

ARTICLE

A Conceptual Model for Climate Change Mainstreaming in Government

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Abstract

‘Mainstreaming’ climate change by embedding climate change considerations in government policies, processes, and operations can bolster the realization of climate mitigation and adaptation goals and reduce risks of counter-productive actions. Some climate laws around the world now contain explicit mainstreaming duties, in parallel with emissions reduction targets and adaptation planning requirements. This article proposes a conceptual model for climate change mainstreaming in government, with two pillars. Firstly, it defines objectives of climate mainstreaming, emphasizing that mainstreaming activities occur along a spectrum of ambition towards a goal of ‘mature mainstreaming’. Secondly, it proposes three complementary pathways to mature mainstreaming – regulatory, institutional, and capacity and capability-building pathways – to classify mainstreaming activities, and barriers to and enablers of mainstreaming. Grounded in empirical insights from a leading jurisdiction (Victoria, Australia), the model can assist governments to clearly articulate mainstreaming objectives and to identify, prioritize, and monitor mainstreaming initiatives to help in achieving their climate policy goals.

Keywords: Mainstreaming, Climate change, Statutory duties, Climate change framework legislation, Climate Change Act 2017 (Victoria), Australia

1. INTRODUCTION

Mainstreaming is a public policy concept and practice that has been explored and developed in relation to several cross-cutting policy and social issues, including gender equality,

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human rights, environmental policy integration (EPI), and disaster risk reduction.¹ It concerns the integration of these cross-cutting issues into the decision-making, policy, and operational functions of government.² The objective is to challenge and change established approaches to decision making, policy and operations as well as organizational cultures, redesigning and reorganizing these so that cross-cutting issues become a central, rather than an additional or peripheral, consideration.³ Mainstreaming can underpin and support the realization of policy goals and help to reduce the risk that these goals will be undermined by other government actions and decisions.⁴

Compared with other cross-cutting issues that have been ‘mainstreamed’, climate change is a relatively new focus for mainstreaming practice; and mainstreaming is a relatively new focus within discussions of climate law and policy. The European Union (EU) incorporated the concept of climate mainstreaming in its 2014–2020 Multiannual Financial Framework (MFF), under which more than 20% of the EU budget was allocated to programmes designed to support climate change mitigation or adaptation.⁵ This commitment has been expanded under the 2021–2027 MFF, including a ‘do no harm’ principle ‘to ensure that money spent under the

¹ E.g., C. Benson & J. Twigg, *Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations* (ProVention Consortium, 2007), p. 5, available at: <https://www.preventionweb.net/publication/tools-mainstreaming-disaster-risk-reduction-guidance-notes-development-organisations>; S. Walby, ‘Gender Mainstreaming: Productive Tensions in Theory and Practice’ (2005) 12(3) *Social Politics*, pp. 321–43, at 327; Å. Persson, ‘Environmental Policy Integration: An Introduction’, Policy Integration for Sustainability (PINTS) background paper, Stockholm Environment Institute, 1 June 2004, available at: <https://www.sei.org/publications/environmental-policy-integration-introduction>.

² G. Allwood, ‘Mainstreaming Gender and Climate Change to Achieve a Just Transition to a Climate-Neutral Europe’ (2020) 58(S1) *Journal of Common Market Studies*, pp. 173–86, at 177.

³ C. Wamsler, C. Luederitz & E. Brink, ‘Local Levers for Change: Mainstreaming Ecosystem-based Adaptation into Municipal Planning to Foster Sustainability Transitions’ (2014) 29 *Global Environmental Change*, pp. 189–201; S. La Trobe & I. Davis, *Mainstreaming Disaster Risk Reduction: A Tool for Development Organisations* (Tearfund, 2005), available at: <https://www.preventionweb.net/publication/mainstreaming-disaster-risk-reduction-tool-development-organisations>; R. Picciotto, ‘The Logic of Mainstreaming: A Development Evaluation Perspective’ (2002) 8(3) *Evaluation*, pp. 322–39, at 323; Persson, n. 1 above; C. Wamsler & S. Pauleit, ‘Making Headway in Climate Policy Mainstreaming and Ecosystem-based Adaptation: Two Pioneering Countries, Different Pathways, One Goal’ (2016) 137 *Climatic Change*, pp. 71–87, at 72; Council of Europe, Directorate of Human Rights, ‘Gender Mainstreaming: Conceptual Framework, Methodology, and Conceptualisation of Existing Practices’, Final Report of Activities of the Group of Specialists on Mainstreaming, EG-S-MS (98) 2, May 1998, available at: <https://www.cawtarclearinghouse.org/storage/4899/Gender-Mainstreaming%2C-conceptual-framework%2C-methodology-and-presentation-of-good-practices.pdf>.

⁴ J. Gupta, ‘Mainstreaming Climate Change: A Theoretical Exploration’, in J. Gupta & N. van der Grijp (eds), *Mainstreaming Climate Change in Development Cooperation: Theory, Practice and Implications for the European Union* (Cambridge University Press, 2010), pp. 67–96, at 71; F. Seymour, C. Maurer & R. Quiroga, ‘Environmental Mainstreaming: Applications in the Context of Modernization of the State, Social Development, Competitiveness and Regional Integration’, Working Paper, Inter-American Development Bank, Nov. 2005, p. 1, available at: <https://publications.iadb.org/en/publication/106771/environmental-mainstreaming-applications-context-modernization-state-social>.

⁵ European Commission, ‘Climate Mainstreaming Architecture in the 2021–2027 Multiannual Financial Framework’, Commission Staff Working Document, SWD(2022) 225 final, 20 June 2022, p. 3. EU Member States such as Sweden, France, Germany, and Spain have also integrated climate policy into their national budget processes and some other climate mainstreaming initiatives: see M. Duwe & N. Evans, *Climate Laws in Europe: Good Practices in Net-Zero Management* (Ecologic Institute, 2019), pp. 24, 26, 40.

budget does not prevent the EU from achieving its climate and environmental goals'.⁶ There have also been explicit efforts to mainstream climate adaptation and associated disaster risk considerations, particularly in a sustainable development policy context.⁷ However, there has been less focus on mainstreaming other aspects of climate policy, including mitigation, and little explicit attention paid to climate mainstreaming in many other jurisdictions and policy domains. Thus, the recent introduction of framework climate legislation to govern climate mitigation and adaptation activities by governments around the world,⁸ including some laws with specific provision for climate mainstreaming,⁹ provides an opportunity to reinvigorate and expand academic and policy discussion of the role and value of mainstreaming in a climate policy context. In particular, these laws offer an opportunity to examine the effectiveness of legislated mainstreaming obligations as a catalyst for mainstreaming in government.

Examples of framework climate legislation from around the world have many common features.¹⁰ These laws typically include measures such as long-term emissions reduction targets and procedural obligations for governments to set interim targets, to develop strategies to deliver on targets, and to develop and implement plans for adapting to climate change impacts.¹¹ These measures are buttressed by transparency provisions, such as reporting obligations and independent expert oversight, designed to hold governments accountable for delivering on targets and strategies.¹² A subset of more recent framework climate laws also provide explicitly for climate mainstreaming.¹³ This takes the form of statutory duties to integrate climate change considerations into government decisions, activities, and processes, and to align these with mitigation and adaptation policy objectives.¹⁴

The state of Victoria, one of the federated states of Australia, provides a unique and valuable example of a jurisdiction undertaking climate change mainstreaming catalyzed by framework climate legislation. The Victorian Climate Change Act 2017 (Climate Change Act)¹⁵ includes explicit mainstreaming provisions and mainstreaming objectives are evident in its legal architecture. Further, government resources have been allocated to specific mainstreaming activities and interventions as part of the broader

⁶ European Commission, n. 5 above, p. 4.

⁷ Seymour, Maurer & Quiroga, n. 4 above, p. 1; Gupta, n. 4 above; La Trobe & Davis, n. 3 above, p. 1.

⁸ Duwe & Evans, n. 5 above; T.L. Muinzer (ed.), *National Climate Change Acts: The Emergence, Form and Nature of National Framework Climate Legislation* (Hart, 2020).

⁹ Examples include the Climate Change (Scotland) Act 2009, Part 4; Climate Change Act 2021 (Fiji), Part 5; and Climate Change Act 2017 (Vic) discussed in this article.

¹⁰ Duwe & Evans, n. 5 above; ClientEarth, 'Navigating Net-Zero: Global Lessons in Climate Law-Making, Aug. 2021, available at: <https://www.clientearth.org/latest/documents/navigating-net-zero-global-lessons-in-climate-law-making>.

¹¹ ClientEarth, *ibid.*

¹² *Ibid.*; Duwe & Evans, n. 5 above, pp. 32–4.

¹³ See n. 9 above.

¹⁴ E.g., Part 4 of the Climate Change (Scotland) Act 2009 requires public bodies, in their functions, to act in the way best calculated to contribute to the delivery of emissions reduction targets, in the way best calculated to help in delivering any statutory climate change adaptation programme and in a way that is most sustainable.

