Local Government Climate Change Adaptation Roles and Responsibilities under Victorian legislation

Guidance for local government decision-makers

VICTORIA State Government | Environment, Land, Water and Planning

Authors

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Photo credit

Photo Credit: Craig Moodie, DELWP

Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

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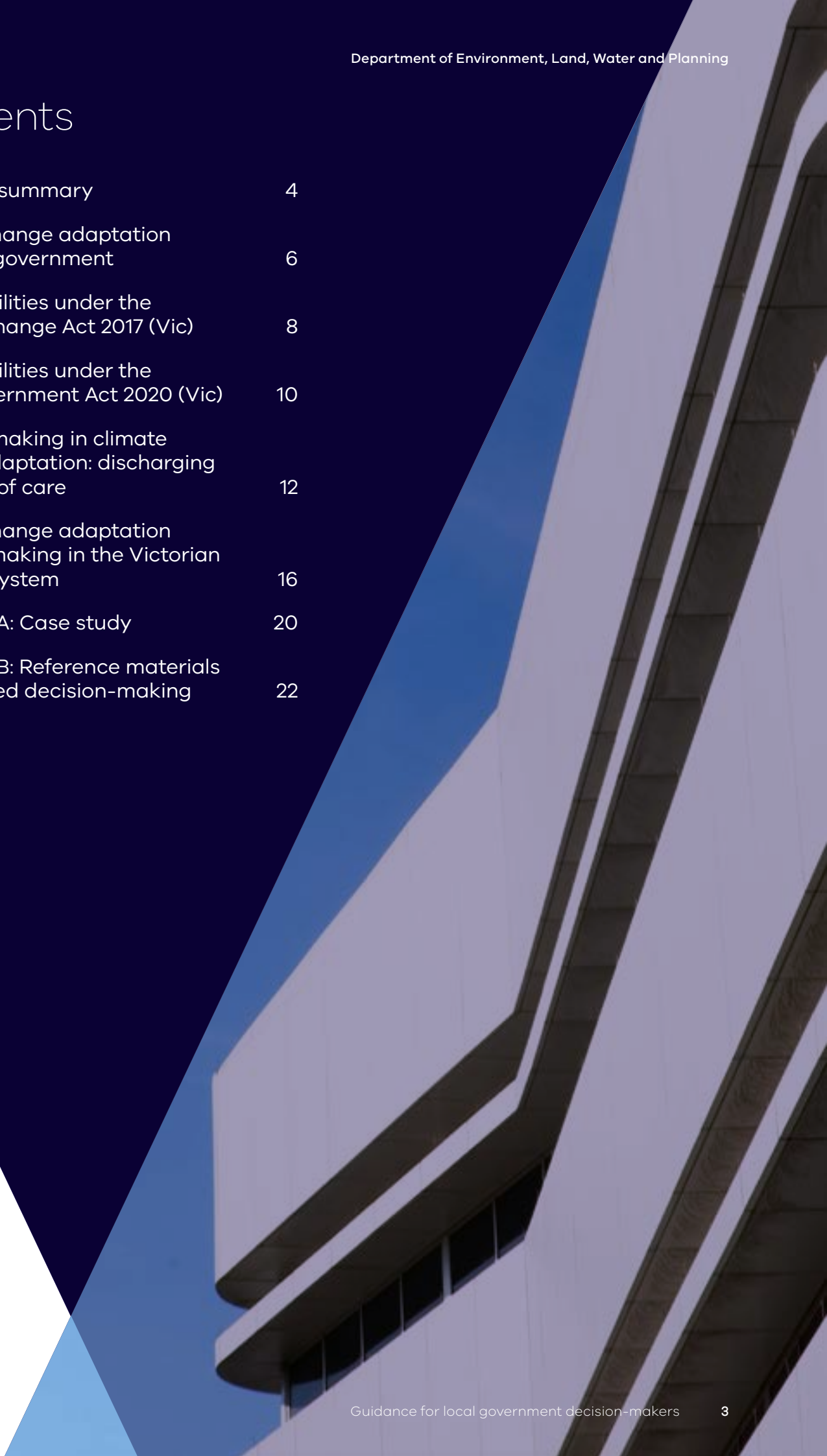

Executive summary

This guidance brief delivers on a commitment under *Victoria's Climate Change Adaptation Plan 2017–2020* to assist local government decision-makers to understand the scope and deliver on their roles and responsibilities for adaptation under current Victorian legislation.

This guidance brief points to the key legislation supporting climate change adaptation decision making by local government in Victoria, and provides practical advice to help meet the on-the-ground needs of Council staff.

Legislative responsibility for decision-making in the context of climate change risk and adaptation is an increasingly significant issue for federal, state, and local government in Australia. The legislative framework is complex and clarifying accountabilities for managing climate change risks and adaptation responses can be challenging.

