



CLIMATE MAINSTREAMING IN PRACTICE: USING LAW TO EMBED CLIMATE CHANGE IN GOVERNMENT POLICY AND DECISION-MAKING

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CONTENTS	PAGE
1 Introduction	3
2 What is climate mainstreaming?	4
3 Pathways to mature climate mainstreaming	5
4 Legislative provision for climate mainstreaming – Climate Change Act 2017 (Vic)	6
5 Mainstreaming in practice – experiences with regulatory pathways in Victoria	7
6 Mainstreaming in practice – experiences with institutional pathways in Victoria	8
7 Mainstreaming in practice – experiences with capacity and capability pathways in Victoria	9
8 Towards Mature Climate Mainstreaming	10
Appendix A – Research Method	12

1 Introduction

Embedding climate change across government policy, decision-making and operations – *climate change mainstreaming* – is increasingly recognised in climate laws and policies around the world as an important complement to direct, substantive climate policy responses.

Given its cross-cutting economic, social, and environmental implications, responding to climate change requires not only direct policy responses and large scale, targeted initiatives in both mitigation and adaptation, but also the consideration of climate change risks and impacts in everyday decisions and activities and a highly climate-aware, climate-literate government workforce.

This report explores how climate change can be effectively mainstreamed across government policy, decision-making and operations. Using a case study of the Victorian *Climate Change Act 2017* [Climate Change Act] – one of the first examples of climate legislation with explicit mainstreaming provisions – the report highlights:

- the important role played by legislation in providing for and requiring appropriate consideration of climate change by government actors in different policy and operational contexts; and
- the range of regulatory, institutional, and capacity-building mechanisms, interventions and activities that can help to realise mainstreaming objectives; and
- the way in which a focus on climate mainstreaming can reinforce and underpin the realisation of emissions reduction and climate adaptation objectives.

This report draws on a research collaboration between Monash University and the Victorian Department of Environment, Land, Water and Planning [DELWP]¹, undertaken in 2021 and 2022. It involved extensive consultation with Victorian public servants from a diverse range of policy and operational areas (see Appendix A for an overview of the research method).

¹ The Department of Energy, Environment and Climate Action (DEECA) was established on 1 January 2023, and holds the climate change portfolio responsibilities, previously held by DELWP.

2 What is climate mainstreaming?

In a government context, climate mainstreaming is generally understood as the integration of climate change considerations into policies, processes, decisions, and other governmental activities, to support overarching strategic objectives of reducing emissions and adapting to climate change.

Climate mainstreaming is distinct from, but complementary to, direct, substantive climate policy. It concerns the myriad of decisions and actions that government takes that can contribute to reducing emissions and responding to climate change impacts. It also concerns those decisions and actions for which a failure to integrate climate change considerations can work against efficient, timely realisation of climate mitigation and adaptation goals.

Box 1: Mainstreaming in different policy & operational contexts

As a result of more intense heat waves and other climate change impacts, government ambulance services are factoring in climate change impact scenarios as part of their strategic planning, to ensure effective responses to increased and changed service demand and delivery disruptions.

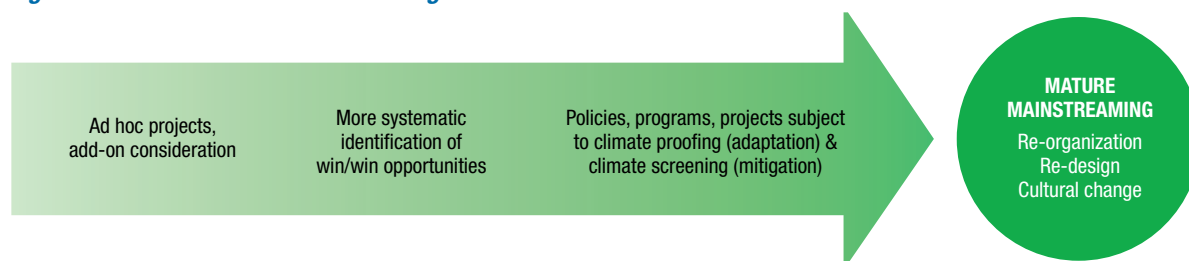
When planning or tendering for new transport infrastructure and services, considerations of exposure and vulnerability to future climate impacts, as well as opportunities to reduce emissions through efficiency and electrification are increasingly central to government decision-making.

Understanding how natural resources such as water will be impacted by climate change is critical to their future management and should be central to resource allocation decisions. Water authorities are using climate projections to prepare for reduced and more variable resource availability.

Integrating climate considerations into decisions about the location and design of new housing developments and associated building standards can help to lower household energy requirements and improve resilience to bushfire, heat wave and other climate impacts.

Climate mainstreaming can be conceptualised as a spectrum of activities and initiatives that embed climate change into government decisions and actions to varying degrees. This ranges from ad hoc and check-list type approaches where climate change is added to the range of issues considered in different policy and operational contexts to more systematic screening of policies, programs, and projects for their impact on emissions reduction goals and/or their resilience to climate change impacts. Mainstreaming will be considered mature when climate change becomes a core consideration of government and when government processes and systems have been re-designed and re-organised from the perspective of mitigation and adaptation goals. This suggests cultural, as well as operational, change within government.

Figure 1: Towards Mature Mainstreaming²



² Adapted from Joyeeta Gupta, 'Mainstreaming climate change: a theoretical exploration' in Joyeeta Gupta and Nicolien van der Grijp (eds), *Mainstreaming Climate Change in Development Cooperation: Theory, Practice and Implications for the European Union* (Cambridge University Press, 2010), 67-96.