¹⁵ Climate Change Act 2017 (Victoria, Australia).

implementation of the legislation. As such, Victoria provides a valuable case study to explore the evolving practice of climate mainstreaming.

With the emergence of legislative provision for climate mainstreaming comes the need to conceptualize how mainstreaming contributes to achieving the climate change objectives of governments (in both mitigation and adaptation). In this article we draw on theories and conceptual frameworks elaborated in the literature, as well as an empirical study of mainstreaming practice in Victoria, to propose a conceptual model to address this need.

The conceptual model is intended for use by both scholars and practitioners of climate mainstreaming. It aims to inform broad discourses about mainstreaming theory and practice, providing a current, climate-focused perspective to the literature. It also contributes specifically to the climate law literature that aims to analyze – and, ultimately, strengthen – the effectiveness of climate change framework laws. In particular, it provides insights into how climate change mainstreaming is conceived of and implemented in domestic (national and subnational) law and policy contexts (as opposed to the international level¹⁶ or the local level,¹⁷ which are, to some extent, explored in the literature). However, the model, rooted as it is in empirical data, will also be valuable for any government seeking to mainstream climate change in its decisions, processes and activities, even without the legislative impetus for mainstreaming evident in some jurisdictions. It offers a practical guide for the realization of climate mainstreaming objectives and the operationalization of statutory mainstreaming duties in practice.

Section 2 of this article provides an introduction to climate change mainstreaming. Following this, Section 3 outlines the methodology used to develop the conceptual model for climate change mainstreaming in government. The first pillar of the model (objectives for climate mainstreaming) is described in Section 4, and Section 5 elaborates on the second pillar (regulatory, institutional, and capacity and capability-building pathways towards mainstreaming). The article concludes (Section 6) by reflecting on the value of the model in theory and practice.

2. MAINSTREAMING IN A CLIMATE POLICY CONTEXT

Mainstreaming is an established concept and practice in public policy by which an issue of vital public importance – such as gender equality, environmental policy or disaster risk reduction – is ‘integrated into all areas of policymaking’.¹⁸ It includes ‘the (re)organisation, improvement, development and evaluation of policy processes, so that [the issue of concern] is incorporated in all policies at all levels at all stages, by the actors normally involved in policymaking’.¹⁹ Piciotto notes:

¹⁶ E.g., Gupta, n. 4 above; Piciotto, n. 3 above.

¹⁷ E.g., Wamsler, Luederitz & Brink, n. 3 above; Wamsler & Pauleit, n. 3 above.

¹⁸ Allwood, n. 2 above, p. 175.

¹⁹ Council of Europe, n. 3 above.

The verb (*to mainstream*) is a dynamic concept. It suggests a deliberate perturbation in the natural order of things. It creates winners and losers, challenges vested interests and triggers changes in alliances. It subverts the status quo and yet it does not evoke chaotic change or painful disruption. In effect, mainstreaming connotes gradual reform rather than frantic revolution. In policy terms, it is typically achieved through incremental changes in program goals, protocols of operations and organizational cultures.²⁰

Although often described pragmatically as a process of incremental change, the ultimate goal of mainstreaming is to ‘change the dominant paradigm ... change the rules of the game and challenge ideas, attitudes or activities that are considered as mainstream or normal’,²¹ so that the issue in question becomes an ‘overarching priority’ for government.²² Many explanations of mainstreaming emphasize that the issue in question should be considered at the start of and all the way through a policy development process, rather than as an ‘add-on’ at the end.²³ Further, mainstreaming spreads responsibility for addressing the issue across all of government, rather than it being the responsibility of an issue-specific team in one policy area or portfolio.²⁴

In the context of government, climate change mainstreaming is generally understood as the integration of climate change considerations into policies, processes, decisions, and other government activities across all sectors, to support overarching strategic objectives of reducing emissions and adapting to climate change.²⁵ This implies that the potential impacts of activities and decisions in all areas of government on climate policy objectives will be analyzed, and that measures will be adopted to maximize alignment and minimize conflict with these objectives.²⁶

Climate mainstreaming rests on the recognition that climate change is a cross-cutting issue that is relevant for all manner of government functions and that climate policy objectives cannot be met by treating them as stand-alone goals.²⁷ As such, climate change should be embedded across government decisions and processes as a matter of good public policy and governance, and particularly to reduce risks of maladaptation and counter-productive government activities.²⁸

²⁰ Picciotto n. 3 above, p. 323.

²¹ Wamsler, Luederitz & Brink, n. 3 above, pp. 190–1.

²² Duwe & Evans n. 5 above, p. 12.

²³ La Trobe & Davis, n. 3 above, pp. 1–2; Seymour, Maurer & Quiroga, n. 4 above, p. 2; Persson, n. 1 above, p. 18.

²⁴ ClientEarth, n. 10 above, pp. 44–6; T. Mitchell, T. Tanner & E. Wilkinson, ‘Overcoming the Barriers: Mainstreaming Climate Change Adaptation in Developing Countries’, *Tearfund*, Climate Change Briefing Paper 1, Oct. 2006, p. 10, available at: https://www.preventionweb.net/files/566_10351.pdf.

²⁵ F. Berkhout et al., ‘European Policy Responses to Climate Change: Progress on Mainstreaming Emissions Reduction and Adaptation’ (2015) 15(6) *Regional Environmental Change*, pp. 949–59, at 949; Seymour, Maurer & Quiroga, n. 4 above; M. Aleksandrova, ‘Principles and Considerations for Mainstreaming Climate Change Risk into National Social Protection Frameworks in Developing Countries’ (2019) 12(6) *Climate and Development*, pp. 511–20, at 513; Allwood, n. 2 above, p. 175.

²⁶ Benson & Twigg, n. 1 above, p. 5.

²⁷ Allwood, n. 2 above, p. 177; A. Calabro, S. Niall & A. Skarbek, ‘The Victorian Climate Change Act: A Model’ (2018) 92(10) *Australian Law Journal*, pp. 814–21, at 819.

²⁸ Calabro, Niall & Skarbek, *ibid.*; M.T.J. Kok & H.C. de Coninck, ‘Widening the Scope of Policies to Address Climate Change: Directions for Mainstreaming’ (2007) 10(7–8) *Environmental Science & Policy*, pp. 587–99, at 588.

Climate mainstreaming is distinct from, but complementary to, direct substantive climate policy initiatives in mitigation or adaptation. Rather than targeted policy or regulatory interventions to address climate change – such as renewable energy incentives, emissions trading, or adaptation planning – mainstreaming concerns the myriad decisions and actions that government takes in areas other than ‘climate policy’ which can contribute to reducing emissions and responding to climate change impacts. Its importance is also clear where failing to account for climate change in a government decision or action may work against efficient and timely realization of climate mitigation and adaptation goals (sometimes described as ‘maladaptation’). Rationales for mainstreaming echo rationales behind calls for policy coherence more generally, including efficiency and cost-effectiveness,²⁹ and also include the potential to generate co-benefits for multiple policy objectives³⁰ (for example, considering climate change in a land-use planning context may encourage governments to prioritize urban greening, which has co-benefits for health (and the health system), biodiversity and amenity).

3. METHODOLOGY: DERIVING A CONCEPTUAL MODEL FROM THE INTERPLAY OF THEORY AND PRACTICE

This section describes how the model outlined in this article was developed. It demonstrates that while the model is informed by theories and conceptual frameworks elaborated in the literature, it is firmly rooted in empirical data that describes contemporary and evolving mainstreaming practice in government. Firstly, the discussion provides context for the case study conducted in the subnational jurisdiction of Victoria, where the Climate Change Act is in force. Secondly, it details the methodological approach that generated the model.

3.1. *Climate Mainstreaming in Victoria: Legal Context and Case Study*

The Victorian Climate Change Act is one of the most established and comprehensive framework climate laws in Australia and around the world.³¹ Until recently in Australia, subnational jurisdictions like Victoria took the lead in developing legal and policy frameworks for climate change.³² Following a change of government in 2022, the national government is now implementing a comprehensive climate policy agenda, including new framework climate legislation.³³ However, similar to many other federated jurisdictions, given their jurisdictional powers and functions, Australian states continue to play a critical role in both climate mitigation and

²⁹ Gupta, n. 4 above, p. 71; Seymour, Maurer & Quiroga, n. 4 above, p. 2.

³⁰ Seymour, Maurer & Quiroga, n. 4 above, p. 1, Persson, n. 1 above, p. 1; La Trobe & Davis, n. 3 above, p. 1.

³¹ ClientEarth, n. 10 above, p. 19.

³² A. Foerster et al., ‘Paris at the Subnational Scale? An Exploration of the Role and Potential of Framework Climate Laws’ (2022) 45(3) *Melbourne University Law Review*, pp. 1045–92.

³³ Climate Change Act 2022 (Cth).

adaptation efforts.³⁴ Victoria is one of Australia's smallest but most populous states,³⁵ home to the high-emitting Latrobe Valley brown coal-fired power stations,³⁶ and currently the third highest emitter of all state jurisdictions.³⁷ A framework climate law was first enacted by the Victorian Parliament in 2010;³⁸ it was reviewed and substantially redeveloped from 2015³⁹ and ultimately enacted as the Climate Change Act.