There are three fundamental messages based on established legal principles relating to risk and liability management. First, statutory authorities, including local government, have a duty of care in exercising their functions and powers to manage foreseeable risks. Secondly, climate change hazards and risks are significant and foreseeable, so decision-makers are accountable for considering these matters in making a decision as part of exercising their duty of care. Thirdly, good decision-making is enabled by acting as a 'reasonable person' in making decisions guided by law.

To do this effectively, Councils need to:

- **be alert to the decisions they make where a duty of care will arise**
- **ensure robust and transparent processes when they make these decisions**
- **undertake effective consultation with experts and community as to specific decisions being made at the time**
- **ensure appropriate record keeping and risk management process are in place**
- **ensure the information that has led to a decision is made publicly available where possible**

Overview of the guidance brief

This guidance brief is broken up into the following key sections:

1. Climate change adaptation responsibilities under the *Climate Change Act 2017* (Vic) and *Local Government Act 2020* (Vic), and a checklist to guide local government decision-makers through their duty of care in the context of adaptation.
2. Climate change adaptation responsibilities under the *Planning and Environment Act 1987* (Vic) and considerations for sound planning decisions in relation to climate change adaptation.
3. Resources including a case study and reference materials to support informed decision-making.

Who is this guidance brief for?

This guidance brief has been prepared for senior decision-makers of Victorian local governments. It sets out their duties in relation to climate change under Victorian legislation and describes a process to help discharge those duties with due diligence.

Disclaimer

While this brief refers to legislative and other legal frameworks, it is intended as general guidance only and does not constitute legal advice. In addition, each decision-maker must consider their own circumstances in effectively discharging their obligations. Individual local government decision-makers are encouraged to seek independent legal advice specific to their unique factual or legal circumstances.

Climate change adaptation and local government

Climate change adaptation is defined as action taken to prepare for actual or expected changes in the climate, in order to minimise harm, act on opportunities, or cope with the consequences[1].

The projected impacts of climate change cut across almost all areas of local government responsibility, including the critical assets, infrastructure and essential services that Councils provide for their local communities. As a result, increasing attention is being paid to climate change adaptation and the role of local governments in managing climate risks.

Climate change risks include both physical and transition risks:[2]

Physical risks

Arise from the increased frequency and severity of extreme weather events, long-term changes in weather patterns, and sea level rise. They have serious implications for land use planning, infrastructure, transport, food and water security, and human health.

Transition risks

Arise from the social and economic changes associated with adjusting to a low-carbon economy. They include policy, legal, technology, market, reputational, social and financial risks.

Legislative framework for local government adaptation

This guidance brief is based on an independent legal review of roles and responsibilities for local government climate change adaptation under current Victorian legislation, conducted by the project team from Australian National University and RMIT University.

The framework for the legislative review was developed in consultation with local government stakeholders and incorporated an assessment of the legislation listed below:

1. *Climate Change Act 2017* (Vic) and legislation listed in Schedule 1
2. *Local Government Act 2020* (Vic)
3. *Planning and Environment Act 1987* (Vic)
4. *Wrongs Act 1958* (Vic;
5. Common law principles, where relevant to actions in negligence under tort and land-use planning law only, and
6. Relevant case law, where this aids in the interpretation of the above legislation.

1 *Climate Change Act 2017* (Vic)
2 Taskforce on Climate Related Financial Disclosures (TCFD), Final Report Recommendations of the Task Force on Climate-Related Financial Disclosures – June 2017

This guidance was developed based on expert legal review and the outcomes from four consultation workshops held with local government in different regions of Victoria in 2019.

Responsibilities under the Climate Change Act 2017 (Vic)

The *Climate Change Act 2017* lays out a long-term framework for mitigation and adaptation action on climate change, and requires decision-makers have regard to climate change for specific decisions and actions in a set of legislation listed in Schedule 1 to the *Climate Change Act 2017*.

Policy objectives and guiding principles

The *Climate Change Act 2017* lists the policy objectives and guiding principles relevant for climate change decisions, policy, processes or programs for the state of Victoria. Mitigation and adaptation are considered in these objectives and principles as a whole (indicated by the word 'and' after each listed objective). The *Climate Change Act 2017* provides government and legislative endorsement for these considerations where there is discretion to do so.

Section 22 lists the policy objectives of the *Climate Change Act 2017* –

a. to reduce the State's greenhouse gas emissions consistently with the long-term emissions reduction target and interim emissions reduction targets; and

b. to build the resilience of the State's infrastructure, built environment and communities through effective adaptation and disaster preparedness action; and

c. to manage the State's natural resources, ecosystems and biodiversity to promote their resilience; and

d. to promote and support the State's regions, industries and communities to adjust to the changes involved in the transition to a net zero greenhouse gas emissions economy, including capturing new opportunities and addressing any impacts arising from the need to reduce greenhouse gas emissions across the economy; and

e. to support vulnerable communities and promote social justice and intergenerational equity.