3 Pathways to mature climate mainstreaming

There is a wide range of mechanisms, activities and initiatives that contribute to and enable climate mainstreaming. These enablers can be categorised along three general mainstreaming pathways:

Regulatory Pathways – involve formal rules and obligations to consider and integrate climate change in decisions, processes, and operations. This is achieved through making explicit reference to climate change in legislation and in associated regulations, authoritative guidelines, or other formal instruments, such as strategic plans, policy frameworks, government procedures and standards. Regulatory pathways target critical points in relevant government decision-making and processes, assign responsibility for considering and addressing climate change, guide decision-makers in this consideration, and offer opportunities to hold government accountable for the consideration of climate change (for example by requiring regular reporting).

Institutional Pathways – involve establishing governance arrangements which facilitate and support robust and appropriate consideration and integration of climate change. This includes considering the way in which roles and responsibilities are allocated within and between different government organisations, as well as the power and influence of different government officers and organisations. These pathways might involve building awareness and engagement at executive levels across government and creating explicit climate leadership roles within different departments and agencies. Embedding climate change within central government agencies with significant influence across government can be an effective enabler of mainstreaming.³ Also important is identifying and supporting climate champions across government and using networks and community of practice approaches to facilitate collaboration, peer-learning, and resource sharing.

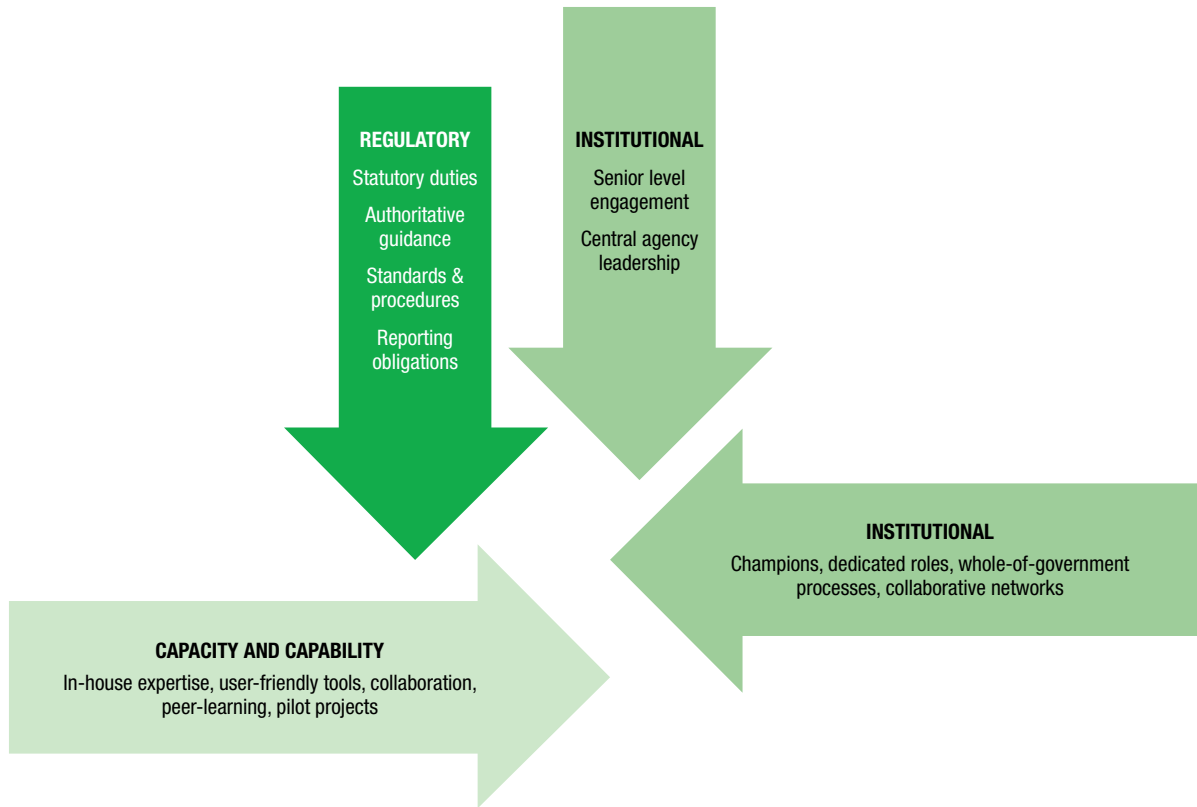
Capacity and Capability Pathways – involve developing targeted information, resources, and user-friendly decision-support tools to build the capacity and capabilities of decision-makers across government to effectively integrate climate change. These pathways also involve activities which support decision-makers to apply climate change information to their own work context and to use decision-support tools, and pilot projects which demonstrate best practice climate risk management, and which can be adapted and replicated in different contexts.

The three mainstreaming pathways involve both **top-down or vertical interventions and activities** (characterised by strong guidance provided through legislation, guidelines, strategic plans, and other formal documents and/or by the involvement of powerful actors) and **bottom-up or horizontal interventions or activities** (characterised by coordination and experimentation across government, often led by less powerful actors).

These pathways are interacting and complementary. Substantial progress along one pathway may offset slower progress along others. The pathways are not rigid categories, and some activities and interventions may fit into more than one pathway.

³ Central government agencies in Victoria include the Department of Treasury and Finance and the Department of Premier and Cabinet.