In addition to providing for emissions reduction targets and strategic policy responses for mitigation and adaptation, the statutory purposes of the Climate Change Act include facilitating the consideration of climate change issues in specified areas of decision making of the Government of Victoria,⁴⁰ and setting policy objectives and guiding principles to inform decision making under this Act and the development of government policy in the state.⁴¹ The Climate Change Act also includes two explicit legal duties to mainstream climate change into government decisions and activities:⁴²

- **Section 17** provides that 'a person making a decision or taking an action [that is listed in Schedule 1 of the Act] 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 [GHG] emissions of the decision or action'. Schedule 1 currently lists 24 decisions and actions under seven different pieces of legislation.⁴³ For example, decisions relating to licences and permits, including the review of operating licences for industrial facilities under the Environment Protection Act 2017 (Vic), are listed and subject to the section 17 duty.⁴⁴
- **Section 20** provides that 'the Government of Victoria will endeavour to ensure that any decision made by the Government and any policy, program or process

³⁴ A. Kallies, 'The Australian Energy Transition as a Federalism Challenge: (Un)cooperative Energy Federalism?' (2021) 10(2) *Transnational Environmental Law*, pp. 211–35.

³⁵ Australian Bureau of Statistics, 'National, State and Territory Population', available at: <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release>.

³⁶ Victorian Government, Department of Environment, Land, Water and Planning, *Victorian Greenhouse Gas Emissions Report 2020* (State of Victoria, 2022), p. 21, available at: https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0036/598257/Victorian-Greenhouse-Gas-Emissions-Report-2020.pdf.

³⁷ Australian Government, Department of Climate Change, Energy, the Environment and Water, 'State and Territory Greenhouse Gas Inventories: 2020 Emissions', 2022, available at: <https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-2020/state-and-territory-greenhouse-gas-inventories-2020-emissions>.

³⁸ Climate Change Act 2010 (Vic); this legislation was substantially weakened following a change of government shortly after the Act was passed.

³⁹ M. Wilder, A. Skarbek & R. Lyster, *Independent Review of the Climate Change Act 2010* (State of Victoria, 2015), available at: https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0019/55306/Independent-Review-of-the-Climate-Change-Act-2010.pdf.

⁴⁰ Climate Change Act 2017 (Vic), s. 1(c).

⁴¹ *Ibid.*, s. 1(d).

⁴² Ss 18 and 21 also provide for the development of Ministerial Guidelines to inform the discharge of the mainstreaming duties. To date, these guidelines have not been developed.

⁴³ Catchment and Land Protection Act 1994 (Vic); Marine and Coastal Act 2018 (Vic); Environment Protection Act 2017 (Vic); Flora and Fauna Guarantee Act 1988 (Vic); Public Health and Wellbeing Act 2008 (Vic); Water Act 1989 (Vic); Circular Economy (Waste Reduction and Recycling) Act 2021 (Vic).

⁴⁴ Climate Change Act 2017 (Vic), Sch. 1.

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'. This broadly framed duty to take climate change into account is underpinned and strengthened by reference to the policy objectives of the Act, which target clear substantive outcomes. 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', and section 22(b) aims 'to build the resilience of the State's infrastructure, built environment and communities through effective adaptation and disaster preparedness action'. Although there is no explicit requirement to ensure alignment with these objectives as there is in some other framework laws,⁴⁵ the section 20 duty can arguably be interpreted in this way, given its broader statutory context.

The architecture of the Climate Change Act also supports a whole-of-government approach to climate change governance.⁴⁶ For example, the Act provides for strategic policy development to support both climate mitigation and adaptation objectives: sectoral emissions reduction pledges are to be developed to support the achievement of interim and long-term emissions reduction targets,⁴⁷ and adaptation action plans are to be developed at the system scale.⁴⁸ The Act also provides that responsibility to develop and implement these pledges and plans can be allocated to different sectoral ministers,⁴⁹ and this approach was followed in the first round of strategic planning under the Act, undertaken from 2017 to 2021.⁵⁰ This allocation of roles and responsibilities beyond the central ministry responsible for the implementation of the Climate Change Act helps to embed consideration of climate change across different policy and operational areas.

Since the introduction of the Climate Change Act in 2017, the Victorian government has dedicated resources to centralized coordination, promotion, and facilitation of mainstreaming activities and interventions, including through a climate mainstreaming team.⁵¹

The conceptual model described in the article emerged from a research partnership with the lead agency implementing the Climate Change Act – the Department of Environment, Land, Water and Planning (DELWP)⁵² – in 2021–22. The co-devised project aimed to build knowledge and capacity within the Victorian government to implement the statutory mainstreaming provisions enacted under the Victorian

⁴⁵ See n. 14 above.

⁴⁶ Calabro, Niall & Skarbek, n. 27 above, p. 818.

⁴⁷ Climate Change Act 2017 (Vic), ss. 43–45.

⁴⁸ *Ibid.*, ss. 34–40. The systems for adaptation planning include the built environment, education and training, health and human services, natural environment, primary production, transport, and the water cycle.

⁴⁹ *Ibid.*, ss. 34, 38, 43, 45.

⁵⁰ E.g., a diverse range of government ministers led the development of emissions reduction pledges for the transport, agriculture, energy, industrial processes and product use, waste, and land use and forestry sectors.

⁵¹ Record 11 (for an explanation of the Records, see n. 57 below).

⁵² Following changes to the machinery of government, the DELWP was renamed the Department of Energy, Environment and Climate Action (DEECA) on 1 Jan. 2023.

Climate Change Act. The study adopted a mixed-method, socio-legal research approach involving both desktop and empirical investigation.

Desktop research included legal analysis of the Climate Change Act in the context of the emerging body of framework climate laws around the world, a review of academic literature on mainstreaming in various policy contexts, and analysis of relevant examples of guidance materials and other tools used to support decision makers in integrating climate change in different jurisdictions.

Empirical research techniques were used to gather data on current and emerging mainstreaming practice from a sample of Victorian government public servants from diverse policy and operational areas.⁵³ Interviews, focus groups, and an online interactive workshop were used to ask participants broadly framed, open-ended questions about mainstreaming practice, barriers to and enablers of climate mainstreaming in different policy and operational contexts, and opportunities to support further integration of climate change in decisions and operations.⁵⁴ An online survey complemented these activities, asking similarly framed questions of a wider range of participants.⁵⁵ The empirical data was examined using qualitative content and thematic analysis approaches, with themes and questions for analysis developed from the literature review and legal analysis, and also informed by the project objective to inform the climate mainstreaming work programmes of the DELWP.⁵⁶

Emerging from a research project firmly grounded in practice, it is not surprising that the model described here is richly informed by empirical data.⁵⁷ Drawing on mainstreaming literature and in dialogue with DELWP partners, the authors iterated the model throughout the duration of the project, as explained further below. The authors then used this model to catalogue and analyze mainstreaming activities under way in the Victorian government, and also to categorize recommendations for further development of climate change mainstreaming under the Climate Change Act.

⁵³ The sample consisted of members of the DELWP Climate Change Division (16) and members of the Victorian Government Climate Risk Community of Practice drawn from diverse policy and operational roles across government (40). Participant selection was purposive and achieved good coverage of relevant stakeholders: M.Q. Patton, *Qualitative Research and Evaluation Methods: Integrating Theory and Practice* (Sage, 2015), Ch. 5, Module 30.

⁵⁴ Interviews (1 hour) and focus groups (1.5 to 2 hours) were conducted online by the authors. The interactive online workshop (2 hours) was conducted online using Zoom conferencing and break-out discussions, as well as Padlet discussion forums to gather data from participants.

⁵⁵ The survey was administered through Qualtrix to members of the Climate Risk Community of Practice. It included a mixture of multiple choice and extended answer questions designed to replicate and build on questions asked in initial interviews.

⁵⁶ See generally L. Webley, 'Qualitative Approaches to Empirical Legal Research', in P. Cane & H.M. Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (Oxford University Press, 2012), pp. 933–5; S. Brinkmann, 'Unstructured and Semi-Structured Interviewing', in P. Leavy (ed.), *The Oxford Handbook of Qualitative Research* (Oxford University Press, 2014), pp. 277–99.

⁵⁷ In line with Monash University Ethics Approval received for this project (Project ID: 28928), reference to data collected through the interviews, focus groups and survey throughout this article is indicated with a numerical reference to the consultation record. Records include transcripts of the interviews, focus groups, and workshop discussions and associated notes (including Padlets to which participants contributed in workshop discussions), as well the survey results. Records 1–11 and 23–29 refer to interviews and focus group transcripts involving the DELWP Climate Change Division and members of the Climate Risk Community of Practice (from diverse policy and operational areas across government). Record 12 refers to a sample of the results of the online survey. Records 13–22 refer to workshop discussions and notes.

It should be noted that the views and opinions expressed by individual project participants and referred to in this article do not express the views or position of the Victorian government. Further, the analysis of this empirical data reflects the views of the authors.

