DRFA).
- AIDR [Community Recovery Handbook 2](#).
- The *Emergency Management Act 2006* creates the roles of the State Recovery Advisor and State Recovery Coordinator. The TEMA outlines key recovery responsibilities across all levels of government, with the SSEMP – Recovery (the State Recovery Plan) describing arrangements in more detail. Regional and Municipal EM Plans detail local arrangements.
- [Tasmanian Relief and Recovery Arrangements](#) (TRRA) sets out the Tasmanian Government's assistance measures to individuals and communities following natural disasters (DPAC's OSEM).
- The DoH and THS [Social Recovery Plan](#) (2014) – aims to ensure DoH, Communities Tasmania and THS meet community needs related to an emergency in an integrated and sustainable manner (DoH/ Communities Tasmania/ THS).
- Addressing family violence in emergencies guidelines (Women's Health Tasmania).
- Red Cross initiatives, for example:

³⁷ DPAC OSEM Adapted from Recovery Manual v1.0 p 8

³⁸ DHHS Department of Health and Human Services and Tasmanian Health Organisation *Social Recovery Plan* 2014

- Evacuation Centre Management Training, practitioners field guide and sheltering guidelines;
- Communicating in Recovery training for emergency managers and community leaders;
- Psychological first aid training;
- Australian Disaster Recovery Network (ADRN) – a national network of trained community recovery mentors;
- Collective trauma event, outreach and public memorial guidelines.
- Tasmanian Council of Churches' Psychological First Aid and Emotional Spiritual Care service.
- St Vincent de Paul's coordination of donations and the provision of support funded by those donations.
- Infrastructure reconstruction is managed by State Growth and relevant local councils.
- DPIPWE provides rural sector support and State Growth provides recovery assistance to businesses.

Many Tasmanian-based non-government organisations play key roles in either or both short-term relief and longer-term recovery efforts.

Challenges and opportunities

Issues identified during the development of the Strategy included the following.

- Relief and recovery support can either discourage or encourage long-term resilience building.
- Personnel resourcing for extended or multiple widespread disasters can be limited.
- There is scope to improve impact and damage assessment capabilities.

Ideas identified during the development of the Strategy included the following.

- Pursue measures to enable community-led recovery.
- Explore support options for non-commercial primary producers.
- Continue Recovery Partners Network Forum and build relationships and formal and informal arrangements with NGOs.

Appendix I:

Acronyms, abbreviations and definitions

ABS	Australian Bureau of Statistics
ACSC	Australian Cyber Security Centre
ADRN	Australian Disaster Recovery Network
AESCSF	Australian Energy Sector Cyber Security Framework
AEMO	Australian Energy Market Operator
AFAC	Australasian Fire and Emergency Services Authorities Council
AHPPC	Australian Health Protection Principal Committee
AIDR	Australian Institute for Disaster Resilience
ANZCTC	Australia New Zealand Counter Terrorism Committee
ANZEMC	Australia New Zealand Emergency Management Committee
APRA	Australian Prudential Regulation Authority
ATRIP	Ambulance Tasmania Incident Response Plan
BCP	Business Continuity Planning
BoM	Bureau of Meteorology
BRAM	Bushfire Risk Assessment Model
CIAC	Critical Infrastructure Advisory Council
CI&S	Critical infrastructure and services
COAG	Council of Australian Governments
Communities Tasmania	Department of Communities Tasmania
COP	Common Operating Platform
CPTED	Crime Prevention Through Environmental Design
DHHS	Department of Health and Human Services
DoE	Department of Education
DoH	Department of Health
DPAC	Department of Premier and Cabinet
DPFEM	Department of Police, Fire and Emergency Management
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DRANZEN	Disaster Resilient Australia – New Zealand School Education Network
DRFA	Disaster Recovery Funding Arrangements (Australian Government)