Figure 2: Vertical and Horizontal Mainstreaming Pathways – key enablers for climate mainstreaming⁴



⁴ Adapted from Christine Wamsler, Christopher Luerderitz and Emma Brink, 'Local levers for change: Mainstreaming ecosystem-based adaptation into municipal planning to foster sustainability transitions' 29 (2014) *Global Environmental Change*, 189-201; and Christine Wamsler and Stephan Pauleit, 'Making headway in climate policy mainstreaming and ecosystem-based adaptation: two pioneering countries, different pathways, one goal' 137 (2016) *Climatic Change*, 71-87.

4 Legislative provision for climate mainstreaming – Climate Change Act 2017 (Vic)

Climate legislation is being introduced in many jurisdictions around the world – both national and subnational – to frame, coordinate and streamline governmental responses to climate change, both in terms of mitigation and adaptation.⁵

Typically, these laws are used to set emissions reduction targets, to require and guide the development of policy measures to achieve targets and to hold governments accountable for delivering timely and sufficient progress towards targets. Many also set out requirements for governments to plan for and respond to climate change impacts across different policy areas.

The Climate Change Act is a framework climate law in operation in the subnational Australian jurisdiction of Victoria. It is one of the first examples of framework climate legislation which provides explicitly for climate mainstreaming alongside the core substantive climate policy provisions (emissions reduction targets, emissions reduction pledges and adaptation action plans).⁶

The Climate Change Act sets out explicit legal duties to take climate change into account in decision-making, policies, programs, and processes (sections 17 & 20). These obligations are supported by a set of policy objectives which articulate climate change mitigation and adaptation goals and incorporate objectives of supporting and promoting a just transition to net zero for Victoria's regions, industries, and communities (section 22).

Box 2: Mainstreaming provisions, Climate Change Act 2017

Section 17 – (2) A person making a decision or taking an action [scheduled under the Act in Schedule 1] 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.

(3) In having regard to the potential impacts of climate change, the relevant considerations for a person making a decision or taking an action 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 cumulative impacts.

(4) In having regard to the potential contribution to the State's greenhouse gas emissions, the relevant considerations for a person making a decision or taking an action are:

- (a) potential short-term and long-term greenhouse gas emissions; and
- (b) potential direct and indirect greenhouse gas emissions; and
- (c) potential increases and decreases in greenhouse gas emissions; and
- (d) potential cumulative impacts of greenhouse gas emissions.

Section 20 – The Government of Victoria will endeavour to ensure that any decision made by the Government and any policy, program or process developed or implemented by the Government appropriately takes account of climate change if it is relevant by having regard to the policy objectives and the guiding principles.

Section 22 – The policy objectives of this Act are:

- (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.

⁵ Ecologic Institute, *Climate Laws in Europe: Good Practices in Net-Zero Management* (February 2020); ClientEarth, *Navigating Net-Zero: Global Lessons in Climate Law-Making* (August 2021).

⁶ Other examples include: the *Climate Change (Scotland) Act 2009* (Scotland) Part 4, ss 44-46, and the *Climate Change Act 2021* (Fiji), Part 5, ss 18-26.

The section 17 duty is more clearly defined than section 20. Duty-holders are identified, relevant considerations are articulated, and the relevance of climate change is assumed for all scheduled decisions and actions. Yet the reach of section 17 is constrained through Schedule 1. Currently there are only a small number of scheduled decisions and actions which require explicit consideration of climate change.

In contrast, section 20 is broadly framed to apply to all government decisions and activities for which climate change is relevant. The procedural requirement for duty-holders to ‘take account of’ climate change is strengthened by reference to the policy objectives and guiding principles of the Climate Change Act which target clear substantive outcomes. A best practice approach would require duty-holders to give preference to a course of action which supports (or, at a minimum, does not detract from) achieving the substantive outcomes set out in the policy objectives of the Climate Change Act. For example, the policy objective in section 22(a) aims to *reduce the State’s GHG emissions consistently with the long-term emissions reduction target and interim emissions reduction targets*. This suggests that section 20 duty-holders should consider the emissions and/or emissions reductions resulting from relevant decisions, policies, programs or processes, as well as the range of options to reduce emissions in line with government targets.

The explicit mainstreaming duties interact closely with the core substantive climate policy provisions of the Climate Change Act in a way that is mutually reinforcing. For example:

- Mainstreaming activities (which build awareness and understanding of the relevance of climate change and develop tools and approaches to integrate climate change) contribute to better development and delivery of emissions reduction pledges and adaptation plans by sectoral leads.
- Targets, emissions reduction pledges, and adaptation plans provide concrete factors and considerations that can be factored in by decision-makers across government in their discharge of mainstreaming duties. For example, interim emissions targets and budgets will be relevant to decisions to approve industrial activities or land uses that will increase greenhouse gas emissions.
- The Act provides that different sectoral Ministers can be allocated responsibility for developing and implementing emissions reduction pledges (sections 43 & 45) and adaptation action plans (sections 34 & 38). This helps embed consideration of climate change across different policy and operational areas.

The Climate Change Act clearly seeks to establish climate mainstreaming as an objective and a responsibility shared by all parts of government. Indeed, the section 20 duty applies to the Government as a whole. Since the introduction of the Act, the Victorian Government has dedicated resources through the climate change division of DELWP, and now DEECA, to coordinate, promote, and facilitate mainstreaming activities and interventions.