3.2. *Using Theory and Practice to Derive a Conceptual Model*

While mainstreaming can be defined quite succinctly – for example, as ‘the process of integrating ... concerns [regarding the relevant issue] into existing policy and institutional frameworks and decision-making mechanisms’⁵⁸ – the practice of mainstreaming encompasses a diverse range of activities that escape easy or universal classification. Theorists of mainstreaming propose a multitude of different ways of classifying activities that emphasize various aspects of importance, and which are suited to particular contexts or lines of inquiry.

To explain, classify, and analyze mainstreaming activities, scholars have proposed a diverse range of mainstreaming taxonomies. For example, mainstreaming activities can be conceived of and classified by process or outcome;⁵⁹ by type of actor;⁶⁰ as active, defensive or indirect;⁶¹ as purposive government activities or as evidence of a shift in policy discourse more widely;⁶² or even as aligned with paradigms of societal change (hierarchical, individualistic, relational).⁶³ Persson describes the work of Underdal on policy integration (which, to some extent, is analogous to mainstreaming), in which ‘he identifies two overall approaches; a direct approach where guidelines specifying how the integration process should be undertaken are developed and correctly applied, and an indirect approach where the objective is to increase the interest or capacity for integration’.⁶⁴ Evidently, the design of a taxonomy will be informed by the designer’s appreciation of similarities and differences in the material subject to classification, and what the designer perceives to be of analytical importance. It is not surprising, therefore, that there is variation in the taxonomies proposed in the literature; indeed, the taxonomical aspects of the conceptual model proposed in this article reflect the analytical priorities of its authors as well.

A survey of existing literature offered a range of relevant concepts, but no model that captured all aspects of interest to the authors and government partners. Throughout the processes of data collection and analysis, the authors drew on the empirical findings emerging in the study to build on existing models. The result is a model for mainstreaming customized to subnational and national governments designed to inform researchers and practitioners alike.

⁵⁸ Aleksandrova, n. 25 above, p. 513.

⁵⁹ A. Lenschow, ‘Greening the European Union: An Introduction’, in A. Lenschow (ed.), *Environmental Policy Integration: Greening Sectoral Policies in Europe* (Taylor & Francis, 2001), pp. 3–21; Persson, n. 1 above, p. 22.

⁶⁰ Gupta, n. 4 above, p. 88.

⁶¹ A. Lenschow, ‘The Greening of the EU: The Common Agricultural Policy and the Structural Funds’ (1999) 17(1) *Environment & Planning C: Government and Policy*, pp. 91–108; Persson, n. 1 above, p. 17.

⁶² Persson, n. 1 above, p. 13.

⁶³ Picciotto, n. 3 above, pp. 326–7.

⁶⁴ A. Underdal, ‘Integrated Marine Policy: What? Why? How?’ (1980) 4(3) *Marine Policy*, pp. 159–69, at 168; Persson, n. 1 above, p. 34.

This iterative process, by which a theory or conceptual framework is developed in dialogue with emerging empirical data, reflects the methodological approach described by Layder as ‘adaptive theory’:

[The approach] rests on the twin employment of, and the subsequent interaction between, extant or ‘prior’ theoretical materials and emergent data from ongoing research. The dual approach ensures that extant or prior concepts and theory both shape and inform the analysis of data which emanates from ongoing research at the very same time that the emergent data itself shapes and moulds the existing theoretical materials.⁶⁵

This methodology acknowledges that research is motivated by pre-existing knowledge, perceptions, and interests, but requires that researchers remain open to evolving research questions and lines of inquiry in response to ideas and themes emerging from empirical data. It is predicated on a ‘simultaneous privileging of theory and data in the emergence of new theory’, placing existing theory and empirical data in a ‘dialogical relation’.⁶⁶

The conceptual model for climate change mainstreaming in government proposed in this article has two pillars, described below. The first pillar articulates the goal or objective of mainstreaming, providing a means of mapping progress towards desired outcomes. Insights from mainstreaming literature informed the development of the first pillar and the questions posed to participants in interviews, focus groups, and the questionnaire. Responses to these questions endorsed the relevance and validity of the model’s objective of mature mainstreaming, described further below.

The second pillar of the model derived initially from the empirical data and was refined by reference to the literature. Participants were asked to describe mainstreaming activities across government, to provide a broad understanding or ‘baseline’ of mainstreaming activities to date. They were also asked to describe successes, problems and challenges in mainstreaming and the resources they accessed to assist with mainstreaming. This information contributed to the recommendations that formed a principal output of the research partnership. As the data was analyzed, it became clear, firstly, that it was necessary to classify the data in order to make sense of it for researchers and policy operatives; and secondly, the activities, barriers, and enablers described referred to different types of catalyst for mainstreaming, different types of actor, and different strategies by which to achieve change. The research team identified models in the literature that accounted for some of these aspects, borrowing and adapting their features to account for the patterns emerging in the empirical data.

4. PILLAR ONE: OBJECTIVES FOR CLIMATE CHANGE MAINSTREAMING

Among the diverse approaches in the literature, several theorists emphasize the difference between ‘integrationist’ and ‘transformative’ mainstreaming; and categorize

⁶⁵ D. Layder, *Sociological Practice: Linking Theory and Social Research* (SAGE, 1998), p. 166.

⁶⁶ *Ibid.*, p. 169.

mainstreaming activities on the basis of this distinction. For example, in relation to gender mainstreaming, Allwood describes the two categories as follows:

In its integrationist form, gender mainstreaming is incorporated as a policy tool into structures, processes and norms that remain otherwise unchanged. ... The integrationist form often consists of a set of tools and procedures, along with detailed instructions for their implementation. ... The transformative form ... was originally proposed as a way of radically transforming policy approaches to gender inequalities. Instead of addressing gender inequality as a separate policy issue, gender mainstreaming brought a commitment to achieving gender equality in all policy areas, including those previously perceived to be gender neutral. It aimed to address gender at all stages of policymaking, so that policies would be designed with the goal of gender equality already contained within them.⁶⁷

Similarly, Jahan describes the contrast between ‘integrationist’ and ‘agenda-setting’ approaches,⁶⁸ summarized by Walby:

Agenda setting implied the transformation and reorientation of existing policy paradigms, changing decision-making processes, prioritizing gender equality objectives, and rethinking policy ends. In this approach it is the mainstream that changes. Integrationist approaches are those that introduce a gender perspective without challenging the existing policy paradigm, instead ‘selling’ gender mainstreaming as a way of more effectively achieving existing policy goals.⁶⁹

Integrationist mainstreaming has been criticized as ‘box-ticking’;⁷⁰ although this approach may be more palatable⁷¹ and perhaps also easier to achieve, several scholars point out that it is likely to be significantly less effective than transformative or agenda-setting mainstreaming in addressing the relevant issue.⁷² Persson takes a less critical view of the distinction, arguing that:

there are two general approaches towards the achievement of EPI: first, the toolbox approach, which involves identifying concrete measures that can be implemented in the short to medium-term, and second, the longer-term policy reform approach, which involves trying to change fundamental structures in policy-making.⁷³

Gupta also highlights the variation between non-transformative and transformative mainstreaming, but proposes a ‘spectrum’ of activities rather than two dichotomous categories.⁷⁴ She describes the first stage of ‘incorporating’ climate change into development as ‘ad hoc projects’, wherein climate change is taken into account in the design of individual projects. The next stage, ‘win-win’, involves systematically identifying existing projects that take climate change into account. Further along the

⁶⁷ Allwood, n. 2 above, pp. 177–8.

⁶⁸ R. Jahan, ‘The Elusive Agenda: Mainstreaming Women in Development’ (1996) 35(4 Part II) *The Pakistan Development Review*, pp. 825–34, at 828–31.

⁶⁹ Walby, n. 1 above, p. 323.

⁷⁰ Allwood, n. 2 above, p. 178.

⁷¹ Walby, n. 1 above, pp. 323–4.

⁷² E.g., Walby, n. 1 above, pp. 323–4; Wamsler & Pauleit, n. 3 above, p. 83.

⁷³ Persson, n. 1 above, p. 36.

⁷⁴ Gupta, n. 4 above, p. 85.

spectrum are ‘climate proofing’ and ‘climate integration’, which involve screening projects for climate risk, emissions impacts, and opportunities to advance mitigation and adaptation objectives. Finally, Gupta describes ‘mainstreaming’ as ‘reorganization and redesign’, including ‘redesign and restructuring of policy processes and the prioritization of climate change impacts in all policies’ and ‘that policies aim at promoting a spectrum of measures to reduce the vulnerability of society’.⁷⁵ Gupta’s emphasis on transformative mainstreaming as the ultimate goal is evidenced by the fact that she uses the term ‘mainstreaming’ to refer only to the last, transformative stage; otherwise she describes the outcomes along the spectrum as ‘incorporation’ rather than true mainstreaming.

Participants in the empirical study of Victorian mainstreaming practice were asked in interviews, focus groups, and a survey to describe their understanding of mainstreaming. Their responses shed light on what they perceived to be the purpose or objectives of mainstreaming climate change in government.

