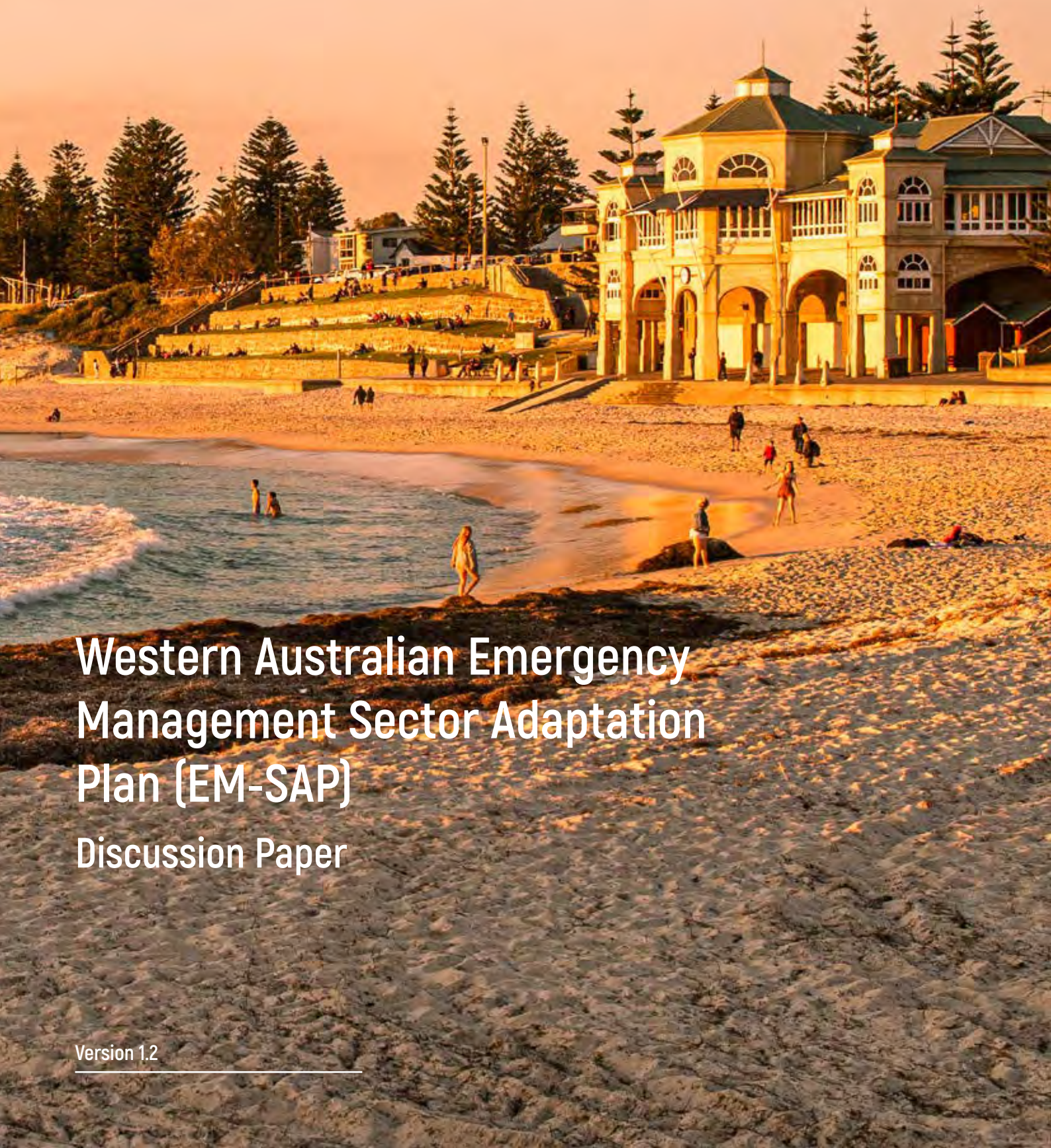




**SEMC**  
STATE EMERGENCY  
MANAGEMENT COMMITTEE



# Western Australian Emergency Management Sector Adaptation Plan (EM-SAP) Discussion Paper

# Executive Summary

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**The SEMC recognises the mounting risks posed by climate change to Western Australian communities and to the emergency management sector and is committed to delivering strong action to enhance the climate resilience of the sector.**

This Discussion Paper supports the development of the Emergency Management Sector Adaptation Plan (EM-SAP). It provides an overview of the proposed content and structure of the EM-SAP, including emergency management sector adaptation objectives and actions, and their alignment with the recently released Western Australian Climate Adaptation Strategy (July 2023).

The EM-SAP is being developed by the State Emergency Management Committee's (SEMC) Climate Change Subcommittee (CCSC). The SEMC is the peak body for emergency management in Western Australia and provides strategic oversight of Western Australia's emergency management arrangements and advises the Minister for Emergency Services on the preparedness of the State to combat emergencies. The SEMC recognises the mounting risks posed by climate change to Western Australian communities and to the emergency management sector and is committed to delivering strong action to enhance the climate resilience of the sector.

The SEMC established the CCSC in October 2022 to deliver the EM-SAP. The EM-SAP is one of seven sector-based adaptation plans required under the forthcoming climate change legislation and is an important step in the implementation of the Western Australian Climate Adaptation Strategy.

The EM-SAP is also intended to support the delivery of Western Australia's emergency management core objectives, as well as the implementation of the National Disaster Risk Reduction Framework and its priority actions as outlined in the Second National Action Plan for Disaster Risk Reduction.

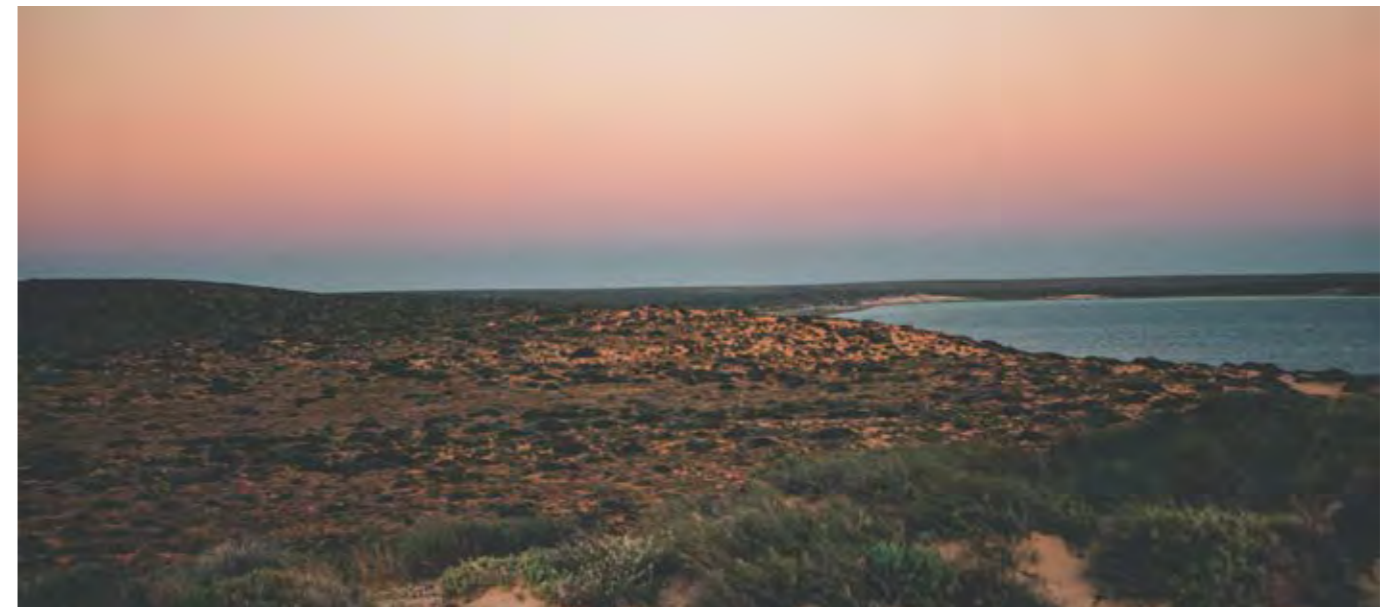
This Discussion Paper provides an opportunity for the Western Australian emergency management sector to contribute to the development of the EM-SAP. It has been developed based on sector consultation, review of state and national climate change policies and strategies, and relevant scientific literature. Feedback is sought on the proposed sector adaptation objectives and actions to ensure that the EM-SAP is consistent with the sector's adaptation and emergency risk management priorities. Feedback will be used to develop the final EM-SAP, due for publication in the first half of 2024.

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# Introduction to the Discussion Paper



Western Australia is already experiencing the impacts of climate change. Hotter and dryer conditions, increasingly extreme weather events, sea level rise, and prolonged bushfire seasons are testing the capabilities of the emergency management sector and the resilience of Western Australian communities. Many of these impacts will continue to worsen as greenhouse gas emissions increase globally, placing increasing demands on the emergency management sector.<sup>1</sup>

The Emergency Management Sector Adaptation Plan (EM-SAP) is being developed by the State Emergency Management Committee (SEMC) Climate Change Subcommittee to support the Western Australian emergency management sector to accelerate climate change adaptation. The SEMC recognises the mounting risks posed by climate change to Western Australian communities and to the emergency management sector and is committed to delivering strong action to enhance Western Australia's climate resilience.

The EM-SAP will represent a major-sector based component of efforts to implement the Western Australian Climate Adaptation Strategy (July 2023).<sup>2</sup> It is one of seven sector-based adaptation plans that, together, will:

- identify climate risks and opportunities for key sectors of the economy and prioritise actions to address them;
- increase awareness, capacity and motivation of sector stakeholders to manage their own climate risks;
- facilitate collaboration between government, community and private sector stakeholders to identify and implement robust adaptation responses; and
- accelerate adoption of good adaptation practice across government and sectors of the economy.

The EM-SAP will also be designed to be consistent with the established goals and principles of the Western Australian emergency management sector<sup>3</sup>, noting the considerable overlap in intent between climate change adaptation and emergency risk management.

Successful climate change adaptation requires a coherent and coordinated approach. It requires the emergency management sector to work together with Western Australian communities and other sectors to promote a resilient, safe, and prosperous future. The EM-SAP is being developed for these purposes.