5 Mainstreaming in practice – experiences with regulatory pathways in Victoria

Project consultation with Victorian public servants from a diverse range of policy and operational areas underscored that clearly defined obligations to consider climate change set out in legislation or other authoritative instruments are important enablers for climate mainstreaming. However, such obligations should be accompanied by authoritative guidance which supports the integration of climate change in different decision-making and operational contexts. Reporting obligations were also widely recognised as a useful regulatory mechanism to focus government attention on climate issues and promote accountability for their proper consideration and treatment.

Regulatory mainstreaming pathways have been an initial work focus for the Victorian Government and are reasonably well-developed in Victoria, including via the explicit mainstreaming duties within the *Climate Change Act 2017* itself. Examples of formal rules and obligations to consider, integrate and address climate change, as well as initiatives, activities, and interventions to clarify these obligations, provide authoritative guidance on meeting obligations, or require reporting on climate risk management activities, are outlined below.

Table 1: Regulatory Mainstreaming in Victoria

Type of initiative/activity	Examples
Statutory duties and requirements (direct references to climate change)	<p><i>Climate Change Act 2017</i> (Vic) – Section 17 sets out a clearly defined duty to consider climate change in scheduled decisions & activities; section 20 sets out a broadly framed duty for the Victorian Government to take climate change into account, where relevant, in decisions, policies, programs and processes.</p> <p><i>Local Government Act 2020</i> (Vic) – Section 9 sets out the overarching governance principles for local government including that the ‘economic, social and environmental sustainability of the municipal district, including mitigation and planning for climate change risks is to be promoted.’</p> <p><i>Marine & Coastal Act 2018</i> (Vic) – Section 7 sets out the statutory objectives including ‘to promote the resilience of marine and coastal ecosystems, communities and assets to climate change’ and ‘to respect natural processes in planning for and managing current and future risks to people and assets from coastal hazards and climate change.’ Guiding principles for the planning & management of the marine & coastal environment also reference climate change (e.g., section 9).</p> <p><i>Victoria Planning Provisions</i>, developed under <i>Planning & Environment Act 1987</i> (Vic) – For example, the <i>VPP 13 Environmental Risks & Amenity</i> includes planning directions on preparing for and responding to climate risks & hazards for strategic and statutory planning functions.</p> <p><i>Infrastructure Victoria Act 2015</i> (Vic) – Section 8 sets out the functions of Infrastructure Victoria which include to undertake and publish research on matters relating to infrastructure including ‘infrastructure policy issues arising from climate change, such as the measurement of greenhouse gas emissions produced from infrastructure.’</p>
Statutory duties and requirements (indirect application to climate risks)	<p><i>Public Administration Act 2004</i> (Vic) – Directors and boards of public entities are required to identify and address major risks as part of directors’ duties of due care and diligence (section 79). They must inform the responsible Minister of known major risks to the operation of the entity and the systems in place to address these risks (section 81).</p> <p><i>Financial Management Act 1994</i> (Vic) – Departments and other public bodies covered by this legislation must develop, implement, and keep under review a risk management strategy (section 44B) and apply the Victorian Government Risk Management Framework (VGRMF) (Standing Direction 3.7.1). The VGRMF requires consideration of material risks in agency planning and decision-making, as well as contribution to the management of state significant risks. ‘Climate change impacts’ is identified as a priority state significant risk, and ‘adverse outcomes from the transition to a low-carbon economy’ is also a state significant risk.</p>

Type of initiative/activity	Examples
Guidelines for decision-makers – developed and endorsed by government	<p><i>Managing Climate Change Risk: Guidance for Board Members and Executives of Water Corporations and Catchment Management Authorities</i> (2019) – This guidance was prepared to assist Board Members to understand the scope of their responsibilities in relation to climate change, including under the Public Administration Act 2004 (Vic) and the Financial Management Act 1994 (Vic)</p> <p><i>Local Government Climate Change Adaptation Roles and Responsibilities under Victorian Legislation: Guidance for local government decision-makers</i> (2020) – This guidance was prepared to assist local government decision-makers to understand the scope of, and deliver on their roles and responsibilities for adaptation under current Victorian legislation including the Climate Change Act, the Local Government Act 2020 (Vic) and the Planning and Environment Act 1987 (Vic).</p> <p><i>Tackling climate change and its impact on health through municipal public health and wellbeing planning – Guidance for Local Government</i> (2020) – This guidance was developed to assist councils in meeting their legislative obligations to consider climate change when preparing a Municipal Health and Wellbeing Plan under the Public Health and Wellbeing Act 2008 (Vic), as required under section 17, Schedule 1 of the Climate Change Act.</p> <p><i>VMIA Climate Change Risk Management service</i>, under VGRMF (2021) – This guidance is targeted to risk professionals, managers, executives, and board members and provides general information on climate change risks relevant to Victoria, time horizons for risk assessments and an example of risk management approaches adopted by an emergency services organisation.</p>
Standards & Procedures	<p><i>Victoria's Social Procurement Framework</i> – This framework includes project specific requirements to minimise greenhouse gas emissions and build resilience to climate impacts for government procurement activities.</p>
Reporting Obligations	<p><i>Financial Reporting Directive 24 Reporting of Environmental Data by Government Entities</i> (June 2022) – This Directive requires government entities (public bodies and departments) to disclose aspects of energy and resource consumption and environmental performance in their annual report, with disclosure requirements differing according to the size, environmental impact, and capability of entities. More extensive reporting is required from scheduled tier 1 entities which must disclose climate-related risks and responses, relevant targets, and the entity's environmental management system.</p>