Participants conceived of mainstreaming in broadly similar ways that focused on integrating climate change considerations into decisions and activities, and normalizing consideration of climate change across government.⁷⁶ For example, participants defined mainstreaming as ‘embedding climate change considerations into everyday basic policies, programs and processes’⁷⁷ or ‘putting a climate change lens on everything you do’.⁷⁸ One participant explained that ‘it’s a two-way street in that they consider whether climate change will affect the implementation of the policy ... [and] whether the policy they’re thinking about implementing will itself exacerbate or help to adapt to climate change’.⁷⁹ Participants also emphasized that mainstreaming implies normalization, so that ‘climate change is no longer viewed as an add-on’.⁸⁰ When climate change is mainstreamed ‘people in their everyday business-as-usual roles ... have an understanding of climate risk that applies to them and ... factor it into their everyday work ... it’s just part of their normal decision-making’.⁸¹

When considering what the outcomes of mainstreaming are or should be, participants suggested that good mainstreaming means climate change is explicitly factored into decisions and, as a result, those decisions change (to align with climate policy objectives).⁸² Others suggested that mainstreaming means climate change is prioritized in decision making: one noted that ‘I’m not sure it counts as good mainstreaming if it can get lost among other competing considerations’;⁸³ and another distinguished mainstreaming as more than mere integration: ‘I actually would hope that it was a bit more than that ... how do you actually transition to new processes that really ... [address] the

⁷⁵ *Ibid.*, p. 84.

⁷⁶ Records 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 23, 26, 27, 28, 29.

⁷⁷ Record 1.

⁷⁸ Record 4.

⁷⁹ Record 8.

⁸⁰ Records 11, 18.

⁸¹ Record 3.

⁸² Record 7; see also Records 12, 13, 21, 24, 25, 27, 28.

⁸³ Record 20.

impact that we have on the planet?’⁸⁴ Several participants emphasized that mainstreaming means more than a change in process; it involves normative and cultural change, a change in attitude across government regarding the significance of climate change to government decisions and activities,⁸⁵ or a change of paradigm.⁸⁶ Participants stressed that mainstreaming should encompass both formal and informal decision making with consideration of climate change becoming an integral part of organizational culture.⁸⁷

While these responses can incorporate ‘add-on’ or ‘win-win’ mainstreaming as characterized by Gupta, they largely explain and frame climate change mainstreaming as ambitious and transformative. It appears, therefore, that the overarching goal of those enacting mainstreaming under the Climate Change Act is what Gupta describes as ‘mainstreaming’, and what is referred to in the model proposed here as ‘mature mainstreaming’.

‘Mature mainstreaming’ describes reorganization and redesign of government policies, processes and activities, and cultural change that refocuses decision makers and activities on climate change as a central (even predominant) consideration. The model proposed in this article identifies mature mainstreaming as the goal of mainstreaming activities, while acknowledging that mainstreaming activities occur along a spectrum of ambition (which reflects differences in how transformative the activities are perceived to be) (Figure 1). Rather than defining mature mainstreaming as the only or true mainstreaming, as Gupta’s terminology implies, the model retains the term ‘mainstreaming’ to cover activities along the spectrum. It is important to acknowledge that less transformative approaches can still contribute to the achievement of mainstreaming objectives;⁸⁸ in particular, where there may be limited political or institutional support for a transformative approach or where capacity for transformative mainstreaming needs to be built up over time, ad hoc projects, win-win opportunities, and climate ‘screening’ can all make a valuable contribution towards achieving mitigation and adaptation goals, and help to lay the foundation for transformative, mature mainstreaming.

A spectrum of activity which moves toward mature mainstreaming captures the iteration and continuous improvement that is inherent in climate change mainstreaming. To align with this directional conception of mainstreaming, and to acknowledge the diversity of means and methods by which mainstreaming can be advanced, the model categorizes mainstreaming activities along three ‘pathways’, described below.

5. PILLAR TWO: PATHWAYS FOR MAINSTREAMING

While the theoretical frameworks described above focus on the objectives of mainstreaming, other models or taxonomies classify types of mainstreaming based on the

⁸⁴ Record 27.

⁸⁵ Records 9, 11, 29.

⁸⁶ Record 4.

⁸⁷ Records 9, 19.

⁸⁸ La Trobe & Davis, n. 3 above, p. 4. See also discussion in Gupta, n. 4 above, pp. 87, 91.

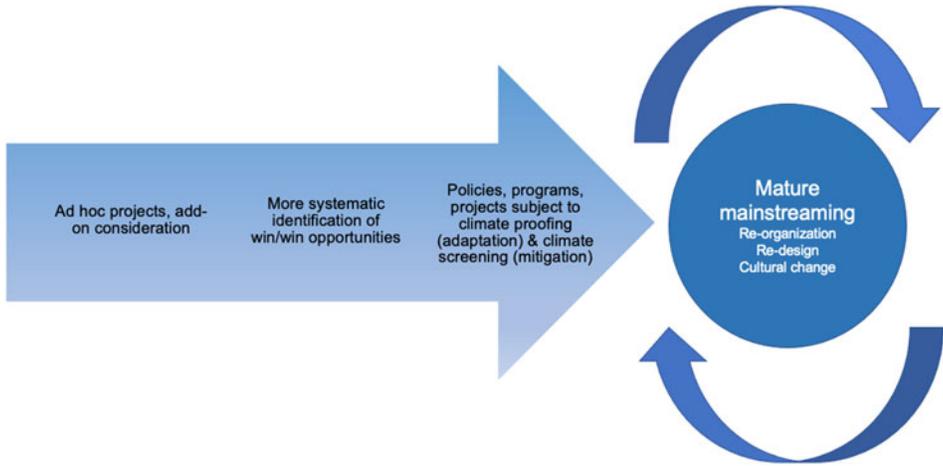


Figure 1. Towards Mature Mainstreaming

Source: Adapted from Gupta, n. 4 above

nature of activities undertaken. For example, Persson adopts a classification of environmental policy integration activities as normative, organizational or procedural.⁸⁹ A taxonomy developed to describe the integration of development planning and environmental assessment describes five categories of integration: substantive, methodological, procedural, institutional, and policy.⁹⁰ Benson and Twigg offer a series of seven complementary ‘steps’ to successful mainstreaming of disaster risk reduction, incorporating awareness raising, capacity building, changes in operational practice, and monitoring and reporting.⁹¹

Wamsler and co-authors have iterated a conceptual framework for mainstreaming ecosystem-based adaptation in local government, which attempts to account for both the nature of the transformation (as per Gupta and others discussed above) and also the type of activity. They propose six⁹² or seven⁹³ categories of mainstreaming, which include add-on mainstreaming; programmatic mainstreaming; inter- and intra-organizational mainstreaming;⁹⁴ regulatory mainstreaming; managerial mainstreaming, and directed mainstreaming. Add-on and programmatic mainstreaming reflect the contrast in Gupta’s spectrum between ‘ad hoc projects’ and ‘mainstreaming’. The categorization of inter-and intra-organizational, regulatory and managerial mainstreaming describes different types of activity and actor implicated in mainstreaming in

⁸⁹ Persson, n. 1 above, p. 26. See also Gupta (n. 4 above, p. 88) who suggests a similar taxonomy but refers to ‘substantive’ rather than ‘organizational’ aspects of mainstreaming.

⁹⁰ M. Eggenberger & M. Partidario, ‘Development of a Framework to Assist the Integration of Environmental, Social and Economic Issues in Spatial Planning’ (2000) 18(3) *Impact Assessment and Project Appraisal*, pp. 201–7; Persson, n. 1 above, pp. 15–6.

⁹¹ Benson & Twigg, n. 1 above, p. 14.

⁹² Wamsler, Luederitz & Brink, n. 3 above.

⁹³ Wamsler & Pauleit, n. 3 above.

⁹⁴ In a subsequent iteration, Wamsler & Pauleit (n. 3 above) conceptualize these as two categories rather than one.

local government. Directed mainstreaming ‘supports or redirects focus onto aspects related to integrating ecosystem-based adaptation by providing topic-specific funding, promoting the initiation of new projects, supporting the education of staff, or directing responsibilities’.⁹⁵ As such, this category overlaps with some of the other categories and attempts to highlight proactive, targeted, and coordinated mainstreaming efforts.

Data obtained through the empirical study of mainstreaming in Victoria indicated a diverse range of mainstreaming activities and practices across the Victorian government. While it may have been possible to sort these into the categories proposed by Wamsler and co-authors, three principal thematic groupings emerged in the data: (i) regulatory mechanisms, (ii) institutional mechanisms, and (iii) capacity and capability-based mechanisms. As is further elaborated below, these three categories reflect aspects of those described by Wamsler and co-authors (and also some proposed by other theorists), but they both streamline and expand the model to better account for the case study data. This also has the ancillary benefit of offering a simpler framework with three prongs rather than six or seven.

To reflect the idea that mainstreaming activities are working towards the objective of mature mainstreaming (as described in Section 4) these three categories are described in the model as ‘pathways’. In the discussion that follows each pathway is defined and illustrated with empirical insights about barriers and enablers for climate change mainstreaming gained from the Victorian case study.