Section 23–28 of the *Climate Change Act 2017* lists the 'guiding principles' for a decision, policy, program, or process –

- Principle of informed decision-making
- Principle of integrated decision-making
- Principle of risk management
- Principle of equity
- Principle of community engagement, and
- Principle of compatibility

These principles provide criteria for assessing the suitability of council decision making, in conjunction with consideration of the factors listed under section 17 of the Act, and provide a means of demonstrating the application of due process (see page 14 for a checklist for decision-makers).

Decision-makers must have regard to climate change

Under section 17 of the *Climate Change Act 2017* a specific set of decisions made or action taken under one of the Schedule 1 listed Acts (or a subordinate instrument of one of those Acts such as Municipal Public Health and Wellbeing Plans) *must* follow a certain process (described below).

Within the Schedule 1 listed Acts, the only specified decision or action that creates an explicit obligation for local government is in the preparation of a Municipal Public Health and Wellbeing Plans (MPHWP) by a Council under *Public Health and Wellbeing Act 2008*.

The inclusion of the word '*must*' in section 17 means that the relevant decision-maker must fulfil all requirements outlined in the subsection. In particular, all of the subsections in section 17 are to be read together. Subsection 17(2) sets out the parameters of the decision-making process and 17(3) establishes the relevant considerations, which are cumulative.

Subsection 17(2) states:

In considering climate change, the relevant decision-maker must have regard to:

a. the potential impacts of climate change relevant to the decision or action; and
b. the potential contribution to the State's greenhouse gas emissions of the decision or action; and
c. any guidelines issued by the Minister under section 18.

Subsection 17(3) specifies:

In having regard to the potential impacts of climate change, relevant considerations are:

a. potential biophysical impacts; and
b. potential long and short term economic, environmental, health and other social impacts; and
c. potential beneficial and detrimental impacts; and
d. potential direct and indirect impacts; and
e. potential cumulative impacts.

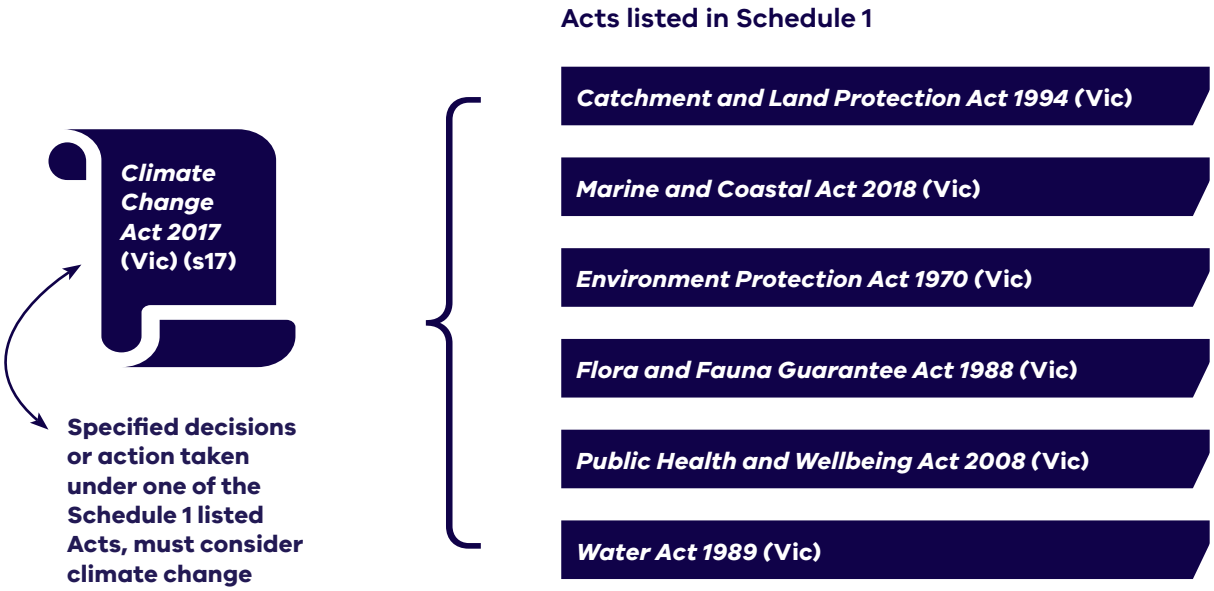

Figure 1

Responsibilities under the Local Government Act 2020 (Vic)

The *Local Government Act 2020* sets out a framework of the broad roles and responsibilities for local government and provides the primary legislative authority for local government in Victoria.