A range of ideas and opportunities to reinforce and expand current mainstreaming efforts along regulatory pathways were identified through the project, including:

- Ministerial Guidance for decision-makers to support the section 17 and section 20 duties** – Additional, authoritative guidance on how to integrate climate change considerations would support decision-makers across government in discharging their statutory duties. The Climate Change Act provides explicitly for the development of ministerial guidance to support these duties (sections 18 and 21). Given its broad framing, the section 20 duty could benefit particularly from the development of high-level ministerial guidance to address and clarify matters such as: the range of government bodies and decision-makers bound by the duty, the types of decisions and activities for which climate change would be considered relevant, and the expectations of duty-holders, in particular in terms of considering how a decision or activity impacts on the climate mitigation and adaptation objectives of the Act and how they should weigh up options to mitigate or address such impacts. Further guidance targeted to specific policy and operational contexts could also be valuable. This includes, but is not limited to, decisions or actions listed in Schedule 1 to which the section 17 duty applies.

- A review of statutory decisions and actions scheduled under the Climate Change Act –**
 The section 17 duty is a regulatory enabler that has the potential to play a greater role in facilitating effective integration of climate change for a selection of the most relevant and material decisions and activities of the Victorian Government. Schedule 1 currently lists only 19 decisions or actions from 6 different pieces of legislation. There is an opportunity to identify relevant legislation and key decisions/ actions and schedule these under the Climate Change Act or alternatively propose amendments to the primary legislation itself. The focus could be on policy areas which are lagging in their consideration and integration of climate change.
- Explicit climate change considerations and requirements in key sector-specific regulatory and policy instruments –** Beyond statutory provision for climate mainstreaming, explicit requirements to consider climate change, framed with clear, strong language, can also be incorporated into statements of obligation for relevant entities, corporate and strategic plans, policy frameworks, government procedures and standards. Some policy areas in the Victorian Government are well advanced in these practices, offering examples for other areas to adopt and modify as relevant (Box 3).

Box 3: Climate change considerations in key sectoral instruments – Victorian Water Corporations

Victoria's 18 water corporations are statutory authorities constituted under the Water Act 1989, with responsibilities for urban water (e.g. water supply, sewage treatment) and rural water services (e.g. irrigation, domestic & stock purposes) as well as environmental water delivery. They operate and maintain infrastructure such as treatment plants, pumping stations, pipes, channels, reservoirs, and meters. Their operations generate significant scope 1 and scope 2 greenhouse gas emissions.

One of the key regulatory instruments used to govern water corporations' functions and powers are ministerial Statements of Obligations issued under the *Water Industry Act 1994 (Vic)*. In 2022, a revised *Statement of Obligations (Emissions Reduction)* was issued to establish and specify the greenhouse gas emissions reduction and renewable energy use obligations of water corporations.

Under this instrument, emissions reduction targets are set for five yearly periods for each water corporation. The 2024/25 targets represent a 42.4% reduction in scope 1 and 2 emissions compared to the established baseline; the 2029/30 targets represent a 93.7% reduction; and the 2033/35 targets represent a 100% reduction or net zero emissions. These targets align with and contribute to state-wide emissions reduction targets set under the *Climate Change Act 2017*.

In line with the Whole of Victorian Government emissions reduction pledge developed under the *Climate Change Act*, water corporations are also obliged to source 100% of their electricity from renewable sources by 2025, and this must be evidenced by reducing scope 2 emissions to zero.

6 Mainstreaming in practice – experiences with institutional pathways in Victoria

Project consultations highlighted that awareness of, and engagement with, climate-related risks at senior and executive levels across government contributes to more effective integration of climate change in decision-making throughout organisations and creates an authorising environment for robust consideration of climate change. Climate change awareness and engagement within central government agencies, such as the Department of Treasury and Finance and the Department of Premier and Cabinet, is also an important institutional enabler, given their centralised oversight of policy direction and government expenditure.

The study also underscored that explicitly resourcing a climate change mainstreaming function with a broad whole-of-government focus through the DELWP Climate Change Division has contributed to:

- Developing and implementing *regulatory* mainstreaming activities and initiatives of high potential impact and wide application, and
- Partnering between government agencies to catalyse change in key cross-cutting processes, and
- Seeding mainstreaming activities in different policy and operational areas and leveraging learnings for broader application, and
- Facilitating *capability and capacity building* via training, developing user-friendly tools, and supporting peer-learning networks.

There are examples emerging of Victorian Government agencies that have either successfully integrated climate change into their leadership and institutional frameworks or that are building climate teams to support an integrated, organisation-wide approach to climate mainstreaming. Most of these initiatives are in early stages.

These largely *top-down* approaches are complemented by *bottom-up* initiatives that include ad-hoc partnerships between the DELWP Climate Change Division and other parts of government; the work of passionate individuals at all levels of different organisations in driving climate change responses; and the development of peer-learning networks across the Victorian Government, most notably the highly valued Climate Risk Community of Practice.

Examples of institutional mainstreaming currently underway across the Victorian Government are outlined in the table below.