DRR	disaster risk reduction
EM	emergency management
EMPCA	Environmental Management and Pollution Control Act 1993
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic Information System
IECG	Interagency Exercise Coordination Group
JCSC	Joint Cyber Security Centre
LGAT	Local Government Association of Tasmania
LISTMap	Land Information System Tasmania map
LPS	Local Provision Schedule
LUPAA	Land Use Planning and Approvals Act 1993
MCPEM	Ministerial Council for Police and Emergency Management
MEMC	Municipal Emergency Management Committee
NAFC	National Aerial Fire Fighting Centre
NDRRF	National Disaster Risk Reduction Framework
NEXIS	National Exposure Information System
NGO	non-government organisation
NHERA	National Health Emergency Response Arrangements
NIAF	National Impact Assessment Framework
NIAM	National Impact Assessment Model
NPA	National Partnership Agreement for Natural Disaster Resilience
NSDR	National Strategy for Disaster Resilience
OSEM	Office of Security and Emergency Management (DPAC)
PPRR spectrum	Prevention, Preparedness, Response, Recovery
REMC	Regional Emergency Management Committee
RIA	Rapid Impact Assessment
RMPS	Resource Management and Planning System
SEMC	State Emergency Management Committee
Sendai Framework	UNDRR's Sendai Framework for Disaster Risk Reduction
SES	State Emergency Service
SIIRP	Structured Infrastructure Investment Review Process
SPP	State Planning Provisions

SRCT	Special Response and Counter Terrorism Command (Tasmania Police, DPFEM)
SSEMP	State Special Emergency Management Plan
State Growth	Department of State Growth
TCCO	Tasmanian Climate Change Office (DPAC)
TEIS	Tasmanian Emergency Information Service
TEMA	Tasmanian Emergency Management Arrangements (2019)
TEMP/ TEMA	Tasmanian Emergency Management Plan (Issue 8)
TERAG	Tasmanian Emergency Risk Assessment Guidelines
TERN	Terrestrial Ecosystem Research Network
THO	Tasmanian Health Organisation
TISN	Trusted Information Sharing Network
TSNDRA/ TSDRA	Tasmanian State (Natural) Disaster Risk Assessment
TRRA	Tasmanian Relief and Recovery Arrangements
TFS	Tasmania Fire Service
THS	Tasmanian Health Service (DoH)
TSCC	Tasmanian Seed Conservation Centre
UNDRR/ UNISDR	United Nations Office for Disaster Risk Reduction (formerly UNISDR)
VIST	Volunteer Incident Support Team
WASH	International Water, Sanitation and Hygiene
WebEOC	Incident Management System managed by DPFEM to support emergency management
WHO	World Health Organisation

The following terms are used in line with the [Sendai Framework](#) unless otherwise stated.

Build back better	The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment.
Capacity	The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience.
Contingency planning	A management process that analyses disaster risks and establishes arrangements in advance to enable timely, effective and appropriate responses.

Disaster and emergency	<p>A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.</p> <p>Emergency is sometimes used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which, however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.</p>
Disaster risk	The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.
Disaster risk management	Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses.
Disaster risk reduction	Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.
Early warning system	An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.
Economic loss	Total economic impact that consists of direct economic loss and indirect economic loss. Direct economic loss: the monetary value of total or partial destruction of physical assets existing in the affected area. Direct economic loss is nearly equivalent to physical damage. Indirect economic loss: a decline in economic value added as a consequence of direct economic loss and/or human and environmental impacts.
Evacuation	Moving people and assets temporarily to safer places before, during or after the occurrence of a hazardous event in order to protect them.
Exposure	The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.
Governance	The system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy.
Hazard	A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.

Impact	Disaster impact is the total effect, including negative effects (e.g., economic losses) and positive effects (e.g., economic gains), of a hazardous event or a disaster. The term includes economic, human and environmental impacts, and may include death, injuries, disease and other negative effects on human physical, mental and social well-being.
Mitigation	The lessening or minimizing of the adverse impacts of a hazardous event.
Preparedness	The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.
Prevention	Activities and measures to avoid existing and new disaster risks.
Reconstruction	The medium- and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities and livelihoods required for the full functioning of a community or a society affected by a disaster, aligning with the principles of sustainable development and “build back better”, to avoid or reduce future disaster risk.
Recovery	The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and “build back better”, to avoid or reduce future disaster risk
Rehabilitation	The restoration of basic services and facilities for the functioning of a community or a society affected by a disaster.
Resilience	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.
Response	Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.
Risk transfer	The process of formally or informally shifting the financial consequences of particular risks from one party to another, whereby a household, community, enterprise or State authority will obtain resources from the other party after a disaster occurs, in exchange for ongoing or compensatory social or financial benefits provided to that other party.
Vulnerability	The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

Appendix 2:

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