The *Local Government Act 2020* became law in Victoria on 24 March 2020, amending the previous 1989 Act in numerous ways including strengthening the mandate for considerations of climate change risk in Council decision-making processes.

Under s8(1) of the *Local Government Act 2020*, the role of a Council is to provide good governance in its municipal district for the benefit and wellbeing of the municipal community. Section 8(2)(a) states that a Council is considered to provide 'good governance' where it performs its role in accordance with the overarching governance principles and supporting principles. These principles are defined in s9(1) stating that a council *must* in the performance of its role give effect to the overarching governance principles.

At law, statutory requirements for '*must*' are to be strictly interpreted. The use of the word '*must*' under s9(1) of the *Local Government Act 2020* indicates that the overarching governance principles are compulsory obligations, rather than aspirational objectives.

Several of these overarching governance principles create obligations for Councils in the context of climate change, including:

- Under 9(2)(c) Councils are required to promote the economic, social and environmental sustainability of the municipal district, **including mitigation and planning for climate change risks**.
- Under 9(2)(b) Councils are required to give priority to achieving the best outcomes for the municipal community, including future generations.
- Under 9(2)(h) regional, state, and national plans and policies are to be taken into account during Council's strategic planning.
- Under 9(2(i) Council must ensure its decisions, actions, and information are transparent.

This means that processes like strategic planning must incorporate consideration of climate change and relevant state and national plans. There is now a clear expectation that decision-making is supported by robust and transparent practices, and that the long-term adverse consequences of climate change for future generations are incorporated into council planning, decisions and actions

It's my choice
to go hard.
It's my choice
who I see.
I want to
I want to choose
who treats me.

Decision-making in climate change adaptation: discharging your duty of care

Statutory authorities, including local government, have duties of care in exercising their functions and powers. At law, a failure to effectively discharge your duty of care may give rise to a *cause of action* against you – that is, you can be sued in a court of law.

The threat of climate change is now clearly established through legislation, national and state policy and international agreements. It is likely a court will construe that the risks and impacts of climate change are now reasonably clearly foreseeable. Councils have a duty of care in the context of climate change adaptation, this has been recognised by VCAT[3] since 2010 and other jurisdictions[4].

Claims in negligence

Negligence claims may arise in a variety of circumstances. Typically to establish an adverse finding against a local government, three main elements of negligence must be satisfied:

- the defendant must owe a duty of care
- the defendant must have breached that duty through an act or omission, and
- the plaintiff must have suffered damage or loss caused by that breach.

Other considerations include the cause of the damage, as well as how closely related the decision that led to the damage and the cause of the damage itself are. Importantly, the level of control and levers of influence over the risk of harm is relevant as to whether a duty of care is owed. For local government, their duty of care may arise in the context of:

- development approvals
- the provision (or lack thereof) of protective works
- or the provision (or lack thereof) of information or statements which are considered by a court to be negligent.

The standard of care is higher for governments than others who may have duties. This is particularly so if the duty relates to operational procedures and internal compliance with guidelines and manuals (*Pyrenees Shire Council v Day* (1998) 192 CLR 330). Generally, where reliance on information results in foreseeable harm, a legal action may arise (*L Shaddock & Associates Pty Ltd v Parramatta City Council* (1981) 150 CLR 225).

Discharging duties under the *Local Government Act 2020* in the context of climate change adaptation requires engagement with the *Climate Change Act 2017*. Where other legislation requires a specific 'duty', those requirements must be followed. The courts have stated that aspirational duties can fall somewhere in between either specific legislative duties, or broader common law duties (*South East Water Ltd v Transpacific Cleanaway Pty Ltd* (2010) VSC 46).

To establish an evidence base to support robust decision making and to demonstrate due diligence, it is advisable that councils:

- follow a rigorous process for higher risk decisions, such as *Australian Standard AS 5334-2013: Climate change adaptation for settlements and infrastructure – a risk-based approach*
- undertake effective consultation with experts and community as to specific decisions being made at the time
- ensure the relevant information that led to the decision is accounted for and appropriate records maintained
- make the information that has led to a decision publicly available.

Anticipating outcomes in legal proceedings is fraught. It is always prudent to obtain legal advice where decisions may involve the consideration of climate risk.

3 *Gippsland Coastal Board v South Gippsland Shire Council* [2008] VCAT 1545; *Printz v Glenelg SC* [2010] VCAT 1975 (10 December 2010).
4 Land and Environment Court [*Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7] New South Wales
5 Legal tools for managing climate risk in Victoria' (Godden, 2013) p 19.
6 http://classic.austlii.edu.au/au/journals/MelbULawRw/2017/34.html

Establishing **negligence** requires establishing 'whether a party did any act that a reasonable person would not have done, and thus cause injury to another which was reasonably foreseeable'. Importantly, this definition includes both an act and the omission of an act, so that negligence may be found not only when a decision has been made badly, but also in *failing* to do something that a reasonable decision-maker ought to have been reasonably expected to do.