Table 2: Institutional Mainstreaming in Victoria

Type of initiative/activity	Examples
Authorising environment for mainstreaming (top-down)	<p>High-level, cross-government committees such as the Victorian Secretaries Board [VSB] and the State Significant Risk Interdepartmental Committee [IDC], have played a role in overseeing a range of mainstreaming initiatives led by the Climate Change Division in DELWP. The VSB comprises the Secretaries of each Department, the Chief Commissioner of Police, and the Victorian Public Sector Commission. The IDC is comprised of Deputy Secretaries and senior executives from government departments and agencies and is chaired by the Department of Treasury and Finance.</p> <p>Some government departments (e.g., Department of Jobs, Precincts and Regions⁷) have established dedicated climate change units tasked with developing department-wide work programs for climate mainstreaming in line with the statutory duties of the Climate Change Act.</p>

⁷ The Department of Jobs, Precincts and Regions (DJPR) ceased to exist from 1 January 2023. The climate change roles now fall within DEECA.

Type of initiative/activity	Examples
Central agency engagement (top down)	In 2022, the Climate Change Division in DELWP worked with the Department of Treasury and Finance to issue the first whole-of-government climate risk statement following the Taskforce on Climate-related Financial Risks [TCFD] recommendations. The Statement outlines the Government's actions to understand, manage and monitor climate-related risks and opportunities for Victoria as well as for the Government's own operations.
Partnerships for the delivery of mainstreaming initiatives (bottom up)	The Climate Change Division in DELWP worked with the Victorian Managed Insurance Agency [VMIA] to develop the Climate Risk Management service and associated training (Table 1). They have also worked with Ambulance Victoria to develop responses to the risks of increased frequency and severity of heatwave for ambulance services (Box 6).
Peer networks for knowledge exchange and capacity building (bottom-up)	The Climate Change Division in DELWP hosts a Climate Risk Community of Practice comprised of Victorian public servants from a wide range of departments and agencies, including senior managers and sectoral policy and operational experts. The aim is to facilitate peer learning, knowledge exchange, coordination and cooperation between departments and agencies on climate change and climate risks.

A range of ideas and opportunities to strengthen and expand institutional enablers for mainstreaming were explored in the project, including:

- A whole-of-government committee charged with overseeing the acquittal of statutory mainstreaming duties** – The section 20 duty, and to a lesser extent section 17, have wide application across government. This can result in a lack of accountability and oversight of their discharge. Further, leadership and 'buy-in' from senior decision-makers is widely seen as vital to effective mainstreaming. Establishing a whole-of-government committee of senior executives charged with overseeing the acquittal of these duties across government or including these responsibilities within the remit of an existing committee would support best practice compliance with the duties and allow for progress monitoring and evaluation.
- A central Office of Climate Change** – Central government agencies are critical players in climate mainstreaming given their involvement in whole-of-government processes, such as budget bids and cabinet submissions. Establishing an Office of Climate Change within such an agency could help to facilitate coordinated climate change governance across the Victorian public sector. The Office of Energy and Climate Change in the New South Wales Treasury provides a relevant model (Box 4).
- Climate change units and roles in departments and agencies** – Climate change mainstreaming, including the discharge of the section 20 and section 17 duties, benefits substantially from dedicated staff capacity. Climate change roles and/or teams can proactively encourage staff department-wide to understand and effectively discharge their duty to consider climate change in decision-making and operations. They can also develop consistent policies and operational approaches to climate mainstreaming suitable for the department, agency or portfolio and provide resources and support to build capacity. Developing such teams across government could usefully complement a centrally located Office of Climate Change.
- Climate Risk Community of Practice** – This Victorian Government network is already highly valued by its members. However, given the nascent status of climate mainstreaming across government, there is considerable potential to further develop the network. In particular, the network provides a forum to showcase case studies of good mainstreaming and an opportunity to disseminate and improve awareness of tools and resources developed to support climate mainstreaming. It is also a good source of information on needs and priorities for mainstreaming across government which can inform the ongoing development and delivery of mainstreaming initiatives.

Box 4: Models for centralised climate change governance – NSW

In April 2022, the state jurisdiction of NSW established an Office of Energy and Climate Change in the NSW Treasury. This centralised governance arrangement seeks to harness and leverage synergies and expertise across government and to expand Treasury’s role in responding to the significant economic and environmental challenges associated with climate change. Recent activities suggest that this arrangement is contributing effectively to climate mainstreaming.

For example, in 2021 the NSW Treasury modelled economic and fiscal sensitivity to climate scenarios, focusing on the economic impact of natural disasters, sea level rise, heatwaves, and the impact of climate change on agricultural production. This information was included in the *NSW 2021-2022 Intergenerational Report*, which looks forward 40 years to explore how the State’s population, economy and finances may change based on global and local trends and current policies and which is a key policy development tool for state government.

7 Mainstreaming in practice – experiences with capacity and capability pathways in Victoria

Participants in the study highlighted that investing in in-house technical expertise and developing context-relevant user-friendly decision-support tools are important enablers of climate mainstreaming. Collaboration between climate experts and policy and/or operational experts in different areas of government, including through pilot projects, was also recognised as important. Since the introduction of the Climate Change Act, the Climate Change Division in DELWP has led the development of several capacity-building tools and activities, often delivered in conjunction with regulatory interventions such as formal guidance for decision-makers. Early emphasis on providing accessible information on climate change impacts has now expanded, with a more recent focus on embedding the use and application of this information in different policy and operational contexts.

However, the consultations also underscored that capacity and capability to consider and integrate climate change vary widely across the Victorian government. In some policy and operational areas, there is low familiarity with climate risks as well as insufficient technical expertise to integrate climate change into decision-making, particularly climate science modelling capabilities and/or expertise in interpreting and applying such information.