5.1. *Regulatory Pathways*

Regulatory pathways are top-down pathways to climate mainstreaming that involve formal rules and obligations to consider and integrate climate change in decision-making contexts and processes. This is achieved through making explicit reference to climate change in legislation and in associated statutory 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, including through requiring regular reporting.

Regulatory pathways often incorporate an obligation or norm(s) derived from an authoritative source such as legislation, regulation, or government policies, procedures and guidance. They encompass both direct obligations to ‘mainstream’, such as the statutory duties to consider climate change included in the Climate Change Act,⁹⁶ and procedural obligations, such as requirements to report on mainstreaming activities and outcomes. Regulatory pathways share several features with Wamsler, Luederitz and Brink’s ‘regulatory mainstreaming’, which encompasses ‘the modification

⁹⁵ Wamsler, Luederitz & Brink, n. 3 above, p. 191.

⁹⁶ Climate Change Act 2017 (Vic), ss. 17, 20.

of planning procedures and related activities by formal and informal plans, regulations, policies and legislations [*sic*] that lead to integration', and could also encompass aspects of 'directed mainstreaming' by directing focus and/or responsibilities in addressing climate change.⁹⁷ To draw a comparison with another model, this category of pathway encompasses some aspects of Persson's normative factors, such as policy commitments, as well as procedural factors.⁹⁸ 'Regulatory pathways' in this model, however, clearly focus on express and authoritative rules and obligations as a key driver of mainstreaming.

Many participants in the empirical study identified formal rules and obligations to consider and address climate change in decision making, as well as processes and requirements to report on climate risk management activities, as important regulatory drivers of climate mainstreaming. For example, participants discussed the way in which the Climate Change Act has contributed to greater awareness of, and concern about, climate change across government, particularly in work areas involved with the core policy mechanisms (emissions reduction pledges and adaptation plans), as well as in central government agencies.⁹⁹ One participant explained:

[W]hat the Climate Change Act itself did is give us a much stronger platform to pursue those issues because we now had this statutory responsibility to consider things. ... rather than having ourselves to go, this *should* be the objective, we could just take it as given. This is the legislative objective for the state of Victoria.¹⁰⁰

However, participants also emphasized that uncertainty about the legal implications of the broadly framed duty in section 20 of the Climate Change Act was a significant barrier to the effective discharge of the duty and the integration of climate change in government decisions and operations. Participants noted a lack of clarity about what it means to 'appropriately take account' of climate change;¹⁰¹ who is responsible for discharging the duty given its very broad application to the Victorian government;¹⁰² how to demonstrate that climate change has been taken into account in a decision,¹⁰³ and how duty holders should balance competing considerations in considering climate change.¹⁰⁴ Many participants discussed the lack of authoritative guidance on the implementation of the mainstreaming duties in the Climate Change Act, despite the explicit provisions in the Act that enable this.¹⁰⁵ Several participants also described section 20 as a weak obligation which would be more effective if expressed in stronger, more conclusive language.¹⁰⁶

⁹⁷ Wamsler, Luederitz & Brink, n. 3 above, p. 191.

⁹⁸ Persson, n. 1 above, p. 36.

⁹⁹ Records 7, 8, 9, 12, 17, 23, 28, 29.

¹⁰⁰ Record 28.

¹⁰¹ Records 6, 23, 26.

¹⁰² Record 28.

¹⁰³ Records 23, 24, 25.

¹⁰⁴ Records 4, 6, 7, 12, 13, 17, 19, 26.

¹⁰⁵ Climate Change Act 2017 (Vic), ss. 18, 21. See also Records 12, 23, 29.

¹⁰⁶ Records 13, 26.

Several participants noted that awareness of, and attention to the discharge of the mainstreaming duties had increased recently as a result of litigation against government seeking to enforce these duties.¹⁰⁷ In 2022, for example, civil society groups brought a case in the Victorian Supreme Court arguing that there had been a failure by the Victorian Environment Protection Authority to consider climate change, as required by the section 17 duty, in decisions to renew the operating permits for coal-fired power stations.¹⁰⁸ Those participants who discussed the section 17 duty typically framed it as a stronger duty than that imposed by section 20, with less uncertainty surrounding its interpretation.¹⁰⁹ However, section 17 has much narrower application, and participants noted that with such a small number of decisions and actions currently prescribed under Schedule 1 of the Climate Change Act, the practical effect of the provision is greatly constrained.¹¹⁰

While the explicit duties of the Climate Change Act itself were seen as important drivers with broad potential reach into various policy areas, some participants argued that incorporating statutory obligations to consider and integrate climate change directly into sectoral legislation would potentially be a more effective vehicle for mainstreaming,¹¹¹ with one participant noting that ‘when we can influence, we would strongly encourage people to include something about climate change directly in the legislation rather than by reference of [*sic*] the Climate Change Act’.¹¹² There are some extant examples of this approach, including provisions in the Local Government Act 2020,¹¹³ the Marine and Coastal Act 2018,¹¹⁴ and the Infrastructure Victoria Act 2015.¹¹⁵

Similarly, participants discussed a wide range of regulatory instruments (beyond legislation), including authoritative guidance documents, statements of obligation for public authorities and reporting requirements,¹¹⁶ requirements to consider and account for climate change in existing governance processes such as cabinet submissions, budget processes and procurement;¹¹⁷ financial and other reporting by government entities, such as Financial Reporting Directives;¹¹⁸ risk registers;¹¹⁹ risk assessment processes;¹²⁰ and other departmental strategies and plans.¹²¹ Examples include guidance on addressing climate change risks for Board Members and Executive of

¹⁰⁷ Records 7, 11, 12, 19, 21, 24, 25, 29.

¹⁰⁸ *Environment Victoria Inc., v. AGL Loy Yang Pty Ltd & Others* [2022] VSC 814.

¹⁰⁹ Record 12.

¹¹⁰ Records 10, 11.

¹¹¹ Records 5, 11, 29.

¹¹² Record 11.

¹¹³ Local Government Act 2020 (Vic), s. 9.

¹¹⁴ Marine and Coastal Act 2018 (Vic), ss 7, 9.

¹¹⁵ Infrastructure Victoria Act 2015 (Vic), ss 8, 33.

¹¹⁶ Records 6, 11, 27, 13, 15, 26, 27, 5, 10, 13.

¹¹⁷ Records 12, 17, 4.

¹¹⁸ Records 12, 17, 5, 14, 19.

¹¹⁹ Records 12, 17, 6, 27.

¹²⁰ Records 11, 12, 13, 17, 19, 20, 23, 27, 29.

¹²¹ Records 12, 17, 23, 28.

Water Corporations produced by the DELWP,¹²² and climate change-related risk management guidance developed by the Victorian Managed Insurance Agency under the Victorian Government Risk Management Framework.¹²³ Although these and other examples demonstrate progress to date, many opportunities remain to embed climate change effectively into these types of sectoral instrument, which guide and constrain government decisions and operations across government.¹²⁴

5.2. Institutional Pathways

Institutional pathways to climate mainstreaming 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 various government organizations, as well as the power and influence of different government officers and organizations.

Wamsler, Luederitz and Brink in their model group the categories into ‘horizontal’ and ‘vertical’ mainstreaming. ‘Vertical’ mainstreaming involves ‘[a]ctivities that are characterized by a high level of guidance’, which in this model are regulatory, managerial, and directed mainstreaming. Horizontal mainstreaming encompasses ‘[a]ctivities that relate to coordination’, that is, add-on, programmatic, and inter- and intra-organizational mainstreaming.¹²⁵ In the model proposed in this article, regulatory pathways are generally top-down, and capacity and capability-building pathways are bottom-up. However, institutional pathways encompass both top-down and bottom-up approaches, and this differentiation adds a helpful layer of insight into how these pathways can be activated and produce mainstreaming outcomes.

For example, top-down institutional pathways might involve building awareness and engagement at executive levels and within central government agencies with significant influence across government, as well as creating explicit climate leadership roles within departments and agencies. Bottom-up institutional pathways might involve identifying and supporting climate champions across government, and using networks and community of practice approaches to facilitate collaboration, peer learning, and resource sharing.

Institutional pathways reflect the organizational factors that can enable or hinder the achievement of goals and outcomes, including leadership, resourcing, and relationships. To an extent, this category resembles Wamsler, Luederitz and Brink’s ‘managerial mainstreaming’, which incorporates ‘the modification of organizational

¹²² Victorian Government, Department of Environment, Land, Water and Planning (DELWP), *Managing Climate Change Risk: Guidance for Board Members and Executives of Water Corporations and Catchment Management Authorities* (State of Victoria, 2019), available at: https://www.delwp.vic.gov.au/_data/assets/pdf_file/0023/428054/ISBN-Managing-Climate-Change-Risk-Guidance-Water-Entities-20190702-02-.pdf.

¹²³ Victorian Managed Insurance Authority (VMIA), ‘Climate Change Risk Management Service’, available at: <https://www.vmia.vic.gov.au/tools-and-insights/climate-change>.

¹²⁴ Records 12, 26.