The definition of a '**reasonable person**' will differ, depending on the context and circumstances surrounding the act or omission in question.[6] What constitutes a 'reasonable person' at law is determined by considering what a prudent person of ordinary experience, skill and intelligence would do in all of the circumstances.

Checklist for decision-makers

The guiding principles of the *Climate Change Act 2017* can be used to inform a decision, policy or program, assist Council decision-makers in discharging their duties under the *Local Government Act 2020* in the context of climate change adaptation, and prompt necessary conversations between council staff and Councillors.

Examples of decision-making	Questions to ask
Principle of informed decision-making: making informed decisions	
Should be based on a comprehensive analysis of information about potential impacts of climate change	☐ Are there processes in place to access the best practically available information on climate impacts, exposure and vulnerability? *See Appendix B for a list of available resources* ☐ Are there processes in place to routinely check accuracy and currency of climate information? ☐ Is the information that has led to a decision made publicly available?
Ensure that decisions to manage climate risk are not maladaptive and do not perversely contribute to the State's greenhouse gas emissions.	☐ Have we calculated and taken into account the potential contribution of this decision or action to the State's greenhouse gas emissions?
Principle of integrated decision-making: making integrated decisions	
Ensure that the short, medium and long-term impacts of climate change are considered in decision-making processes	☐ Have we identified the competing considerations relating to climate change over the short, medium, and long term? ☐ Does decision-making balance the immediate and long-term needs in managing climate risks? ☐ Are climate risks being considered in the yearly operational plans, four-yearly Council plans, and 10-yearly Community Vision, Financial and Asset Plans?
Ensure that the direct and cross-cutting issues relating to climate change are considered in decision-making processes	☐ Have we identified the direct and cross cutting social, health, economic and environmental issues relevant to climate change? ☐ Have we taken relevant regional, state, and national climate change plans and policies are to be taken into account? ☐ Has effective and proportionate consultation been undertaken with experts and the community to identify issues and inform critical decisions that need to be made? ☐ Have we considered all relevant issues during the decision-making process? *Use of a risk management framework can assist, such as Australian Standard 5334-2013: Climate change adaptation for settlements and infrastructure: A risk-based approach*

Examples of decision-making	Questions to ask
Principle of integrated decision-making: making integrated decisions	
Ensure any measures adopted are cost effective and in proportion to the problems relating to climate change that are relevant to the decision, policy, program, or process	☐ Have we costed the adopted measures considering direct costs, operation and consequential costs over time? ☐ Have we assessed if they are proportionate to the problems relating to climate change?
Principle of risk management: effective risk management	
Careful evaluation of the potential climate impacts to avoid, wherever practicable, serious or irreversible damage resulting from climate change	☐ Have we developed a process for evaluating the potential impacts of climate change using best practicably available information? ☐ Are we identifying and monitoring the vulnerabilities of our community in a changing climate?
Managing and allocating the risks associated with the potential climate impacts in a manner that is easily seen and understood	☐ Have we developed a climate change risk register which enables the tracking of physical and transitional risks? ☐ Are accountabilities for managing climate risks across council clearly assigned and understood? ☐ Have we documented our process of decision-making and kept appropriate records?
A decision, policy, program, or process should not rely on a lack of full scientific certainty as a reason to postpone appropriate measures to prevent serious or irreversible loss or damage as a result of climate change	☐ Where there is a lack of scientific certainty, have we adopted a precautionary approach to decision-making to prevent serious or irreversible loss or damage? ☐ Are processes in place to revise risk management practices in response to new information or changes in risk level following effective implementation of adaptation actions?
Principle of community engagement: effective community engagement	
Providing appropriate information to the community	☐ Are we providing appropriate information on climate change and expected climate impacts to the community? ☐ Are we continually developing new and effective ways to engage different populations?
Providing opportunities for the community to be involved in the decision, policy, program, or process	☐ Are we providing opportunities for community involvement in decision-making relating to climate change, especially members of vulnerable or marginalised communities? ☐ How are we monitoring and evaluating these processes?

Climate change adaptation decision-making in the Victorian planning system

The planning system in Victoria sets out some of the accountabilities and opportunities in relation to local climate change adaptation, as land use planning plays a key role in managing responses to climate risks and natural hazards including bushfires, flooding, heatwaves, sea-level rise, and storm surges.

The *Planning and Environment Act 1987* (Vic) and climate change

The *Planning and Environment Act 1987* sets out the framework for the use, development, and protection of land in Victoria in the present and long-term interests of all Victorians.