<sup>1</sup> Rickards and Keating (2021)

<sup>2</sup> DWER (2023)

<sup>3</sup> As outlined in the State Emergency Management Policy, Appendix B

## Timeline

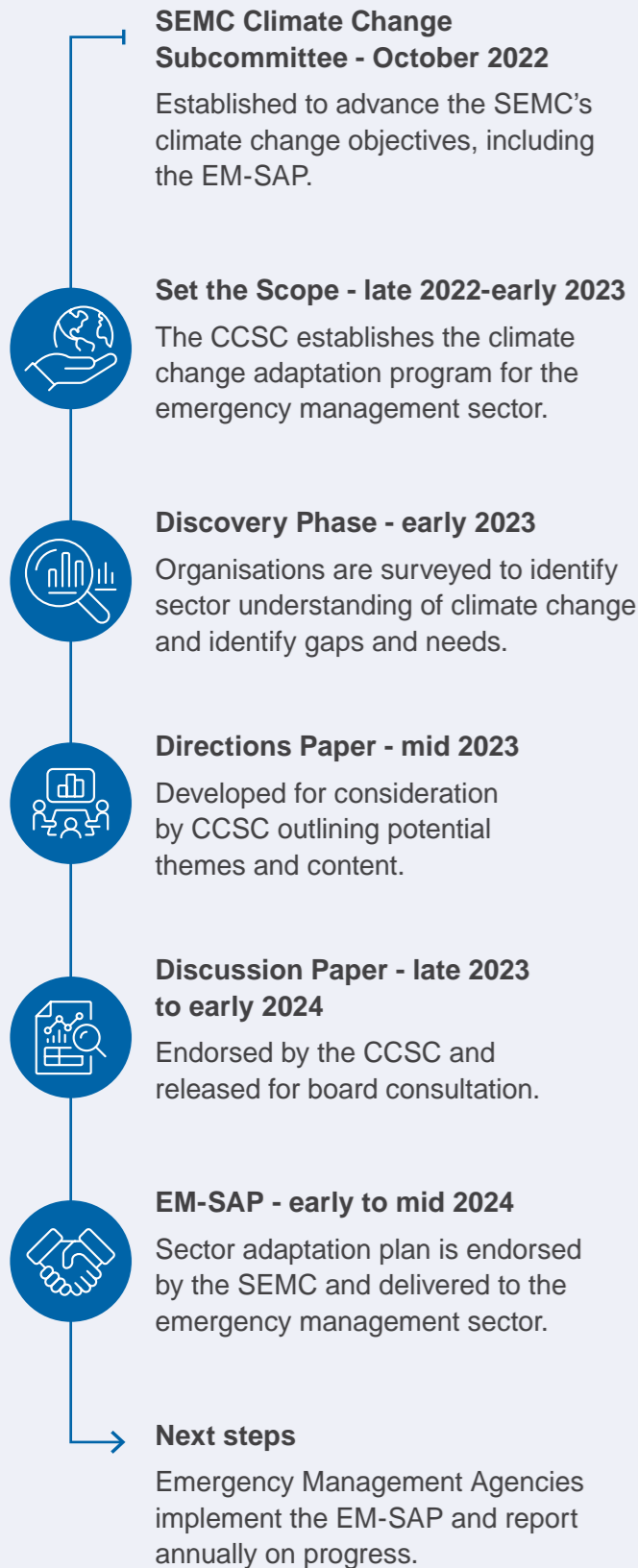


Figure 1. EM-SAP timeline

## Emergency management in Western Australia

Emergency management is a shared responsibility: we all have a part to play. Reflecting this, the Western Australian emergency management sector is comprised of organisations across government, community, not-for-profit, volunteer, private and philanthropic sectors. It also includes individuals, families, and communities involved in preventing, preparing for, responding to, and recovering from emergencies.

The *Emergency Management Act 2005* establishes the SEMC as the peak body for emergency management in Western Australia. The SEMC is a standing committee comprised of government representatives and independent members that provide strategic oversight of Western Australia's emergency management legislation, arrangements, and capability across 28 prescribed hazards. The SEMC is supported by a three-tier committee structure across state, district, and local levels, as well as a number of subcommittees, reference groups, and working groups.

The primary responsibilities of the SEMC include:

- Advise the Minister on emergency management and the preparedness of the State to combat emergencies.
- Guide and support public authorities, including industry, commerce and the community to plan and prepare for efficient emergency management.
- Assist the Minister for Emergency Services in the administration of the *Emergency Management Act 2005*.
- Provide a forum for community coordination to minimise the effects of emergencies.
- Provide a forum to develop community-wide information systems to improve communications during emergencies.
- Develop and coordinate risk management strategies to assess community vulnerability to emergencies.
- Arrange for the preparation of State emergency management policies and plans.

The *Emergency Management Act 2005* and *Emergency Management Regulations 2006* also prescribe emergency management roles and responsibilities to specific organisations.

Termed collectively as Emergency Management Agencies (EMAs), these include Hazard Management Agencies, Combat Agencies, and Support Organisations. Local governments are considered EMAs and are prescribed various emergency management responsibilities related to the preparation of local emergency management arrangements, recovery, and other activities. EMAs provide prevention, preparedness, response and recovery (PPRR) functions across relevant state hazards and are supported in their emergency management roles by various Public Authorities with responsibilities outlined in the State Emergency Management Plan, State Hazard Plans, and State Support Plans.

The Western Australian emergency management sector is also comprised of organisations that do not have formally prescribed emergency management roles. These include not-for-profit organisations, essential service providers, private and philanthropic organisations, other government agencies, and a range of others. For the purposes of this paper, these organisations are termed Emergency Management Providers (EMPs).<sup>1</sup>

### About this Discussion Paper

The purpose of the Discussion Paper is to invite the Western Australian emergency management sector to have their say on the design and content of the EM-SAP. It contains four parts:

**Part 1:** Climate change in Western Australia

**Part 2:** Policy context for climate change adaptation

**Part 3:** Proposed sector adaptation objectives and actions

**Part 4:** Tracking progress on climate change adaptation

The content of this Discussion Paper is proposed for consideration only and is intended as a starting point to stimulate discussion.

The intent of the Discussion Paper is prompt discussion and feedback on:

1. How climate change adaptation can be supported and accelerated throughout the entirety of the emergency management sector, inclusive of organisations that do not have prescribed emergency management roles and responsibilities.
2. The role of the SEMC in supporting and accelerating climate change adaptation across the emergency management sector.
3. The role of individual EMAs and EMPs in supporting and accelerating climate change adaptation across the emergency management sector.
4. To determine the best way climate change adaptation can be embedded within or aligned to existing emergency management arrangements, structures, policy and processes.
5. Possible overlap and/or alignment with other sector adaptation plans, to identify efficiencies and synergies.
6. Potential governance structures for climate change adaptation across the emergency management sector.

<sup>1</sup> 'Emergency Management Provider' is not a formally recognised term in the State Emergency Management Framework or other related arrangements. It is used here to denote organisations that contribute to emergency management but do not have formally prescribed emergency management roles.

## Assumptions

The content of this Discussion Paper is guided by four assumptions:

1. Climate change adaptation will be most effectively undertaken by the emergency management sector if it is embedded within existing emergency risk management arrangements.
2. The SEMC is best placed to provide leadership on climate change adaptation for the emergency management sector by:
  - a. Providing centralised and collaborative direction, oversight, and governance over the emergency management sector's approach to climate change adaptation.
  - b. Augmenting the workplans and terms of reference of the SEMC and all relevant subcommittees, reference and working groups, as well as District and Local Emergency Management Committees (DEMCs and LEMCs) to support climate change adaptation.
  - c. Requiring climate change adaptation and climate risk management be considered in the development and revision of all relevant emergency management plans and arrangements.
  - d. Undertaking or designating work to support EMAs and EMPs to undertake climate change adaptation.
3. Individual EMAs and EMPs are best placed to determine what desirable climate change adaptation means within the context of their own emergency management roles and responsibilities, noting that support for climate change adaptation will be provided by the SEMC through its committee structure and relevant programs of work.
4. Climate change adaptation will be more readily undertaken by the sector if it aligns with and/or advances the strategic objectives of emergency management, including those outlined in the National Disaster Risk Reduction Framework and Second National Action Plan for Disaster Risk Reduction, and state-level emergency management principles and core objectives.

## Question:

*Are the assumptions listed above appropriate for the development of the final EM-SAP?*

## Consultation What we need from you

You are invited to provide written feedback on questions proposed throughout the Discussion Paper, as well as general feedback relevant to the preparation of the final EM-SAP.

As a representative of your organisation, you are encouraged to:

1. Review the proposed sector objectives and actions listed in tables on page 26 to 29.
2. Suggest additional sector objectives and actions where appropriate, particularly in instances where your organisation is undertaking, or planning to undertake, adaptation actions that are relevant to the broader emergency management sector.
3. Nominate your organisation as a leading or supporting organisation for the delivery of relevant proposed sector objectives and actions.

Where appropriate, the final EM-SAP will include lead and support organisations against each of the sector actions and timeframes for implementation.

Additional questions are provided below to guide different organisation types in their consideration of the Discussion Paper. These are provided in recognition of the diverse roles and responsibilities each organisation has for emergency management. Questions are provided to stimulate discussion only – respondents are not obligated to respond to all questions listed.

## State Agencies – i.e. Hazard Management Agencies, Combat Agencies, Public Authorities

In the context of climate change adaptation in emergency management:

- What adaptation activities is your organisation currently undertaking or proposing to undertake to reduce climate change risks?
- What guidance or support would help your organisation to consider adaptation in the preparation of plans and arrangements (e.g. State Hazard Plans, State Support Plans, other)?
- What would improve cross-agency collaboration?
- What reporting structure or process would best support adaptation reporting?
- How can the climate resilience of Aboriginal people be better supported by state agencies?
- What activities can be implemented to reduce socio-economic vulnerability to climate change risks or enhance adaptation in at-risk communities?

## Local Government

In the context of climate change adaptation in emergency management:

- What adaptation activities is your organisation currently undertaking or proposing to undertake to reduce climate change risks?
- What guidance or support would help your organisation to consider adaptation in the preparation of Local Emergency Management Arrangements (LEMA)?
- Thinking about your emergency management roles and responsibilities, how can District and Local Emergency Management Committees (DEMCs and LEMCs) assist you to carry out adaptation activities?
- What reporting structure or process would best support adaptation reporting?

## District and Local Emergency Management Committees (DEMCs and LEMCs)

In the context of climate change adaptation in emergency management:

- How can DEMCs and LEMCs support adaptation at district and local levels?
- What assistance is needed to enable DEMCs and LEMCs to promote adaptation in district and local emergency management planning and arrangements?

- How can DEMCs and LEMCs enable adaptation reporting at district and local levels to inform the state-level?
- How can Aboriginal representation be bolstered in DEMCs and LEMCs?

## Emergency Management Providers (EMPs) – i.e. community sector organisations, not-for-profits, philanthropic organisations, private sector organisations

- What activities are already occurring, or can be undertaken by your organisation to support climate change adaptation in the Western Australian emergency management sector?
- What guidance, support, or arrangements are needed to help your organisation to undertake climate change adaptation for emergency management?
- How can Aboriginal people be better supported or included in climate change adaptation decision-making for emergency management?
- What activities can be implemented to reduce socio-economic vulnerability to climate change risks or enhance adaptation for at-risk communities?