Examples of information, resources, and decision-support tools currently used across the Victorian Government, as well as accompanying activities to embed their use and application, are provided below.

Table 3: Mainstreaming through Capacity and Capability building in Victoria

Type of initiative/activity	Examples
Information resources – climate science, climate impacts	<i>Victorian Climate Projections 2019</i> (developed in partnership with CSIRO) – The projections translate high resolution climate modelling into an updated set of climate projections for use in impact/risk assessment. Data sets, guidance material, technical reports, regional reports, and fact sheets are also provided.
Decision-making tools/ decision-support frameworks	<i>Victoria's Future Climate Tool</i> (developed in partnership with CSIRO) – This interactive mapping tool provides access to locally scaled climate projection data to the 2090s. Climate information (including temperature, rainfall, and heatwaves) can be viewed as maps and charts at different spatial scales and across different time periods and can be exported for use in different spatial tools. Regional summaries have been developed. <i>Victoria's Future Climate Tool – an introduction and guidance for risk management</i> – This guidance supports users of <i>Victoria's Future Climate Tool</i> .
Training and support for use of tools/ application of climate science	<i>VMIA Climate Change Risk Foundations Course</i> – This course is designed for risk professionals, governance professionals and environmental specialists. The training aims to build awareness of government expectations concerning climate risks, advise government organisations on these risks & likely impacts on government operations & services, and support the integration of these risks into relevant government risk management processes. <i>Your Council and Climate Change: Understanding the risks and learning to adapt</i> (April-June 2021) – This online, interactive training for local government councillors and executives on climate change risk and adaptation covers business risks and responses, local government roles and responsibilities, legal duties of due care and diligence, climate change impacts on councils, embedding climate change across council, and a range of local government case studies.
Pilot projects and case studies	<i>Case Study: Stress testing for the potential impact of heatwave on Ambulance Victoria</i> – This case study explores the use & application of <i>Victoria's Future Climate Tool</i> to develop responses to the risks of increased frequency & severity of heatwaves for ambulance services.

While foundational resources and decision-support tools have been developed, there are opportunities to further build capacity and capability for climate mainstreaming in Victoria, particularly through activities and initiatives which support and facilitate their use and uptake in practice. Ideas and opportunities canvassed in project consultations include:

- **A central government-endorsed toolkit and resource library** – Despite the development of quality tools and resources such as the *Victoria's Future Climate Tool*, a lack of in-house technical expertise in some policy and operational areas and associated use of external consultants, may mean that these tools are not widely or consistently employed. The availability of these tools should be promoted across government. Locating climate change information resources and decision-support tools centrally in a government-endorsed toolkit and resource library may improve access to the resources and promote consistent and best practice approaches to integrating climate change. This could include selected case studies to illustrate the application of climate science and use of decision-support tools in different policy areas.
- **Tools for economic analysis and decision-making** – Quantifying climate change impacts and the costs and benefits of different mitigation and adaptation options is vital to securing policy and budgetary support for climate change initiatives and for policy and program appraisal and business case development more broadly. Support and guidance for using economic tools to analyse climate change costs and impacts could help to respond to the increasing need for this information across all areas of government. Guidance and decision-support frameworks used in other jurisdictions such as the United Kingdom provide useful models (Box 5).
- **Climate clinic services** – Using climate science information to stress-test policy and strategy and translating climate science into policy and operational contexts require highly specialised skills. DELWP's Climate Change Division has led successful pilot projects through which climate science experts have supported the contextual application of climate science by policy experts in diverse policy areas (Box 6). The establishment of climate science advice and support services could expand on these pilot projects, by responding to climate science and information needs in different policy areas and assisting policy and operational experts to engage with existing tools.
- **Climate Training for the Victorian Public Service** – The nature and depth of knowledge and expertise required across government to realise mature climate mainstreaming will differ across policy areas and for different public service levels and roles. To date, optional technical training modules have been developed for selected specialist government roles and for certain types of decision-makers. There is an opportunity to complement this technical and specialist training with a range of other training and skill development offerings and requirements. This could include general introductory training for all public servants to establish baseline understandings of the potential for different policy and operational areas to support or undermine climate change mitigation or adaptation goals. Such training could also introduce and explain legal obligations to consider climate change and raise awareness of where and how to access further information and support. More targeted training for senior level public servants could focus on the scope of legal duties to consider climate change (sections 17 and 20) and outline best practice compliance expectations.

Box 5: Accounting for climate change in funding proposals and policy appraisal – United Kingdom

Accounting for the effects of Climate Change (2020) is an accompaniment to the HM Treasury's Green Book (a Treasury guide to appraisal and evaluation in central government) which has been developed by the UK Department for Environment, Food and Rural Affairs. This provides comprehensive and centrally endorsed guidance to support analysts and policy makers to better account for the effects of climate change when appraising options for policies, programmes, and projects. It sets out an approach to economic appraisal which incorporates assessment of potential climate risks, includes climate change effects and impacts in the costs and benefits of options for the project, policy or programme being considered, and appropriately values options that address uncertainty. In 2021, additional guidance – *Valuation of Energy Use and GHG Emissions* – was developed by the UK Department of Business, Energy & Industrial Strategy to 'aid in the assessment of proposals that have a direct impact on energy use and supply and those with an indirect impact through planning, land use change, construction or the introduction of new products that use energy'. This sets out a recommended approach to quantifying and valuing energy use and greenhouse gas emissions resulting from a proposed policy, programme, or projects, which also includes guidance on valuing associated additional impacts including air quality, energy security and wider environmental impacts.