¹²⁵ Wamsler, Luederitz & Brink, n. 3 above, p. 191.

management and working structures’.¹²⁶ However, institutional pathways are more widely defined in this model, encompassing a broader suite of factors that influence the effectiveness of ‘organizational management and working structures’. Persson also includes changes in government architecture, and coordination and communication across government as organizational factors, but expands this category to include reforms to budgetary process, and training and awareness programmes,¹²⁷ which in the proposed model fall into regulatory and capacity and capability-building pathways, respectively. This highlights the focus of the institutional pathways in the proposed model on governance arrangements, as opposed to operational or capacity aspects of government activity.

When discussing climate mainstreaming activities and initiatives, participants in the empirical study emphasized the importance of governance arrangements that facilitate and support robust and appropriate consideration and integration of climate change.

Since the passage of the Climate Change Act in Victoria, government resources have been allocated to a central climate mainstreaming team. This team sees itself as ‘centrally coordinating ... capability building ... providing people with the tools and information they need in order to do it themselves ... enablers, capacity builders ... for other areas of government’.¹²⁸ The team has facilitated the delivery of several mainstreaming initiatives, including in partnership with central agencies (the Victorian Government Department of Treasury and Finance, and the Department of Premier and Cabinet).

Several participants from across government recognized the value of centralized climate policy and mainstreaming support, noting that the climate policy and mainstreaming teams have played an important role in coordination,¹²⁹ advocacy on climate change issues,¹³⁰ and offering centralized, consistent advice to various areas of government on climate change issues.¹³¹

However, participants expressed concern about a persistent framing of climate mainstreaming as an ‘environmental’ issue and therefore the responsibility of a climate change or sustainability team.¹³² They noted a lack of integration and coordination across government, a risk of operating in ‘silos’ and failing to consider the interrelationships between systems (or sectors), risks and decision makers, leading to inconsistent approaches and frustration.¹³³

One way to address this issue is by building peer learning networks across government – an example of horizontal mainstreaming. The Climate Risk Community of Practice, a network of senior officers and managers working on climate risk across government, was

¹²⁶ Ibid.

¹²⁷ Persson, n. 1 above, p. 36.

¹²⁸ Record 11.

¹²⁹ Records 10, 29.

¹³⁰ Record 11.

¹³¹ Records 4, 27.

¹³² Records 5, 11, 14, 19, 27.

¹³³ Records 2, 6, 27.

highly valued¹³⁴ as an opportunity to share experiences and improve coherence in government climate change responses. A number of ad hoc partnerships between the climate policy and mainstreaming teams and other parts of government are also emerging to support the integration of climate consideration in various policy and operational settings. One frequently noted example was a successful collaboration between Ambulance Victoria and the DELWP, which focused on applying climate change data to forward planning in the ambulance service.¹³⁵

Institutional mainstreaming on the vertical axis was also considered an important enabler of mainstreaming, and its absence a notable hindrance. A low level of awareness of climate change and its implications for government at senior and executive levels was often noted,¹³⁶ with participants commenting on how difficult it can be to make progress on mainstreaming without strong support and a mandate from senior decision makers.¹³⁷ Support and buy-in from senior decision makers provides a mandate and a strong authorizing environment for mainstreaming,¹³⁸ and engagement from central agencies is vitally important in creating an authorizing environment for climate change work across government.¹³⁹ Raising awareness and building engagement at executive levels and within central government agencies with significant influence across government have been a strong focus for the activities of the centralized climate mainstreaming team to date.¹⁴⁰

Some departments and agencies have also established climate-related roles in their leadership and institutional frameworks, thereby helping to broaden and decentralize climate change governance. Mainstreaming can be enabled and accelerated by a climate change team or even individuals with a mandate and resourcing to coordinate, advise on and implement climate change mainstreaming in a department or agency. For example, at the time the empirical research was conducted, the Department of Jobs, Precincts and Regions had a dedicated climate change unit tasked with developing a department-wide work programme for mainstreaming and facilitating compliance with the Act across the department, including the section 20 duty.¹⁴¹ The value of individual ‘champions’ of mainstreaming at all levels within departments was often noted,¹⁴² although they sometimes lack the influence of designated climate change roles or units and/or senior decision makers.

Participants noted several other institutional barriers to climate mainstreaming in government. For example, they explained that it can be difficult to insert climate change objectives into reactive policy spaces, for example, in the context of building back after a disaster.¹⁴³ It was also suggested that governments may prefer to invest in deliverables

¹³⁴ Records 2, 12, 29.

¹³⁵ Records 1, 12, 15, 27, 30.

¹³⁶ Records 1, 3, 4, 6, 9.

¹³⁷ Records 27, 29.

¹³⁸ Records 4, 6, 8, 10, 12, 17, 19, 28, 29.

¹³⁹ Records 6, 9.

¹⁴⁰ Records 10, 11.

¹⁴¹ Record 23.

¹⁴² Records 6, 10, 23, 26, 27.

¹⁴³ Record 1.

that provide a ‘quick win’ or something to announce, rather than investing in the long-term capability building needed to deliver the outcome sought effectively.¹⁴⁴ Further, integrating climate change considerations into well-established processes was seen as more difficult than integrating them into a new process or project.¹⁴⁵

5.3. *Capacity and Capability-Building Pathways*

Capacity and capability-building pathways are bottom-up pathways to climate mainstreaming, which involve developing targeted information, resources, and user-friendly decision-support tools to build the capacity of decision makers across government to effectively integrate climate change. These pathways also involve activities that support decision makers in applying climate change information to their own work context and to use decision-support tools, and pilot projects that demonstrate good climate risk management, and can be adapted and replicated in different contexts.

Few of the models reviewed in the literature designate capacity and capability building as a specific category of mainstreaming activity.¹⁴⁶ However, it emerged as a strong theme in the empirical study, both as an example given by participants of mainstreaming activities undertaken and as an important enabler of mainstreaming. It is therefore proposed in this model as the third type of pathway towards mature mainstreaming.

Capacity and capability to consider and integrate climate change vary widely across the Victorian government. Participants reported that climate mainstreaming is more mature in areas of government where there are existing climate science modelling capabilities or where there are staff with skills to interpret and apply that information (for example, water, marine and coastal, and bushfire policy areas).¹⁴⁷ Areas of government where there is lived experience of climate change impacts have also developed more advanced practice (for example, water supply management following extensive recent droughts, including from 1999 to 2009, and bushfire risk reduction and emergency management following catastrophic events in 2009 and 2019).¹⁴⁸

However, many participants recognized that awareness and experience of climate change risks and appreciation of the relevance of climate change are uneven across government.¹⁴⁹ This unevenness may also manifest within a single agency: for example, climate change may be well integrated into strategic and large-scale, highly visible decisions, but not considered in smaller or operational decisions.¹⁵⁰

To address knowledge and skill deficits across government, the climate mainstreaming team and wider climate change policy branch have focused on developing targeted information, resources, and user-friendly decision-support tools. This includes commissioning high-resolution climate modelling from the Commonwealth Scientific and

¹⁴⁴ Record 28.

¹⁴⁵ Records 12, 15, 26.

¹⁴⁶ One exception is the model proposed by Benson & Twigg, n. 1 above, p. 14.

¹⁴⁷ Records 1, 10, 27.

¹⁴⁸ Records 3, 5, 6, 11, 13 14, 26, 28.

¹⁴⁹ Records 6, 11, 12, 28.

¹⁵⁰ Record 26.

Industrial Research Organisation (CSIRO),¹⁵¹ developing Victoria's Future Climate Tool (in collaboration with CSIRO) and guidance to support users of this tool.¹⁵² Participants had reasonably good awareness of available information resources and tools¹⁵³ but noted that, even with such targeted decision-support tools, there may be insufficient technical expertise in many areas of government to apply climate change science and climate scenarios to stress-test policy and integrate climate science into risk assessments and operational matters.¹⁵⁴

Another capacity gap widely acknowledged by participants related to the need to quantify climate change considerations in the development and appraisal of policies, projects, and programmes. Participants noted the widespread use of traditional economic methods to quantify the costs and benefits of different policy options, arguing that these methods do not adequately take account of climate change and noting the lack of expertise in using economic tools to better quantify and measure social and environmental costs and benefits.¹⁵⁵

Participants referred to several pilot projects – including the Ambulance Victoria case study described above and the DELWP best practice climate risk reporting in its 2021 annual report – as important learning and skills development opportunities.¹⁵⁶ They also identified specific training opportunities provided by government agencies, such as the Victorian Managed Insurance Authority (VMIA) Climate Change Risk Foundations Course,¹⁵⁷ although these were not targeted exclusively at building internal government capacity for mainstreaming.