## Make a submission

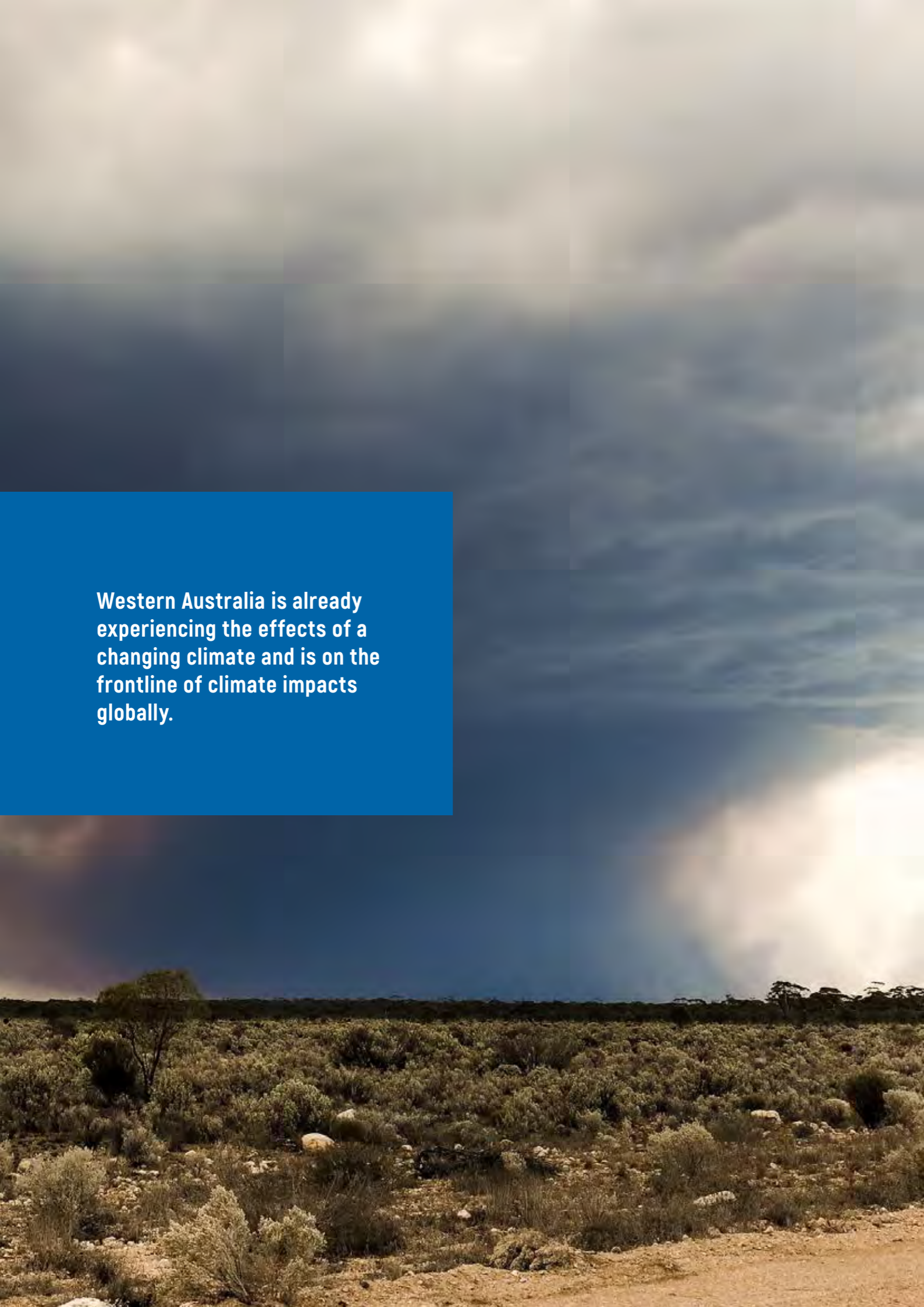
All organisations and individuals with emergency management roles and responsibilities are invited to have their say.

Targeted engagement activities will be undertaken during the consultation period for this Discussion Paper, and further consultation will be undertaken in the development of the EM-SAP.

## Submissions on this Discussion Paper are due by 5pm (AWST) Friday, 29 March 2024.

- Submissions can be made through Engage WA Emergency Management: <https://engagewaem.com.au/>
- For further information about the project, email [info@semc.wa.gov.au](mailto:info@semc.wa.gov.au)
- Local Governments can find out about how they can provide feedback by emailing [em@walga.asn.au](mailto:em@walga.asn.au)

Feedback received from the sector will inform the development of the final EM-SAP, which is expected to be released in mid-2024.



Western Australia is already experiencing the effects of a changing climate and is on the frontline of climate impacts globally.

Part 1:

## Climate change in Western Australia

Climate change broadly refers to changes in the long-term average of global and regional climates. While the climate has always changed over the Earth's long history, today climate change is being driven by human-caused greenhouse gas emissions.<sup>4</sup> Greenhouse gases, such as carbon dioxide, trap radiated energy within the atmosphere causing the Earth's climate to warm. Global warming, in turn, is driving changes in regional and local climates, with different impacts depending on local conditions.

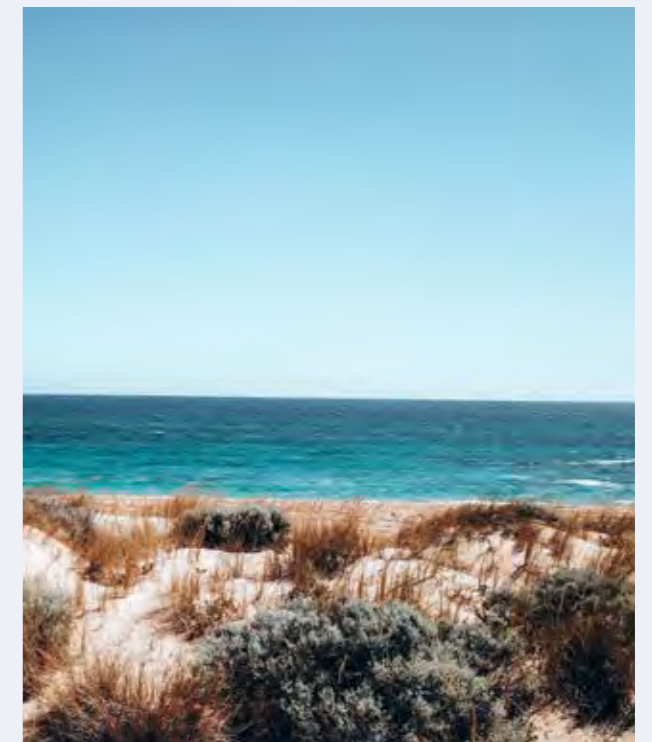
Western Australia is already experiencing the effects of a changing climate and is on the frontline of climate impacts globally. The average temperature across the state has warmed by 1.3°C since 1910, driving a significant increase in the severity and duration of extreme bushfire weather, heatwaves, and drought.<sup>5</sup> Further, the south-west region has experienced a 20 percent

reduction in average rainfall, while extreme rainfall events are becoming more frequent and intense (see Box 1)<sup>6</sup> These changes are already impacting Western Australia's communities, ecosystems, and economies, with significant and lasting impacts felt by Aboriginal people and other at-risk groups.

The increasing frequency and complexity of emergency events is also testing the capabilities and capacities of the emergency management sector and its ability to deliver on its core objectives, including maintaining the safety and wellbeing of our communities. Recent years have seen multiple large-scale and complex emergency events occur in close succession, often within the context of the COVID-19 pandemic (see Box 1). The Royal Commission into National Natural Disaster Arrangements makes clear that emergency management must evolve if we are to address mounting climate and other emergency risks.<sup>7</sup>

### Adaptation versus mitigation

Adaptation and mitigation are two ways of reducing risks associated with climate change. Mitigation focuses on reducing the greenhouse gas emissions that cause climate change. Examples of mitigation include reducing the use of fossil fuels, improving energy efficiency, and transitioning to renewable energy technologies. Adaptation, on the other hand, are actions taken to reduce risks that are or expected to occur due to climate change. Examples of adaptation include enhancing community preparedness to emergencies, developing early warning systems, improving the resilience of built infrastructure, and changing governance frameworks to better address emerging climate risks. Both adaptation and mitigation are needed to reduce risk and minimise harm from climate change.



<sup>4</sup> IPCC (2021)

<sup>5</sup> DWER (2021)

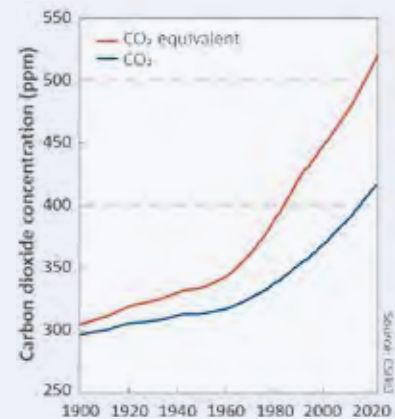
<sup>6</sup> Ibid.

<sup>7</sup> RCNDA (2020)

## Climate Change in Western Australia

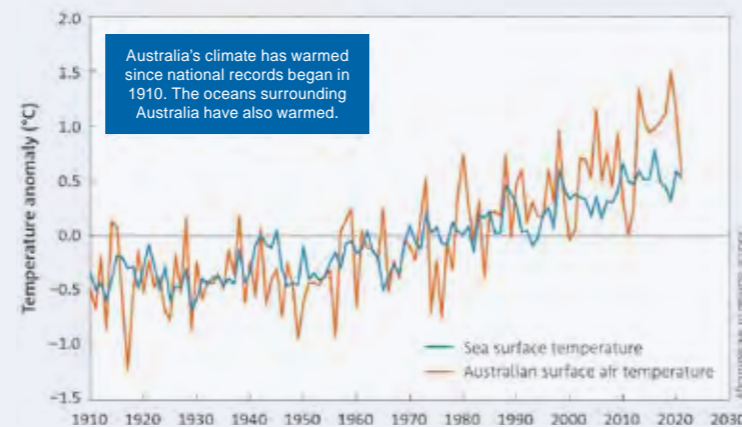
### Global atmospheric greenhouse gas concentrations are rising<sup>a</sup>

Global CO<sub>2</sub> equivalent reached 516ppm in 2021.



### Australia's climate is warming<sup>b</sup>

This is higher than at any other time in the last 3 million years.