Box 6: Supporting the contextual application of climate science – Ambulance Victoria

DELWP and the Victorian Managed Insurance Authority worked with Ambulance Victoria in 2021 to develop responses to risks of increased frequency & severity of heatwaves for ambulance services.

This pilot project explored how heatwaves would impact the strategic objectives of Ambulance Victoria which include providing safe, high quality, timely and expert patient care; planning for and responding to major events and emergencies; and keeping agency personnel safe and physically and psychologically well. It incorporated consideration of past impacts of heatwaves in 2009 and 2014 and of a potential worst-case scenario for future heatwaves using *Victoria's Future Climate Tool*; as well as stress testing agency strategy using scenario results.

Through this project, Ambulance Victoria has been able to start to quantify and analyse potential climate impacts on their service. Past heatwaves had resulted in significant increases in total emergency cases, particularly over the hottest days of the heatwave, and significant increases in the number of direct heat-related cases and deaths. Climate projections suggest that the number of heatwaves could at least double by 2050, with likely increased duration and increased maximum temperature. The agency is now developing strategic approaches to support their ability to continue to provide services in the face of rising temperatures and more severe and frequent heatwaves.

8 Towards Mature Climate Mainstreaming

Direct, substantive climate policy is critical to address climate change and framework climate legislation is proving a useful tool to frame, coordinate and streamline government policy responses in many jurisdictions. Yet this legislation can also play an important role in mainstreaming the consideration of climate change across diverse policy and operational areas, contributing to (and ensuring government activities do not detract from) the realisation of emissions reduction and climate adaptation objectives.

The explicit mainstreaming duties set out in the Victorian *Climate Change Act 2017* have catalysed a range of activities, interventions, and initiatives to embed climate considerations into government decisions, policies, processes, and operations. Modelling these along the three mainstreaming pathways – regulatory, institutional and capacity/capability – helps to build understanding of how mainstreaming objectives might be achieved and hastened and illustrates the diversity of activities and initiatives that can contribute to mature mainstreaming. Legislative provision is important but is just one part of the mainstreaming puzzle. A wide range of regulatory, institutional, and capacity-building mechanisms can usefully support the practical realisation of mature climate mainstreaming.

While many of the Victorian mainstreaming projects are in the early phases, consultation with Victorian public servants through this project underscored their value and potential, as well as signalling a strong demand for an ongoing explicit focus on climate mainstreaming across the Victorian Government. The Victorian experience with climate mainstreaming under the *Climate Change Act 2017* offers a rich array of examples and experiences to inform how other jurisdictions, both national and subnational, approach climate mainstreaming.

Appendix A – Research Method

This project employed a mixed-method research approach, co-developed by the Monash research team and DELWP, involving desktop research, legal analysis and extensive empirical investigation.

Desktop Research

- A review of academic literature on mainstreaming in different policy contexts (gender, environmental policy integration, disaster risk reduction and climate change) – to contribute to the development of a conceptual framework for climate mainstreaming in Victoria.
- Legal analysis of the *Climate Change Act 2017* and other relevant Victorian legislation, with comparison to framework climate laws in operation in other jurisdictions (such as the UK *Climate Change Act 2008*) – to understand the role, application, and function of mainstreaming provisions.
- Identification and analysis of relevant examples of guidance materials and other tools used to support decision-makers to integrate climate change in different policy contexts and different jurisdictions – to inform the development of recommendations for mainstreaming tools and resources.

Empirical research

- Interviews and focus group discussions with DELWP personnel involved in climate mainstreaming and the implementation of the *Climate Change Act 2017* (16 participants) – to gather baseline data on current climate mainstreaming practices across government, activities and initiatives used to date to further climate mainstreaming, and opportunities for new initiatives and activities. [July to October 2021]
- An online survey administered through the Climate Risk Community of Practice (40 participants from a wide range of government departments, agencies, and entities) – to gather data on current approaches to the integration of climate change in decisions, policies, programs, and processes; barriers and enablers for climate mainstreaming; and opportunities to support further integration. [October-November 2021]
- An interactive workshop with the Climate Risk Community of Practice (approx. 35 participants from a wide range of government departments, agencies, and entities) – to gather data on priorities for mainstreaming and opportunities to develop guidance, tools, resources, and other activities to support decision-makers across government to better integrate climate change considerations. [December 2021]
- Supplementary interviews with select members of the Climate Risk Community of Practice (12 participants) – to develop case studies of more mature mainstreaming practice, including further understanding of key enablers and opportunities to support integration of climate change considerations in different government contexts.
- Data from the empirical research and consultation was analysed against the following themes and questions:

Theme	Research Questions
Objectives & Conceptualisation	How is mainstreaming framed and understood by different government stakeholders? How do stakeholders interpret legal obligations to consider climate change in their work?
Current Practices	What are the types of decisions and other government activities for which climate change is considered relevant? How is climate change integrated into decision-making, if at all? What resources, tools and other approaches are used? What is the outcome of integrating climate change in decision-making?
Barriers	What are the factors that hinder climate mainstreaming? – Regulatory – Institutional – Capacity & resources
Enablers	What are the factors that enable climate mainstreaming? – Regulatory – Institutional – Capacity & resources
Opportunities	What types of initiatives and activities help build capacity to integrate climate change? What tools and resources are needed to support decision-makers across government?

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