Participants from across government argued consistently for more centralized support for mainstreaming, either through the development of more decision-support tools and guidance, or through greater centralized capacity to advise and support different areas of government on climate change issues.¹⁵⁸ They also emphasized the need for adequate resourcing of climate change mainstreaming activities in terms of both capacity building and implementation.¹⁵⁹

Intersections between the pathways towards mainstreaming are evident in the preceding discussion, particularly in the context of capacity and capability building. For example, an emphasis on the need for guidance resonates strongly with regulatory enablers of mainstreaming identified above. Participants' comments about the need for

¹⁵¹ Victorian Government DELWP & CSIRO, 'Victorian Climate Projections 2019', updated 2 Mar. 2023, available at: <https://www.climatechangeinaustralia.gov.au/en/projects/victorian-climate-projections-2019>.

¹⁵² Victorian Government DELWP & VMIA, 'Victoria's Future Climate Tool: An Introduction and Guidance for Risk Management', available at: https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0022/526216/Victorias-Future-Climate-Tool-Guidance-for-Risk-Management-ACCESSIBLE-VERSION.pdf.

¹⁵³ Records 2, 3, 10, 11, 12, 27, 30.

¹⁵⁴ Records 1, 13, 15, 27.

¹⁵⁵ Records 8, 9, 12.

¹⁵⁶ Records 1, 12, 15, 27, 30.

¹⁵⁷ Record 12.

¹⁵⁸ Records 1, 4, 10, 11, 27, 29.

¹⁵⁹ Records 12, 13, 26.

adequate resourcing and the importance of knowledge sharing also reflect interdependencies between the institutional pathway, which includes staff roles and relationships, and the capacity and capability-building pathway, focused on building knowledge and skills.

6. USING THE CONCEPTUAL MODEL TO UNDERSTAND AND STRENGTHEN CLIMATE MAINSTREAMING IN GOVERNMENT

The empirical study of climate mainstreaming in Victoria presented an opportunity to develop a new conceptual model, building on those described in the literature. Integrating the development of a model with an empirical study can generate a model that is not only a valuable analytical tool for scholars, but which also helps those implementing mainstreaming in government to understand, evaluate, and evolve their activities and maximize their ability to achieve mainstreaming objectives.

The model proposed in this article, while informed by the wider literature, borrows primarily from the conceptual frameworks outlined by Gupta and by Wamsler and co-authors,¹⁶⁰ adapting them to suit the Victorian government context and the context of domestic national and subnational governments more broadly. It attempts to consolidate and simplify the categories of mainstreaming activities used, and the way in which mainstreaming objectives are integrated into the model. This streamlining helps to advance conceptual clarity about climate mainstreaming theory and practice, and also enhances the transferability of the model.

The model proposed in this article is summarized in [Figure 2](#).

At the centre of the model is its core objective: to achieve mature mainstreaming, or the reorganization and redesign of government policies, processes, procedures, and decision making such that climate change is a (or *the*) primary consideration. Positioning climate change at the heart of government decision making and activity would enable and accelerate the achievement of mitigation and adaptation goals, such as the long-term emissions reduction target of net-zero by 2050 enshrined in the Victorian Climate Change Act.

The three pathways represent the diverse range of approaches and actions that can advance mainstreaming in government. They highlight three distinct aspects of government operation – (i) regulatory drivers, (ii) institutional coherence and coordination, and (iii) capabilities and capacities of individuals and teams delivering policy agendas – that contribute to achieving mature mainstreaming. These pathways are complementary, and there is also interdependency and interaction between them. For example, capacity and capability-building pathways interact closely with some aspects of regulatory pathways, as capacity-building activities should accompany or follow the creation of new obligations, requirements, and formal government-endorsed guidance; and collaboration and skill sharing (which are encouraged by institutional pathways) are also relevant to capacity building.

¹⁶⁰ Gupta, n. 4 above; Wamsler, Luederitz & Brink, n. 3 above; Wamsler & Pauleit, n. 3 above.

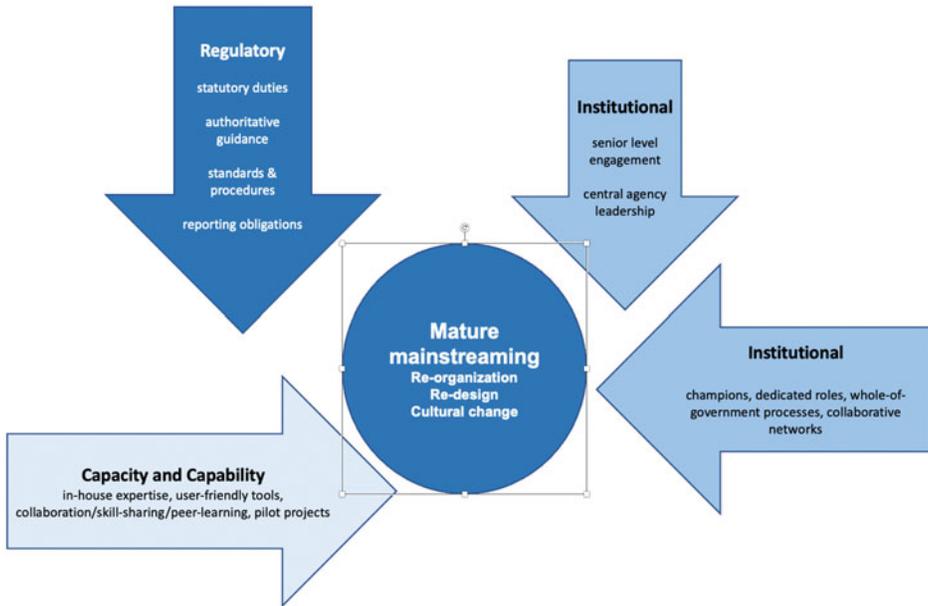


Figure 2. A Conceptual Model for Mainstreaming in Government, Incorporating Mainstreaming Objectives and Pathways

Source: Developed by the authors.

The arrows in the diagram, and the concept of ‘pathways’, emphasize the continuous process of mainstreaming towards a goal of mature mainstreaming. Even when mature mainstreaming is achieved, ongoing engagement and investment of resources is required to sustain this status as knowledge of climate change, best practice, and government and community priorities evolve.

Plotting mainstreaming activities and mechanisms along a spectrum towards mature mainstreaming can provide a frame for developing and deepening mainstreaming practice progressively over time, and monitoring and evaluating progress towards mature practice. Classifying mainstreaming activities along the three pathways outlined in the model provides clarity about the logic and rationale of mainstreaming activities; it can map current practice, highlight gaps, and help to identify priorities for directing mainstreaming efforts; it can reveal opportunities for complementary measures to produce mutually beneficial outcomes; and it can help in communicating the diversity and overarching impact of mainstreaming activities across government and to senior decision makers, stakeholders, and the public. Substantial progress and effort invested along one pathway may offset slower progress along others; the model will help governments to evaluate and improve their progress along each pathway and towards mature mainstreaming overall.

Although the model has been informed by one case study in particular, it is offered as a theoretical contribution of more general application that could be used to analyze and evaluate climate mainstreaming in a range of jurisdictions and socio-legal contexts.

Although it will undoubtedly benefit from further development in the literature and as mainstreaming practice evolves over time, this article contends that this model can account for climate mainstreaming in a variety of contexts for three main reasons.

Firstly, the model is agnostic about mitigation or adaptation activities; it accounts for either or both, consistent with the overarching objectives of framework climate legislation. This contrasts with the majority of exposition of climate change mainstreaming to date, which has focused largely on adaptation only.¹⁶¹ Secondly, it focuses solely on activities of government, and does not attempt to account for the actions or contribution of other actors to the achievement of mainstreaming objectives. While this may appear to narrow the application of the model, it also unshackles it from specific stakeholder relationships or contextual dependencies, making it relatively transferable between jurisdictions and levels of government. Thirdly, it is informed by and develops other models proposed in the literature applied, for example, to ecosystem-based adaptation in local government;¹⁶² as a result, it is likely to be able to account for these specific contexts, as well as the arguably broader policy environment encompassed by framework climate legislation (subnational and national jurisdictions).

While this model is offered as a contribution to emerging theoretical and scholarly discourse on climate change mainstreaming, it is firmly rooted in a practical objective to support the ongoing development and delivery of mainstreaming interventions that foster robust and appropriate consideration of climate change across the Victorian government, in line with statutory duties under the Climate Change Act. It is hoped that the insights gained from empirical investigation in this leading jurisdiction will assist mainstreaming efforts in other jurisdictions, with or without legislative obligations for climate change mainstreaming.

This model may also be of assistance to governments at the very beginning of their mainstreaming journey – jurisdictions keen to strengthen their response to climate change who are coming to the concept for the first time; or indeed those such as the Republic of Fiji, with brand new legislative duties to incorporate climate change in government activities and decision making.¹⁶³ Clearly articulating mainstreaming objectives and exploring potential mainstreaming activities, using the pathways in the model, can help governments to identify, prioritize, and monitor climate change mainstreaming initiatives to achieve their climate change policy goals as effectively and efficiently as possible.

¹⁶¹ See, e.g., Wamsler, Luederitz & Brink, n. 3 above; Mitchell, Tanner & Wilkinson, n. 24 above.

¹⁶² Wamsler, Luederitz & Brink, n. 3 above; Wamsler & Pauleit, n. 3 above.

¹⁶³ Climate Change Act 2021 (Fiji), Part 5.