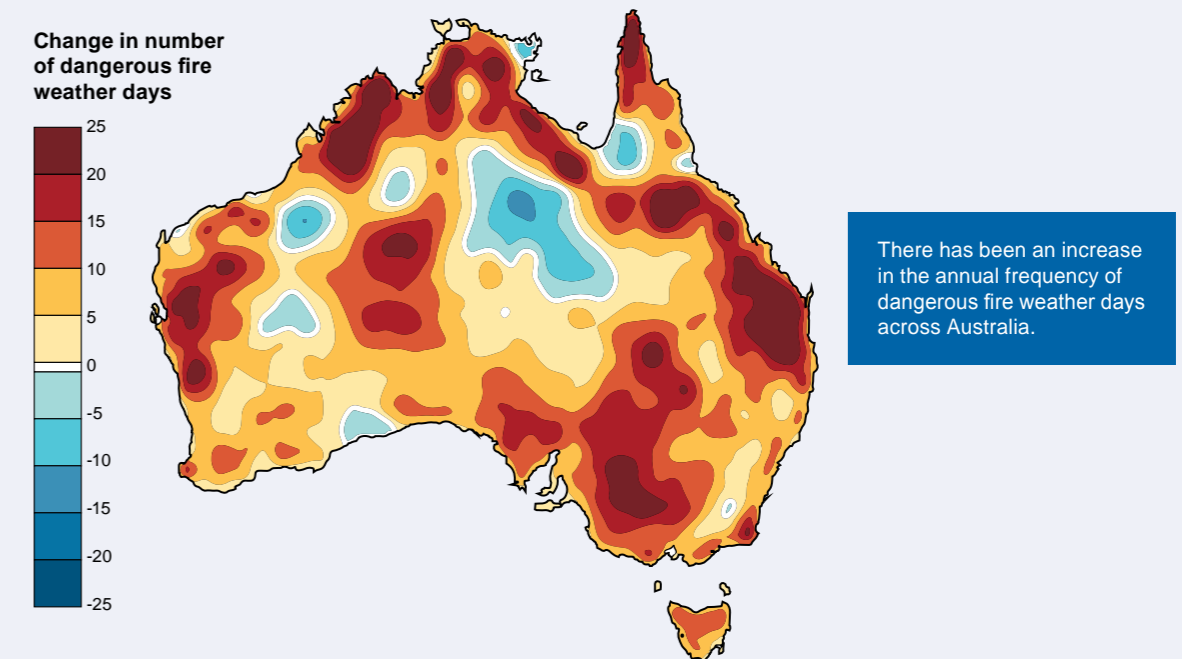
### Climate risks in Western Australia are escalating<sup>c</sup>

-  Average temperature has increased by 1.3°C since 1910
-  Rainfall in the south-west is decreasing and increasing in the north
-  Number of days with severe fire weather is increasing
-  Sea level has risen 25cm since 1880
-  Heatwaves are more frequent and severe
-  Extreme weather events are becoming more frequent and more severe

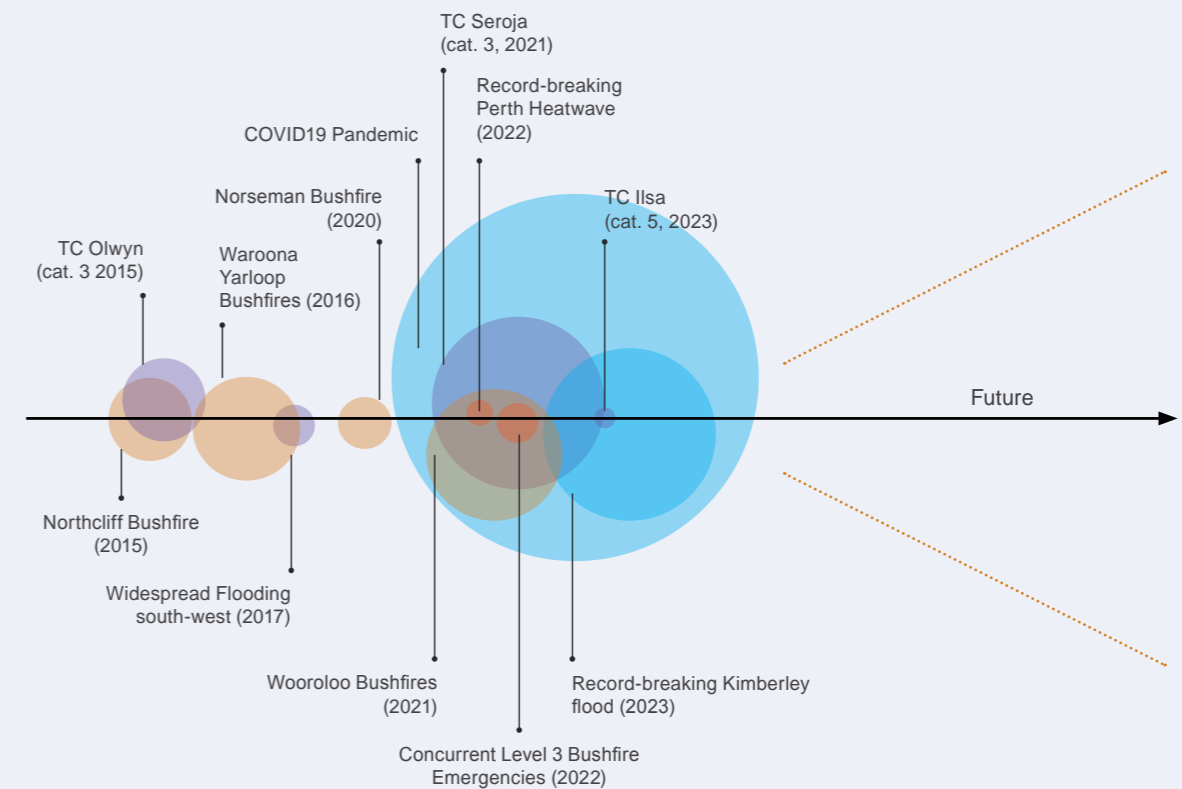
Climate projections indicate that observed warming and extreme weather trends are likely to worsen into the future (see Box 2). Recent estimates indicate that the cumulative economic costs of climate-driven natural disasters in Western Australia could exceed \$120 billion over the period 2020-2060 under a high emissions scenario.<sup>8</sup> Ultimately, our resilience to worsening climate impacts will depend on actions taken today to reduce greenhouse gas emissions, reduce vulnerabilities, and to adapt to a changing climate and its impacts.

<sup>8</sup> Deloitte (2021)

### Change in annual number of days with dangerous weather conditions for bushfires (period July 1986 to June 2022 vs July 1950 to June 1986).<sup>d</sup>



### Timeline of emergency events in Western Australia<sup>e</sup>



a. Global mean CO<sub>2</sub> concentration and global mean of all greenhouse gas concentrations expressed as CO<sub>2</sub>-e (source: CSIRO and BoM 2022) | b. Anomalies in annual mean sea surface and land temperatures over the Australian region, shown as departures from the 1961-90 standard averaging period (source: CSIRO and BoM 2022) c. see DWER (2021) | d. CSIRO and BoM (2022) | e. timeline of selected emergency events for Western Australia 2015 to present. Circle size represents a qualitative assessment of event magnitude and associated recovery effort.





Box 2

## Projections of Western Australia's Future Climate

Climate change projections are estimates of how the Earth's climate is expected to change into the future based on various scenarios of greenhouse gas emissions, climate models, and scientific research. Projections provide valuable insight into the potential impacts of climate change across the environment, the economy and society.

The Department of Water and Environmental Regulation (DWER) published a summary of Western Australian climate projections in 2021 based on Climate Change in Australia projections produced by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Bureau of Meteorology (BoM) in 2015.<sup>9</sup> Projections for Western Australia for 2050 based on a high emission scenario include:

- Increase in Western Australia's average temperature by about 2°C (range of 1.5 to 2.4°C)
- Significant increase in 'very hot days' across all regions. For example, the number of very hot days (>40°C) per year is likely to increase on average from 1.5 to five in Perth, and from six to 16 in Broome

- An increase in the duration of fire seasons, with a 40 percent increase in very high fire danger days
- A further 24cm rise in sea levels along the West Australian coast
- Further decline in rainfall across the south-west
- Greater rainfall variability leading to more periods of extreme wet and dry
- A decrease in the number of tropical cyclones, but an increase in the proportion that are severe.

Work is underway to produce the next generation of climate projections for Western Australia through the Climate Science Initiative (CSI).<sup>10</sup> A partnership between the Western Australian Government, other Australian jurisdictions and research institutions, the CSI will deliver high resolution down-scaled projections extending 75 years into the future. Information derived from these projections will help government plan for more intense climate extremes like tropical storms, floods, and bushfires, and support major investment decisions in areas such as energy infrastructure, planning and regional development.

<sup>9</sup> DWER (2021)

<sup>10</sup> Climate Science Initiative (www.wa.gov.au)

## Adaptation and emergency management

The choices we make, whether about priorities, resourcing, and investment, affect the types of risks we experience and the likelihood that they will produce harm. In emergency management, these choices are made through a process of emergency risk management (ERM). ERM involves identifying risk, evaluating its priority, and implementing strategies or treatments to manage them. Emergency risks can be managed before they occur (prevention and preparedness), during an emergency (response), and after an event (recovery). Together, prevention, preparedness, response, and recovery (PPRR) represent the four phases of emergency management which are enshrined in the Western Australian State Emergency Management Framework.

Climate change adaptation is a process of managing climate risks through a process of adjustment (see Box 3).<sup>11</sup> Adaptation can occur in advance of an anticipated climate impact or after an event as part of or after a period of recovery.

Adaptation has been found to be extremely cost-effective, with every dollar of investment in adaptation projects yielding \$10 return on investment.<sup>12</sup> Ultimately, both ERM and adaptation seek to reduce risk and its harms by understanding hazards, reducing exposure, and addressing vulnerabilities.

Although ERM and climate adaptation are similar they are not the same. Traditionally, ERM has focused on conventional risks (Table 1). These types of risks tend to consider specific hazards that are well known, clearly definable, operate over relatively short timeframes, and that can be managed through well-established risk management processes. Climate change, on the other hand, while affecting specific hazards, is also creating emerging and systemic risks that occur over long time-frames and that are characterised by high uncertainty. Systemic risks include emergencies with compounding or cascading impacts, simultaneous events with additive effects, or very large-scale emergencies that impact many places, sectors, and domains at once.

Type of Risk	Definition	Main features	Examples	Implications
Conventional risks	Known and well-defined risks	<ul style="list-style-type: none"> <li>• Familiarity – risks are recognisable, patterned, and familiar.</li> <li>• Management strategies are well defined and effective</li> </ul>	<ul style="list-style-type: none"> <li>• Car accidents</li> <li>• Seasonal bushfires</li> <li>• HAZMAT incidents</li> </ul>	Use of standard risk management practices
Emerging risks	New risks or known risks that become apparent in new contexts or conditions	<ul style="list-style-type: none"> <li>• Uncertainty regarding potential consequences and probability of occurrence</li> <li>• Lack of familiarity with the risk</li> </ul>	<ul style="list-style-type: none"> <li>• Prolonged bushfire seasons</li> <li>• Southward movement of powerful cyclones</li> <li>• Longer and more severe heatwave conditions</li> </ul>	Reassess baselines, revise decisions, and adapt processes. Focus on early detection and elements that trigger emerging risks
Systemic risks	Risks that threaten the overall functioning of a system through a process of contagion	<ul style="list-style-type: none"> <li>• Interconnected risks with complex causal structures and high potential for compounding and cascading effects</li> <li>• Risks are uncertain, non-linear, emergent (i.e., more than the sum of their parts), and surprising</li> <li>• Standard risk assessment and management methods have limited effectiveness due to complexity of system dynamics</li> </ul>	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• COVID-19 pandemic</li> </ul>	Focus on adaptation and transformation of the organisation and the system

**Table 1:** Comparison of conventional and systemic risk<sup>13</sup>

<sup>11</sup> IPCC (2022)

<sup>12</sup> Global Commission on Adaptation (2020)

<sup>13</sup> Adapted from IRGC (2018)

# Adaptation and Reducing Emergency Risks

## Adaptation occurs in many ways<sup>a</sup>



**Built adaptation**  
Modifying, designing, and planning the built environment to reduce exposure or to better withstand climate risks.