While the *Planning and Environment Act 1987* does not specifically reference the phrase 'climate change', a purpose of the Act is for the planning framework to support decision in the 'long-term interests of all Victorians', and it does establish broad objectives for planning in Victoria that are relevant to climate change responses – such as sustainable land use and development, the protection of biodiversity and natural resources, and the maintenance of ecological processes. The *Planning and Environment Act 1987* broadly requires that planners facilitate development in accordance with these objectives.

The subordinate instruments of the *Planning and Environment Act 1987*, such as the Victoria Planning Provisions (VPP - standard provisions from which planning schemes are derived), and planning schemes, give more detailed direction in this regard. The VPP and all planning schemes in Victoria contain the Planning Policy Framework which incorporates various state-wide planning policies on climate change and its impacts, which planners must *take into account and give effect* to through their decisions. Some examples of clauses specifically referencing climate change adaptation include:

- Clause 13.01 Climate change impacts – includes policy on natural hazards, coastal inundation and erosion considerations (*see extract*).
- Clause 11.03 Planning for places – requires greenfield planning to respond to climate change.
- Clause 14.01 Agriculture – seeks to support agricultural adaptation to climate change.
- Clause 15.02 Energy and resource efficiency – supports a cooler environment and minimisation of greenhouse gas emissions.
- Clause 19.03 Integrated water management (see further information listing relevant clauses in the VPP).

There are also a range of clauses focussed on planning responses to hazards such as bushfire, flood, erosion and heat. Further examples of planning responses to climate change adaptation may be incorporated within the local section of individual planning schemes in the municipal-wide strategic statement, a local planning policy or a specific planning control for a site or a broader area (e.g. a schedule to a zone or an overlay).

Planning Policy Framework (extract):

13 ENVIRONMENTAL RISKS AND AMENITY

Objectives include:

Planning should prepare for and respond to the impacts of climate change.

13.01-1S Natural hazards and climate change

Objective:

To minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

Strategies:

- Consider the risks associated with climate change in planning and management decision making processes.
- Identify at risk areas using the best available data and climate change science.
- Integrate strategic land use planning with emergency management decision making.
- Direct population growth and development to low risk locations.
- Develop adaptation response strategies for existing settlements in risk areas to accommodate change over time.
- Ensure planning controls allow for risk mitigation or risk adaptation strategies to be implemented.
- Site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.
- Site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.

13.01-2S Coastal inundation and erosion

Objective:

To plan for and manage the potential coastal impacts of climate change.

Strategies:

- Plan for sea level rise of not less than 0.8 metres by 2100 and allow for the combined effects of tides, storm surges, coastal processes and local conditions such as topography and geology when assessing risks and coastal impacts associated with climate change.
- In planning for sea level rise, an increase of 0.2 metres over current 1 in 100 year flood levels by 2040 may be used for new development in close proximity to existing development (urban infill).
- Ensure that land subject to coastal hazards is identified and appropriately managed to ensure that future development is not at risk.
- Ensure that development or protective works that seek to respond to coastal hazard risks avoid detrimental impacts on coastal processes.
- Avoid development in identified coastal hazard areas susceptible to inundation (both river and coastal), erosion, landslip/landslide, acid sulfate soils, bushfire and geotechnical risk.

Policy guidelines to consider as relevant:

Any applicable Land Conservation Council recommendations. Any applicable coastal action plan or management plan approved under the Coastal Management Act 1995 or National Parks Act 1975.

Policy documents:

Consider as relevant - Victorian Coastal Strategy (Victorian Coastal Council, 2014)

Further considerations for climate change adaptation and planning decisions

There is an existing policy and statutory basis in planning schemes to ensure that land use and development responds to many of the physical hazards affected by climate change such as bushfire and flooding, although measures to account for enhanced or accelerated impacts due to climate change are not yet well developed.

A planners' ability to apply these policies and controls effectively is often contingent on access to accurate, up-to-date data, clear standards and authoritative guidance. Various authorities, including local governments, must also have the resource capacity and oversight to support consistent application of these policies and controls.

The following section outlines the issues, shared challenges, and suggestions to support sound planning decisions in relation to climate change adaptation. These include:

- making decisions under uncertainty
- the need to be pre-emptive and precautionary in responding to climate change
- communicating climate change adaptation within your community, and
- incorporating climate change adaptation across all aspects of planning.

Making decisions under uncertainty

In climate change adaptation planning, decision-makers will often find themselves with incomplete or imperfect information upon which to base decisions. However, uncertainty surrounding future climate impacts should not stand in the way of action, and decisions should not be deferred until more definitive data is available, especially for long lived assets or high consequence risks.

Victoria's Climate Science Report and long-term observed records show that the state's climate is changing under the influence of both natural variability and global warming. *Victorian Climate Projections* provide robust downscaled projections of the future climate to assess the risks of climate change across a range of plausible futures.