**Economic adaptation**  
Changing economic settings to incentivise climate resilient development and investment, risk assessment and management.



**Social adaptation**  
Adjusting behaviours, practices, and institutions to reduce climate risks and better prepare, respond, and recover from emergency events.

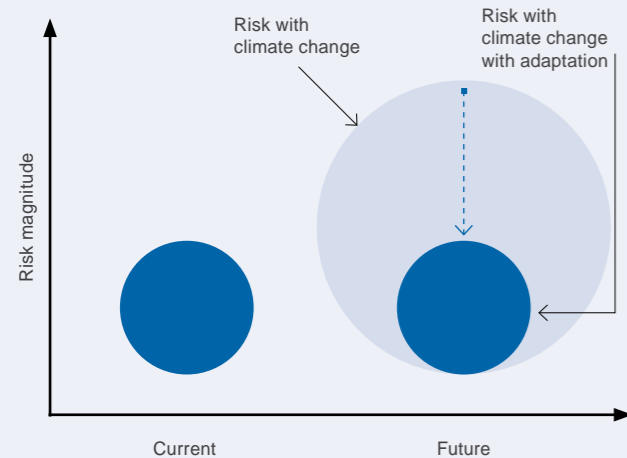


**Technological adaptation**  
Adopting technologies that reduce greenhouse emissions, enhance resilience to climate risks, and promote sustainable practices.

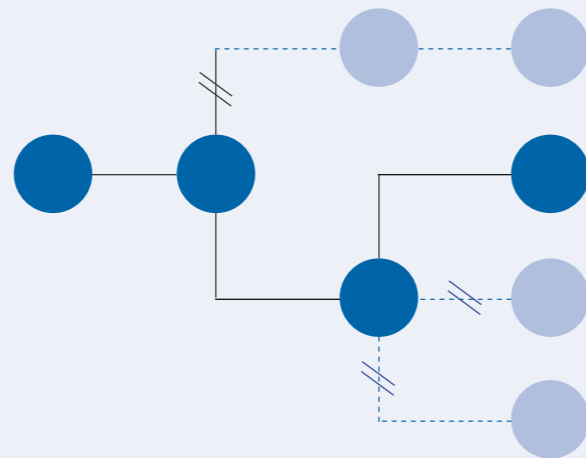


**Political adaptation**  
Adapting policy, governance structures, and processes to reduce vulnerability, enhance preparedness and capability, and promote climate resilience.

## Adaptation reduces risk<sup>b,c</sup>



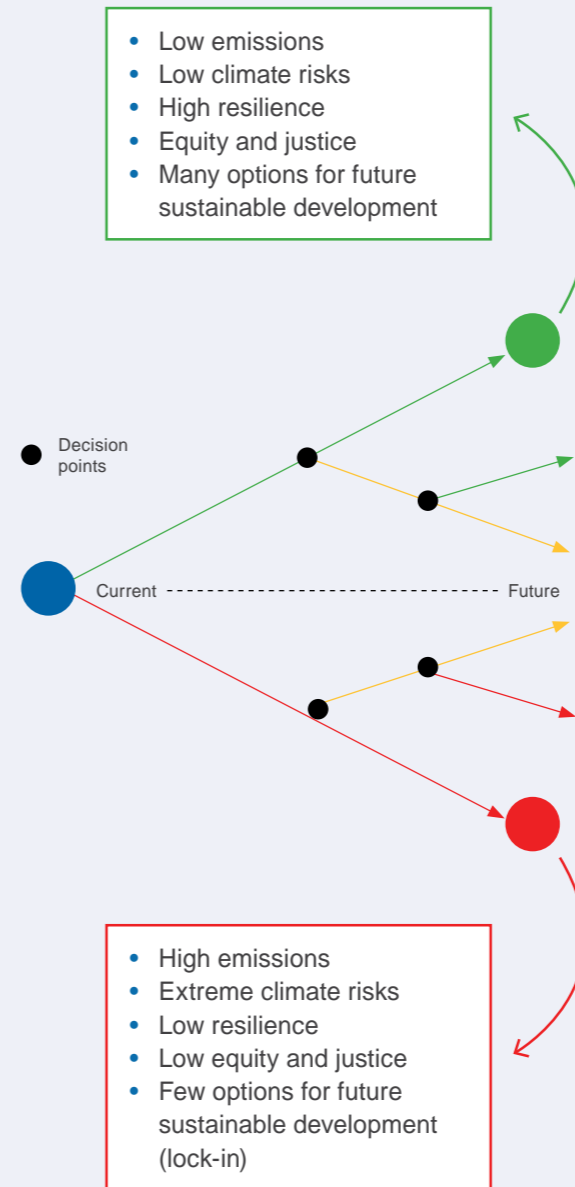
Adaptation reduces risk for a specific hazard.



Adaptation reduces the spread of risk within or across interdependent systems.

a. Brief description of different types of adaptation informed by National Climate Resilience and Adaptation Strategy (2021) and IPCC (2022) | b. Conceptual figure showing the effect of climate change and adaptation on a specific risk. | c. Conceptual figure showing the dampening effect of adaptation on climate risk through a complex system. | d. Adaptation as part of climate resilient development pathways, adapted from IPCC (2022).

## Adaptation makes desirable futures possible<sup>d</sup>



Adaptation is a social process which, when combined with choices about development and mitigation, influence the range of possible futures that are available to us.

While the hazard-by-hazard approach to emergency risk management will continue to be essential for emergency management organisations, new approaches are needed to manage systemic risks in the context of climate change.<sup>14</sup> Systemic risks challenge established approaches to risk management that address specific elements of risk in isolation from one another.<sup>15</sup> Work is underway to drive emergency risk management to a more systemic approach. In Australia, this can be seen through efforts to:

- Develop a better integrated and coordinated emergency risk management system premised on disaster risk reduction principles (e.g., National Disaster Risk Reduction Framework, Second National Action Plan for Disaster Risk Reduction)<sup>16</sup>
- Identify lessons and opportunities for improvement through review of previous emergencies and experiences from other jurisdictions (e.g., Royal Commission into National Natural Disaster Arrangements)<sup>17</sup>
- Improve the analysis and assessment of systemic risk (e.g., review of the National Emergency Risk Assessment Guidelines, Australian Institute for Disaster Resilience Systemic Disaster Risk Handbook)<sup>18</sup>
- Implement strategies to better leverage the collective capabilities of the community, private, and philanthropic sectors (e.g., Western Australian Community Disaster Resilience Strategy; the SEMC Philanthropic Engagement Framework for Emergency Management; Western Australian Emergency Management Capability Framework).

Further work is needed to adjust the methods, processes, and governance of emergency risk management to include systemic risks and climate change adaptation. The EM-SAP will be developed to support the Western Australian emergency management sector in this task.

### Question:

Is the climate change and adaptation information presented in this section appropriate for the EM-SAP? Is additional information needed?

<sup>14</sup> AIDR (2021)  
<sup>15</sup> Cutter et al. (2015) in Sillmann et al. (2022)  
<sup>16</sup> NDRRF (2018), NEMA (2023)  
<sup>17</sup> RCNDA (2020)  
<sup>18</sup> AIDR (2022), AIDR (2021)

# Policy context for climate change adaptation

The EM-SAP will sit within the Western Australian climate change suite of documents (Figure 2). It is one of seven sector adaptation plans (SAPs) in development. Sector adaptation plans are required as per the *Climate Change Bill 2023*<sup>19</sup> with the intent of identifying risks posed by climate change and facilitating collaboration between sectoral stakeholders to enhance adaptation.

The provisions of the Bill allow for establishing responsible Ministers for each SAP, including for the emergency management sector, and that the operation and effectiveness of the SAPs be reviewed within five years of being established, and that the review must include public consultation. The bill also sets key components that need to be included in the SAPs.

SAPs are being developed recognising that accelerating climate change adaptation in one sector will reduce risks and drive co-benefits for other sectors. Efforts are being undertaken to ensure consistency in approach and content.

The EM-SAP will represent a major sector-based component of the implementation of the Climate Adaptation Strategy (July 2023). The Climate Adaptation Strategy consists of eight principles and four key directions which together provide the overarching strategic framework for adaptation in Western Australia.

The EM-SAP will also complement the State Emergency Management Framework, including its guiding principles and state core objectives (see Appendix 1). Successful adaptation in this context are actions that minimise climate risks and associated harms while also advancing the state core objectives consistent with emergency management principles (see Box 3). Further information about the State Emergency Management Framework can be found on the SEMC website <https://www.wa.gov.au/organisation/state-emergency-management-committee>

The EM-SAP will be reviewed every five years as per requirements set out in the *Climate Change Bill 2023*.

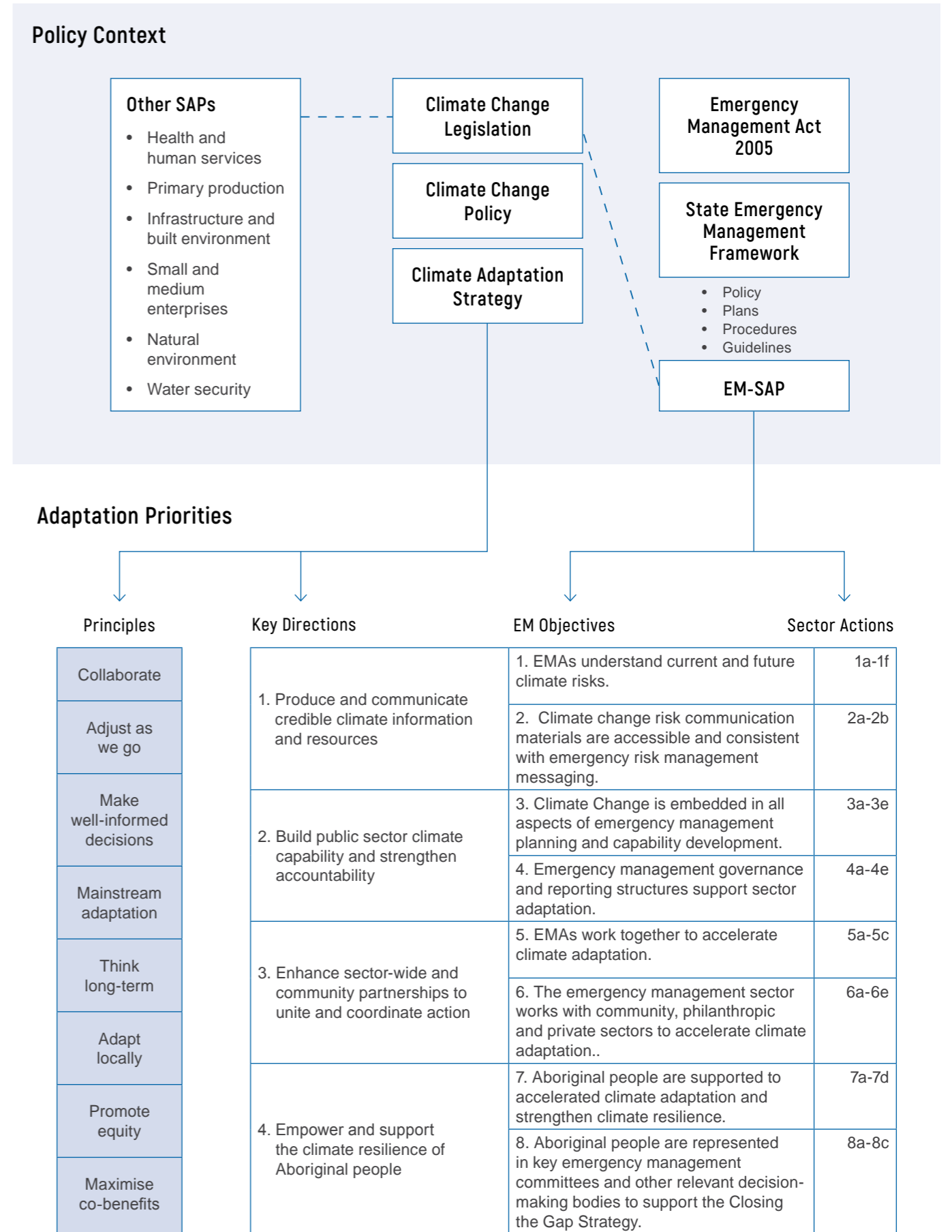


Figure 2: EM-SAP governance framework

<sup>19</sup> See Climate change legislation | Western Australian Government (www.wa.gov.au)



Box 4

## What is good adaptation?

Good climate change adaptation are strategies, policies, and actions that address climate-related risks to the things that we value while also minimising negative trade-offs and promoting long-term resilience. For the emergency management sector, good adaptation are actions, processes, and governance structures that promote climate resilience consistent with the principles and core objectives of emergency risk management.

Characteristics of good adaptation in the context of emergency management include:

- Enhanced preparation to cope with and respond to more frequent, severe, and complex emergencies;
- The ability to learn from experience and anticipate future requirements as a process of continuous improvement;
- Managing for slow and chronic changes, including sea level rise and increasing heat exposure;

- Reducing existing vulnerabilities, not just hazards and exposure;
- Addressing root causes of vulnerability, hazards and exposure, such as ineffective land use planning and social inequalities;
- Generating other social, environmental, or economic benefits beyond simply reducing the negative impacts of climate change (co-benefits).<sup>20</sup>

Undesirable adaptation (or maladaptation) includes actions that achieve short-term objectives at the expense of long-term resilience, that exacerbate inequality, that increase greenhouse gas emissions, or, in the context of emergency management, are inconsistent with or detract from emergency management objectives.<sup>21</sup> Integrated planning and taking a longer-term perspective can help prevent maladaptation from occurring.

<sup>20</sup> Adapted from Rickards and Keating (2021)

<sup>21</sup> See Barnett and O'Neill (2010) for general discussion on climate change maladaptation

# Proposed sector adaptation objectives and actions

## Introduction

This section proposes adaptation objectives and actions for the emergency management sector. These have been developed to align with state-level adaptation priorities (key directions) outlined in the Western Australian Climate Adaptation Strategy. This section also proposes adaptation principles consistent with the Western Australian Climate Adaptation Strategy.

As a representative of your organisation, you are encouraged to:

1. Review the proposed sector objectives and actions listed in tables on pages 26 to 29.
2. Suggest additional sector objectives and actions where appropriate, particularly in instances where your organisation is undertaking, or planning to undertake, adaptation actions that are relevant to the broader emergency management sector.
3. Nominate your organisation as a leading or supporting organisation for the delivery of relevant proposed sector objectives and actions.

Where appropriate, the final EM-SAP will include lead and support organisations against each of the sector actions and timeframes for implementation.

**Guiding Principles:** provided by the Climate Adaptation Strategy, the guiding principles ensure actions to accelerate climate action are consistent with the Western Australian Government's priorities and values (Table 2).

Principle	Description
Collaborate	Work together across all levels of government, business, academia and the community to prepare for, and adapt to, a changing climate.
Adjust as we go	Design actions and make decisions in a flexible and iterative way, to adjust as circumstances change and new information emerges.
Make well-informed decisions	Use the best available evidence, including Aboriginal and local knowledge, to anticipate change and develop effective adaptation responses.
Mainstream adaptation	Develop policy, systems and processes that make climate change adaptation part of everyday decision-making and planning.
Think long-term	Take an intergenerational perspective that extends beyond political, planning and financial cycles.
Adapt locally	Enable communities to prepare for the risks and opportunities they face, and tailor adaptation actions to the local situation.
Promote equity	Help the people, places and infrastructure most vulnerable to climate impacts, while building adaptive capacity for all. Address equity implications for affected stakeholders.
Maximise co-benefits	Take action that achieves complementary outcomes including reducing greenhouse gases while avoiding adaptive responses that reduce resilience.

**Table 2:** Western Australian Climate Adaptation Strategy principles

**Key Directions:** The Climate Adaptation Strategy identifies four key directions for adaptation in Western Australia. These have been adapted in the EM-SAP for the emergency management sector to ensure alignment with the Western Australian Governments' climate change adaptation priorities.

- Produce and communicate credible climate information and resources.
- Build public sector climate capability and strengthen accountability.
- Enhance sector-wide and community partnerships to unite and coordinate action.
- Empower and support the climate resilience of Aboriginal people.

**Emergency Management Sector Outcomes:**

The sector-based priorities for climate adaptation consistent with the Climate Adaptation Strategy's four key directions.

**Emergency Management Sector Actions:**

Actions to be undertaken to achieve the Sector Outcomes. Sector actions have been developed in consultation with the sector and have been developed to be consistent with the strategic priorities of the emergency management sector as outlined in the following:

- National Disaster Risk Reduction Framework
- Second National Action Plan for Disaster Risk Reduction
- Royal Commission into National Natural Disaster Arrangements
- SEMC Strategic Plan 2022-2025
- Recommendations from strategic emergency management projects



## Key Direction 1: Produce and communicate credible climate information and resources

Relates to National Disaster Risk Reduction Framework priority 1: understanding disaster risk, Second National Action Plan outcomes 1 and 2

### What does this Key Direction mean for the emergency management sector?

Understanding climate change risks is essential for developing effective adaptation strategies. This includes understanding how climate change affects all aspects of risk (i.e. hazard, exposure, and vulnerability) including hazard-specific and systemic risks, leveraging opportunities from research to develop increasingly robust climate risk information, and ensuring decision-makers and communities have access to credible climate information.

Outcome	Sector Action
1. Emergency Management Agencies (EMAs) understand current and future climate risks.	1a. Support EMAs to undertake strategic risk assessments to identify current and long-term climate risks and options for their management.
	1b. Leverage opportunities from the Climate Science Initiative to enhance understanding of regional climate-related hazards.
	1c. Develop exposure models for Western Australian communities and regions for different hazards and climate futures.
	1d. Develop vulnerability assessment methods to enhance understanding of climate risks for groups differentiated by social and economic risk factors.
	1e. Develop robust scenarios, exercises, and other learning approaches that improve understanding of hazard-specific and systemic climate-related risks.
	1f. Support EMAs to develop partnership agreements with research institutions to advance understanding of climate risks and adaptation options.
	1g. Implement new approaches to identification of future bushfire hotspots and improve fuel management strategies as recommended in the Western Australian Climate Adaptation Strategy.
2. Climate change risk communication materials are accessible and consistent with emergency risk management messaging.	2a. Produce communication materials, including visualisation tools, to make climate risk forecasts (hazard-specific risks and systemic risks) more accessible for communities, non-profit organisations, businesses, and at-risk groups.
	2b. Develop or enhance hazard and emergency risk communication materials to promote climate adaptation as part of emergency risk preparedness.

### What are we already doing? [under development]

## Key Direction 2: Build emergency management sector climate capability and strengthen accountability

Relates to National Disaster Risk Reduction Framework priority 2: accountable decisions, and priority 4: governance, ownership and responsibility, Second National Action Plan outcomes 3, 4, 8, and 9

### What does this Key Direction mean for the emergency management sector?

Adaptation is enhanced when decision-makers across the emergency management sector (state, district, and local levels) are empowered to address climate risk and adaptation in the development of emergency management arrangements and planning. This includes applying the principle of subsidiarity so that decisions about adaptation are made at the most local level possible.

Outcome	Sector Action
3. Climate change is embedded in all aspects of emergency management planning and capability development	3a. Develop capability assessment methods and tools that support EMAs to strengthen climate adaptation and other emergency management capabilities to address climate risks.
	3b. Provide support to Local and District Emergency Management Committees (LEMCs and DEMCs) to incorporate climate adaptation into emergency management arrangements.
	3c. Improve DEMC and LEMC accountability for monitoring the effectiveness and maturity of climate adaptation at district and local levels as part of emergency risk management.
	3d. Provide support to Local Governments to incorporate climate adaptation into Local Emergency Management Arrangements (LEMAs) through the LEMA reform program of work.
	3e. Develop advice for EMAs on the incorporation of climate change adaptation into emergency recovery planning.
4. Emergency management governance and reporting structures support sector adaptation	4a. Update the State Emergency Management Policy to ensure climate change adaptation is considered where appropriate across the prevention, preparedness, response, and recovery phases of emergency management.
	4b. Update relevant State Hazard Plans to include detail on climate risk and adaptation across prevention, preparedness, response, and recovery phases of emergency management.
	4c. Update the Emergency Risk Management Guidelines to provide additional guidance to EMAs on climate adaptation as part of the emergency risk management process.
	4d. Augment emergency risk management reporting structures in the State Emergency Management Framework to support sector-wide adaptation reporting and transparency.
	4e. Develop a sector-wide monitoring framework to facilitate sector adaptation reporting.

### What are we already doing? [under development]

## Key Direction 3. Enhance sector-wide and community partnerships to unite and coordinate action

Relates to National Disaster Risk Reduction Framework priority 2: accountable decisions, and priority 4: governance, ownership and responsibility, Second National Action Plan outcomes 4, 8, and 9

### What does this Key Direction mean for the emergency management sector?

Adapting to climate change and managing emergency risks is a shared responsibility involving all aspects of society. The effectiveness of our adaptation and emergency risk management strategies are enhanced when we leverage the collective capabilities of all parts of society and coordinate action. This includes expanding emergency management to better enable community, private and philanthropic sectors to participate in all phases of emergency management (prevention, preparedness, response, and recovery) and developing strategic partnerships to advance climate adaptation and emergency management goals together.