Climate projections provide a solid evidence base to assess future climate scenarios, but it is important to factor in a degree of uncertainty to consider the range of plausible futures and not lock in a single path of action when managing climate risk. Projections associated with future impacts vary from high to low certainty depending on the hazard. These resources provide endorsed State Government reference information to inform planning and decision-making processes that will support the resilience of Victoria into the future.

Making precautionary decisions

The principal approach for dealing with uncertainties and information gaps regarding risks is the precautionary principle. Climate change adaptation includes planning decisions that incorporate precautionary responses to consider future risk and hazards such as fire, heat, flooding and sea-level rise.

A precautionary decision-making response evaluates whether risks can be minimised to an acceptable level based on the best available evidence, and adopts a prudent approach to refuse proposals if risks of harm are considered too high.

These decisions also involve relationships with partners beyond local government, such as statutory and non-statutory referral authorities who provide data and authoritative advice based on their technical or organisational expertise.

Communicating climate change adaptation in your community

Community expectations about the need and consequences for climate change adaptation vary, and planning decisions are often contested. Incorporating consideration of adaptation to climate change into planning decisions can often mean a change in past practices, with planning controls applying to additional areas or requiring more resilient built responses. This can result in surprise and concern about blighting development opportunities.

To minimise conflict over anticipated and actual development outcomes clear strategies are needed to communicate with and engage the community about how future changes to planning schemes will impact development outcomes. This is especially important in instances where more stringent planning responses are required, such as in areas with increased exposure to climate risk including coastal areas, flood-prone areas and bushfire-prone environments. This does not mean development cannot proceed, but it does require a suitable risk based response.

If the rationale for adaptation is clear to the community, this can create support for the merit of council forethought, strengthening adaptation responses, and greater upfront investment to reduce vulnerabilities and risks.

Incorporating climate change adaptation across all aspects of urban and regional planning

Many land use and development decisions enable small, incremental changes in the landscape or in an urban area. Consequently, it is not easy to foresee decisions at a whole-of-system level. Planning for climate change adaptation extends beyond the risk and impacts of individual decisions to include broader elements of design in urban and rural environments.

The complexity of potential adaptation risks and the possibility for their interaction emphasises the need for integrated decision-making processes to deal with this complexity. Strategic planning processes, including settlement planning, rezoning, the 4-yearly Council Plan and 10-yearly Community Vision provide critical opportunities to build in longer term resilience across a whole municipality or shire.

Victoria's legislative, policy and knowledge framework have changed significantly over the last decade, particularly since the passage of the *Climate Change Act in 2010*. These reforms provide a strong foundation for responses through land use planning and the development process more broadly.

Appendix A: Case study

This case study highlights a council demonstrating positive leadership by embedding climate change adaptation in planning responses.

In this case, success and buy-in for updating the planning scheme coastal inundation controls was supported by an evidence-based, integrated, and strategic approach with broad community and expert engagement. The amendment was informed by the best practically available information of current and projected future coastal inundation, and council took a precautionary approach to plan for inundation risks over the long-term.

CASE STUDY

Amendment C394 to the Greater Geelong Planning Scheme – implementation of planning scheme coastal inundation controls

The City of Greater Geelong has implemented updated planning scheme flood controls, with its local planning scheme amendment approved and coming into effect on 4 September 2020. The City of Greater Geelong was one of the original state-funded pilot Local Coastal Hazard Assessment project partners, working with DELWP, the Borough of Queenscliffe, the Corangamite Catchment Management Authority, and the Barwon Coast and Bellarine Bayside coastal committees of management to progress the hazard assessment and risk analysis through the Our Coast coastal adaptation program.

The amendment was the 'next strategic planning step' taken by the City of Greater Geelong, supported by state partner agencies, including funding through the Coastal Planning Grants Program (Minister for Planning) building on the community engagement undertaken throughout the Our Coast project. The amendment underwent a public exhibition and submissions review process, with the independent Planning Panel appointed to review submissions to the amendment recommending the planning scheme amendment's approval.

Amendment C394 includes policy changes to the Municipal Strategic Statement, introduces a new Land Subject to Inundation Overlay Schedule 2 (LSIO2) and applies the LSIO2 to private and public land identified through the Geelong-Bellarine Local Coastal Hazard Assessment and Geelong-Queenscliff Coastal Climate Change Risk Assessment as being subject to coastal inundation as a result of the combined effects of storm surge and a minimum 0.8 metre sea level rise by 2100. The amendment ensures that coastal hazard and inundation risk is considered in planning decisions on land subject to current and projected future coastal inundation.

Appendix B: Reference materials for informed decision-making

Climate change resources for informed decision-making

Different questions or decisions need information at various levels of detail and complexity. It is important to choose information, tools and data sources that are fit for purpose, and using a range of sources will increase the robustness of climate change decision-making.

The following list of relevant sources for local government is up-to-date at the time of publication and may therefore be a useful starting point for gaining information. Always check, however, for the most up-to-date information.

Victoria's Climate Science Report

Victoria's Climate Science Report (2019) provides a synthesis of the best available climate change science and its implications for Victoria. The report summarises the knowledge gained from the Victorian Government's ongoing investment in climate science, such as the Victorian Climate Projections 2019 and the Victorian Water and Climate Initiative, as well as research from our leading academic institutions.

https://www.climatechange.vic.gov.au/climate-science-report-2019

Victorian Climate Projections 2019

The Victorian Government partnered with CSIRO's Climate Science Centre in 2019 to develop local-scale climate projections for Victoria at a 5 km by 5km scale for intermediate and high emissions pathways, and include a range of variables such as average and extreme temperature and rainfall, relative humidity, and evaporation. These publicly available datasets use a range of climate models, making these the most scientifically credible information about the future climate under different emissions scenarios at the time of publication. Links to the Technical Report, Regional Reports, fact sheets, datasets and guidance to help users identify and obtain the most relevant data for their needs are available at:

www.climatechange.vic.gov.au/vcp19.

Victorian Water and Climate Initiative

The Victorian Climate Initiative (VCI) is a Victorian Government program that supports research into the impact of climate change and climate variability on Victoria's water resources. The VCI produces projections for water supply planning, and the streamflow and recharge projections through the water sector guidelines remain the set of projections that are recommended for use for water sector applications.

https://water.vic.gov.au/__data/assets/pdf_file/0014/52331/Guidelines-for-Assessing-the-Impact-of-Climate-Change-on-Water-Availability-in-Victoria.pdf

Cooling and Greening Melbourne Interactive Map: Victorian Government (2019)

Mapping and analysing vegetation helps to understand the relationship between urban vegetation cover and the urban heat island effect. The Cooling and Greening Melbourne Interactive Map covers the city's metropolitan areas and brings together three main datasets: vegetation cover, urban heat, and the heat vulnerability index. This interactive map consolidates data captured in 2014 and 2018 into a single platform, and offers a visual capture of data at local government, suburb, ABS Statistical Area Level 1 (SA1) and Mesh Block levels.

http://www.planmelbourne.vic.gov.au/current-projects/a-cooler-greener-melbourne-project/cooling-and-greening-melbourne-interactive-map

Guidance for Considerations of Climate Change in Municipal Public Health and Wellbeing Plans (2020)

The Department of Health and Human Services has developed guidance to support councils to tackle climate change and its impacts on health through municipal public health and wellbeing planning. This guidance supports councils in meeting their obligations under the *Climate Change Act 2017*, and in taking action in line with the climate change focus area in the *Victorian Public Health and Wellbeing Plan 2019-2023*.

https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/climate-change-and-health

National Climate Change Adaptation Research Facility : Online Library

The NCCARF Adaptation Online Library holds research reports and information to help support decision-makers throughout Australia as they prepare for the risks of climate change and sea-level rise, with specific resources available for the local government sector.

https://www.nccarf.edu.au/adaptation-library

How Well Are We Adapting: Western Alliance for Greenhouse Action (WAGA)

How Well Are We Adapting is a web-based climate change adaptation monitoring, evaluation and reporting tool for Victorian local governments. Through an internal reporting section the tool allows local governments to track climate change impacts on council services and assets and evaluate responses over the long term. As this Guide points out, strategies, pathways and plans are often implemented with the intention of assisting climate change adaptation, but it needs to be asked whether we are doing things right or doing the right things. With the long timeframes and uncertainty of climate change impacts, not asking those questions can lead to adverse outcomes. Monitoring impacts and learning about our responses over time develops knowledge and skills for implementing adaptation actions. Using this tool is also assisting participating councils to raise institutional awareness and capacity around the issue of climate change adaptation, identify where services might be impacted in the future and ensure residents most at risk to the impacts will be protected.

http://adapt.waga.com.au/

Further reading

Public and private sector accountabilities for managing climate risk

- The Centre for Policy Development and The Future Business Council 'Climate Change and Directors' Duties' memorandum of option, Mr Noel Hutley SC and Mr Sebastian Hartford-Davis for Minter Ellison, Solicitors, 7 October 2016, and Supplementary Memorandum of Opinion, 26 March 2019.
- Taskforce on Climate Related Financial Disclosures – final Report Recommendations of the Task Force on Climate-Related Financial Disclosures, June 2017.
- Centre for International Climate Research, Climate Finance which sets out the 'shades of climate risk' and which categorises climate risks for investors[7].
- Public Authority Directors' Duties and Climate Change: Managing the latent financial and governance risks discussion paper. Centre for Policy Development, January 2019[8].

7 https://www.cicero.oslo.no/en/CF-scenarios-and-shades
8 https://cpd.org.au/2019/02/public-authorities/

delwp.vic.gov.au