Outcome	Sector Action
5. EMAs work together to accelerate climate adaptation	5a. Support the implementation of data sharing legislation and standards to enhance accessibility and interoperability of data for climate adaptation and emergency risk management.
	5b. Improve processes for identifying and sharing climate adaptation lessons as part of sector-wide lessons and exercise development.
	5c. Enhance coordination and collaboration for the management of climate risks through state-level exercising.
6. The emergency management sector works with communities, and philanthropic and private organisations to accelerate climate adaptation	6a. Integrate the Community Disaster Resilience Strategy within emergency risk management processes to support communities to develop their own strategies and plans for adaptation as part of community resilience development.
	6b. Integrate the Philanthropic Engagement Framework for Emergency Management with emergency risk management processes to support the inclusion of philanthropic, private, non-government, and not-for-profit sectors in climate adaptation planning as part of emergency risk management.
	6c. Leverage and build upon existing participatory and co-development methodologies to support climate adaptation and emergency risk management planning for vulnerable and at-risk groups.
	6d. Promote collaborative partnerships between local governments to manage local and regional climate risks and implement adaptation.
	6e. Promote collaboration with industry and private organisations to identify emerging opportunities for climate adaptation and emergency risk management presented by artificial intelligence, machine learning, and other technologies.
7. The emergency management sector works across government to accelerate climate adaptation and enhance climate resilience.	7a. Work collaboratively with other lead agencies in the development, implementation, and review of their Sector Adaptation Plans.
	7b. Support Infrastructure Western Australia to develop and implement a statewide approach to climate change adaptation for existing infrastructure as recommended in the 2022 State Infrastructure Strategy. <sup>22</sup>
	7c. Support actions to address home insurance affordability pressures as outlined in the Actuaries Institute Green Paper on Home Insurance Affordability and Insurance Council of Australia Insurance Catastrophe Resilience Report 2022-23. <sup>23</sup>
	7d. Provide advice on building-related plans and infrastructure projects, as well as relevant codes, standards, and statutes.

### What are we already doing? [under development]

<sup>22</sup> Infrastructure Western Australia (2022)

<sup>23</sup> Actuaries Institute (2022) and Insurance Council of Australia (2023)

## Key Direction 4: Empower and support the climate resilience of Aboriginal people

Relates to National Disaster Risk Reduction Framework priority 1: understand disaster risk, priority 3: enhanced investment, and priority 4: governance, ownership and responsibility, Second National Action Plan outcomes 1, 4, 6, 8 and 9

### What does this Key Direction mean for the emergency management sector?

Aboriginal people have long-standing cultural connections to Country and considerable experience responding to past changes in climate. However, Aboriginal people also are disproportionately affected by climate risks and the unintended consequences of adaptation. The climate resilience of Aboriginal people is enhanced through the empowerment and engagement of Aboriginal people in all aspects of climate change adaptation and emergency risk management, and the inclusion of their knowledge and voices in decision-making processes.

Work is underway by the Department of Water and Environmental Regulation to develop a comprehensive strategy for engaging and empowering Aboriginal people to enhance their climate resilience. Additional sector outcomes and actions will be developed at the conclusion of this work and included in the next iteration of the EM-SAP.

Outcome	Sector Action
7. Aboriginal people are supported to accelerate climate adaptation and strengthen climate resilience	7a. Further strengthen relationships between SEMC, the Aboriginal Advisory Council of Western Australia, and key state agencies for climate change and Aboriginal engagement (e.g., Department of Water and Environmental Regulation, Department of the Premier and Cabinet) to ensure Aboriginal people are represented in emergency management and supported to accelerate adaptation.
	7b. Support consultation undertaken by the Department of Water and Environmental Regulation as the lead agency to develop and implement the First Nations Resilience Fund.
	7c. Develop governance arrangements to ensure government parties engage with Aboriginal and Torres Strait Islander representatives before, during, and after emergencies as per Priority Reform Three of the Closing the Gap Report.
	7d. SEMC to work closely with the Department of Water and Environmental Regulation to continue the development of the Emergency Management Sector Adaptation Plan with a specific focus on Aboriginal people.
8. Aboriginal people are represented in key emergency management committees and other relevant decision-making bodies to support the Closing the Gap Strategy	8a. Explore options for strengthening the inclusion of Aboriginal voices in the SEMC, including processes for including an independent Aboriginal representative.
	8b. Expand membership of local and district emergency management committees to include independent Aboriginal representatives.
	8c. Further strengthen representation of Aboriginal people in the assessment and awarding of emergency management state and commonwealth grant funding.

### What are we already doing? [under development]

# Tracking progress on climate change adaptation

This section describes how climate change adaptation reporting might be implemented throughout the Western Australian emergency management sector. It also describes proposed responsibilities for climate change adaptation reporting and EM-SAP review.

### Climate change adaptation reporting

It is proposed that the SEMC prepare a climate change adaptation implementation report annually to the Minister for Emergency Services as the minister responsible for the EM-SAP. The report will discuss progress on sector objectives and actions outlined in the EM-SAP, as well as matters for consideration to further support adaptation across the emergency management sector.

It is important to note that while there is currently no requirement for the Minister responsible for specified SAPs to contribute to annual climate change reporting to Parliament, reporting on adaptation may be included at the discretion of the Minister for Climate Action.

Currently, the State Emergency Management Framework outlines several reporting structures for different aspects of emergency management, including annual reporting, preparedness reporting, and exercising. While preparedness reporting and exercise reporting are currently under review, each structure broadly follows the same local-to-state reporting flow shown in Figure 3 below and described overleaf.

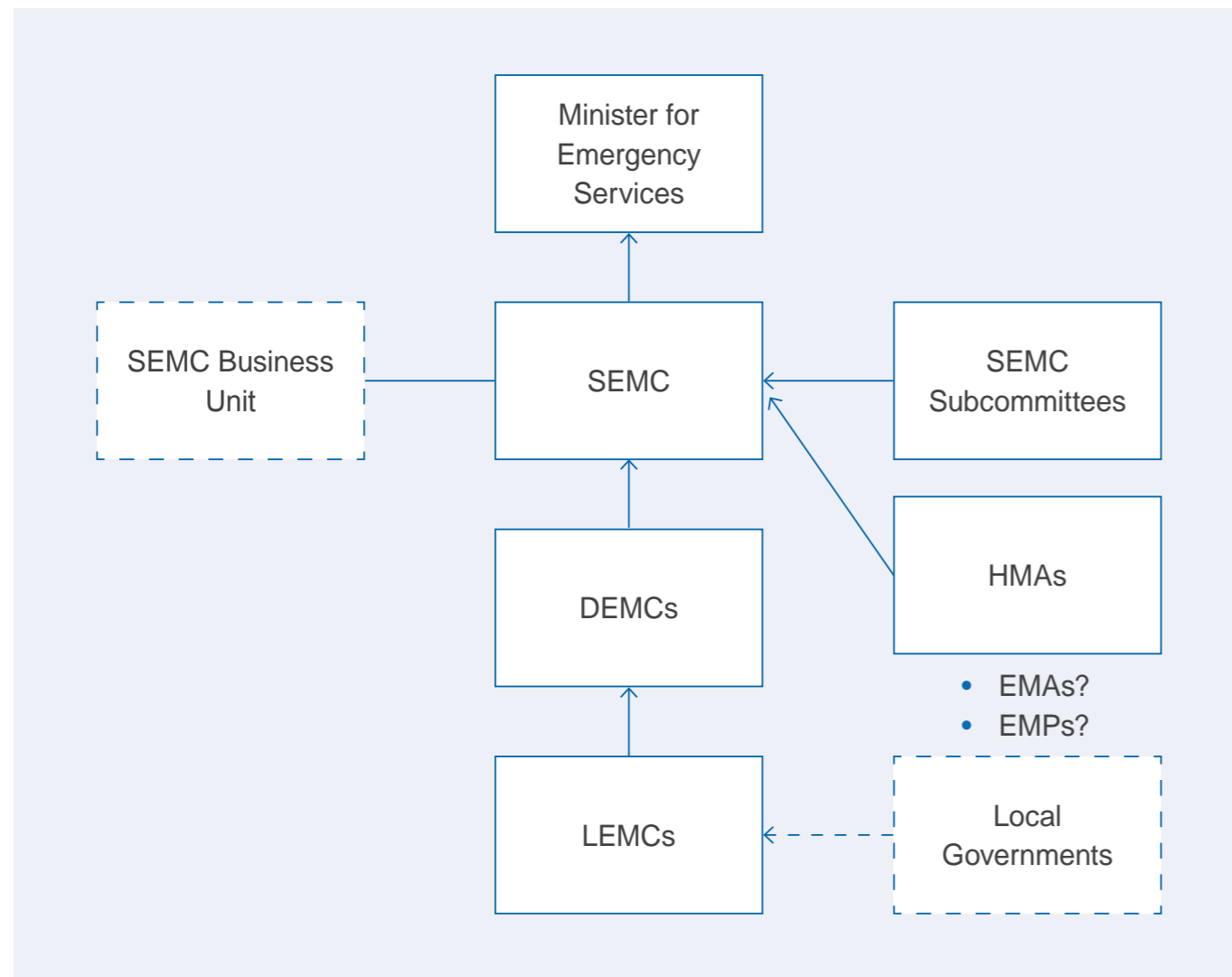


Figure 3: Reporting structure for emergency management sector adaptation

- **LEMC:** reports to the relevant DEMC on adaptation activities undertaken by the committee and the local government/s. Note: local government activities are captured in LEMC reporting.
- **DEMCs:** reports to the SEMC on adaptation activities undertaken by the committee and represented LEMCs.
- **SEMC subcommittees:** reports to the SEMC on activities undertaken by the committee inclusive of relevant Reference Groups and Working Groups
- **HMA:** report to the SEMC on climate change activities undertaken by the agency as well as services and other initiatives provided to support climate change adaptation more broadly across the emergency management sector.
- **SEMC Business Unit:** provide administrative and coordination support for climate change adaptation reporting.
- **Note:** Existing and former reporting processes in emergency management do not specify reporting structures for other EMAs or EMPs.

### Responsible parties

**Minister for Emergency Services:** responsible for the preparation and review of the EM-SAP.

**SEMC:** as peak body for emergency management in Western Australia, the SEMC will be responsible for:

- Maintaining oversight of EM-SAP implementation
- Sector-based climate change adaptation reporting to the Minister for Emergency Services.
- Authorising programs of work within the SEMC remit to support the implementation of EM-SAP actions, including amendments to the State Emergency Management Framework.
- Approve amendments to subcommittee, DEMC and LEMC workplans to support climate change adaptation.
- Undertaking directions from the Minister of Emergency Services.

**Lead agencies:** will be responsible for:

- Lead implementation of sector adaptation action/s
- Report annually to the SEMC on progress.

**Support agencies:** will be responsible for:

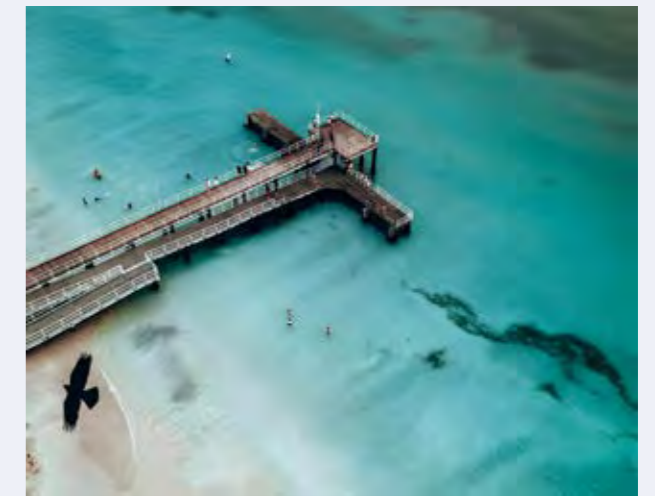
- Support the lead agency in the implementation of the sector adaptation actions.
- Provide input to the lead agency annual report to the SEMC.

### EM-SAP review

As per the *Climate Change Bill 2023*, the Minister responsible for the specified SAP must review the operation and effectiveness of the plan every five years. This is consistent with the review timeframes for the State Emergency Management Framework.

### Questions to consider:

- What existing SEMC reporting structures for emergency management can be leveraged to support sector-based climate change adaptation reporting?
- What are the reporting obligations of non-HMA organisations currently represented in the State Emergency Management Framework?
- What are the reporting obligations for EMPs not represented in the State Emergency Management Framework?





# Appendix 1 State Emergency Management Principles and Core Objectives

Emergency Management Principles <sup>24</sup>	Description
Risk management approach	The sector adopts a comprehensive and consistent approach to emergency risk management across prevention, preparedness, response, and recovery phases of emergency management to inform effective decision making and management of risks.
Shared responsibility for resilience	Everyone has a role to play in minimising emergency risks and enhancing resilience. Communities and organisations are supported to develop their own resilience plans and strategies.
All-hazards approach	Emergency risk management is applicable to all hazards, regardless of their type, scale, or complexity.
Graduated approach	Decision making for emergency risk management is made at the lowest appropriate level of the emergency management system, noting that plans are in place to leverage capabilities from district, state, national, and international resources.
All-agencies coordinated and integrated approach	Emergency management agencies work together to address emergencies, minimise emergency risks, and build resilience.
Continuous improvement	The emergency management sector seeks to improve its efficiency and effectiveness through processes of learning and improvement.
Community engagement	Communities are provided credible and timely information to inform effective emergency risk management decision making.
Integrated information management	Processes are in place to ensure the interoperability, veracity, quality, robustness, security, and availability of emergency management data and information.
State Core Objectives <sup>25</sup>	Description
People	Protect lives and wellbeing of persons.
Economy	Maintain and grow the State's productive capacity, employment and government revenue.
Social setting	Ensure there is public order, under which people are housed and fed in a safe and sanitary manner and have access to social amenity including education and health services, and things of cultural importance are preserved.
Government	Ensure there is, at all times, an effective and functioning system of government and societal respect for rule of law.
Infrastructure	Maintain the functionality of infrastructure, particularly key transport infrastructure and utilities required for community health, economic production and effective management of Emergencies.
Environment	Protect the ecosystem and biodiversity of the state.

<sup>24</sup> Adapted from State Emergency Management Policy

<sup>25</sup> Ibid.

# Appendix 2 Glossary

<b>Adaptation<sup>26</sup></b>	The process of adjustment to the actual or expected effects of climate change to moderate harm or take advantage of beneficial opportunities. It can be proactive, reactive, incremental or transformational.
<b>Adaptive capacity</b>	The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities or respond to consequences.
<b>Climate hazard</b>	A potential natural or human-induced physical event, trend or disturbance that may cause loss of life, injury or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.
<b>Climate impact</b>	The consequences of climate change because of interactions of climate-related hazards (including extreme weather/climate events), exposure and vulnerability. Impacts can be adverse or beneficial.
<b>Climate change projections</b>	The simulated response of the climate system to a scenario of future emissions or concentrations of greenhouse gases and aerosols and changes in land use, generally derived using climate models.
<b>Climate risk</b>	The potential for negative consequences because of the exposure and vulnerability of human or ecological systems.
<b>Combat Agency</b>	A Combat Agency prescribed under section 6(1) of the <i>Emergency Management Act 2005</i> is to be a public authority or other person who or which, because of the agency's functions under any written law or specialised knowledge, expertise and resources, is responsible for performing an emergency management activity prescribed by the regulations in relation to that agency.
<b>Emergency Management Agency (EMA)</b>	A Hazard Management Agency, a Combat Agency or a Support Organisation.
<b>Emergency risk management<sup>27</sup></b>	A systematic process which contributes to the wellbeing of communities and the environment. The process considers the likely effects of hazardous events and the controls by which they can be minimised.
<b>Hazard Management Agency (HMA)</b>	A public authority, or other person, prescribed by the <i>Emergency Management Regulations 2006</i> to be a Hazard Management Agency for emergency management, or an aspect of emergency management, of a hazard.
<b>Mitigation</b>	Reducing greenhouse gas emissions or enhancing sinks of greenhouse gases to slow the rate of climate change.
<b>Resilience</b>	The capacity of social, economic and ecosystems to cope with a hazardous event, trend or disturbance.
<b>Risk<sup>28</sup></b>	<i>General</i> - The effect of uncertainty on objectives.  <i>Climate change</i> – [...] Risk results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence.
<b>Support Organisation</b>	A public authority or other person who or which, because of the agency's functions under any written law or specialized knowledge, expertise and resources is responsible for providing support functions in relation to that agency.
<b>Systemic risk<sup>29</sup></b>	Threats that individual failures, accidents or disruptions present to a system through the process of contagion.
<b>Vulnerability</b>	The propensity or predisposition to be adversely affected, including the sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

<sup>26</sup> Definitions are from the Western Australian Climate Adaptation Strategy based on secondary sources unless otherwise stated.

<sup>27</sup> SEMC (2023)

<sup>28</sup> AIDR (2020) and IPCC (2018)

<sup>29</sup> IRGC (2018)

## Appendix 3 Detailed timeline

Phase 1: Governance, Scope, and Investigation	Phase 2: Directions Paper	Phase 3: Discussion Paper	Phase 4: Next steps
<p><b>1a. Climate Change Subcommittee establishment (late 2022)</b> The SEMC Climate Change Subcommittee (CCSC) was established as a mechanism to directly consult and engage with the emergency management (EM) sector.</p> <p><b>1b. Program Management Plan development (early 2023)</b> The PMP was developed to set the scope and governance to guide the development of the WA Emergency Management Sector Adaptation Plan (EM-SAP). The PMP was developed in consultation with SEMC CCSC.</p> <p><b>1c. Discovery and sector scoping (early 2023)</b> Policy and decision makers in EM were asked to provide their insight about climate change, including providing information about the work undertaken by their organisation or community to manage climate risks.</p>	<p><b>2a. Directions Paper (March-June 2023)</b> A draft Directions Paper was developed to support the development of the EM SAP, informed in part from findings from the discovery phase, and presented at the June 2022 CCSC meeting. A workshop was conducted to gather feedback on scope, intent, and content.</p>	<p><b>3a. Discussion Paper (November 2023)</b> Feedback from Phase 1 and Phase 2 was used to develop the EM-SAP Discussion Paper. Endorsement will be sought from the CCSC to release the Discussion paper for broad consultation.</p> <p><b>3b. Discussion Paper Broad consultation (December 2023 to early 2024):</b> The Discussion paper will be open for sector and broad consultation as per State Emergency Procedures section 3.5. The Western Australian Local Government Association will coordinate consultation with local government stakeholders.</p>	<p><b>4a. Draft EM-SAP (early to mid-2024)</b> The EM-SAP will be drafted incorporating feedback from the Discussion Paper consultation process and peer review by relevant experts.</p> <p><b>4b. Targeted consultation (early to mid 2024)</b> The EM-SAP will be released for targeted consultation including expert peer review.</p> <p><b>4c. Final EM-SAP and approval (mid-2024)</b> Approval will be sought from the SEMC to release the final EM-SAP.</p>

## Appendix 4 Useful links and resources

### Climate Change Policy (Western Australia)

- Western Australian Climate Change Legislation: <https://www.wa.gov.au/service/environment/environment-information-services/climate-change-legislation>
- Western Australian Climate Change Policy: <https://www.wa.gov.au/service/environment/environment-information-services/western-australian-climate-change-policy>
- Western Australian Climate Adaptation Strategy: <https://www.wa.gov.au/service/environment/environment-information-services/climate-adaptation-strategy>

### Emergency Management Policy (National and Western Australia)

- National Disaster Risk Reduction Framework: <https://www.homeaffairs.gov.au/emergency/files/national-disaster-risk-reduction-framework.pdf>
- Second National Action Plan for Disaster Risk Reduction: [https://nema.gov.au/sites/default/files/inline-files/28605%20NEMA%20Second%20Action%20Plan\\_V10\\_A\\_1.pdf](https://nema.gov.au/sites/default/files/inline-files/28605%20NEMA%20Second%20Action%20Plan_V10_A_1.pdf)
- Western Australian State Emergency Management Framework: <https://www.wa.gov.au/organisation/state-emergency-management-committee/state-emergency-management-framework>

### Climate Change Science and Projections

- Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6): provides the most comprehensive and up-to-date assessment of international climate science across three volumes – the physical science basis, mitigation of climate change, and impacts, adaptation and vulnerability. <https://www.ipcc.ch/>
- Australian Research Council for Climate Extremes: international research consortium of five Australian universities and partner organisation that produces reports and briefing notes on extreme events to support decision making by governments and industry <https://climateextremes.org.au/>

- State of the Climate Report 2022: <http://www.bom.gov.au/state-of-the-climate/>
- Climate Change in Australia Projections: released in 2015, provides regional-specific climate projections for Australia. <https://www.climatechangeinaustralia.gov.au/en/>
- Climate Science Initiative Western Australia: <https://www.wa.gov.au/organisation/department-of-water-and-environmental-regulation/climate-science-initiative#:~:text=The%20Climate%20Science%20Initiative%20will,understand%20and%20apply%20the%20information.>
- CoastAdapt: provides a variety of tools to understand coastal hazards and adaptation options, including sea level projections and maps for local government areas <https://coastadapt.com.au/>

### Adaptation Resources and Examples

- Climate Action Western Australia: <https://www.climateaction.wa.gov.au/climate-change>
- WA Local Government Association Climate Change Templates and Tools: <https://walga.asn.au/policy-advocacy/our-policy-areas/environment/climate-change/templates-and-tools>
- United Nations Environment Programme Climate Adaptation Resources and Multimedia: <https://www.unep.org/explore-topics/climate-action/what-we-do/climate-adaptation/climate-adaptation-resources-multimedia>

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