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victorian centre for climate change adaptation research

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Climate Adaptation for **Decision-makers**

Framing climate change adaptation in policy development and implementation

Policy Brief

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Key messages

- **Adaptation can be addressed from different angles:** Adaptation is usually multi-facetted and has many potential goals and outcomes. Individuals, communities, and organisations approach adaptation differently, depending on what they want to achieve. Individual factors such as values, professional background, roles and responsibilities and social expectations play a key role in how adaptation is framed and approached.
- **Adaptation requires strategic thinking:** Many individuals and organisations are used to adapting their decision-making to changing circumstances, and some are already responding to climate variability and change. Organisations can build on these experiences by making a commitment to strategic adaptation planning, and to considering the long-term implications of today's decisions.
- **Adaptation challenges evidence-based decision-making:** Many of the benefits of adaptation initiatives lie in the future, so it can be impossible to provide full evidence of their effectiveness at present. Adaptation requires the ability to deal with uncertainty in different types of decision-making, including our inability to predict future choices and decisions.
- **Adaptation needs to be tailored to local and regional context:** The effectiveness of adaptation does not only depend on climatic factors, which vary from place to place. Its success and appropriateness relies to a significant degree on local and regional socio-economic, environmental and institutional factors. These need to be taken into account when developing local strategies for adaptation.
- **Adaptation requires breaking down barriers:** Adaptation does not easily fall into a single area of responsibility or portfolio. It is cross-cutting and involves a wide range of policy areas, such as urban and regional planning, community development, infrastructure, and governance. To be effective and efficient, adaptation requires a coordinated approach that relies on active collaboration and good will.
- **Different approaches to adaptation may lead to different outcomes:** Adaptation can be tackled using a range of existing and new approaches, and tools for planning, assessment, decision-making and operational implementation. Each approach can imply a way of framing adaptation and a process of going down a particular adaptation pathway that may eliminate alternative options.

Framing adaptation as a process inevitably emphasises the role of people and institutions, their evolving capacity of effectively dealing with climate change impacts, and the role of non-technological adaptation measures.

Summary

The Framing Adaptation project explored different ways of describing and approaching climate change adaptation at the conceptual-theoretical and operational levels. Focusing on local government in Victoria, it investigated how organisations understand and interpret adaptation, how they conduct adaptation planning and make decisions in the face of uncertainty and complexity, and what guidance is required to effectively support adaptation processes.

Why framing occurs

Holding different understandings of adaptation framing can act as a major barrier to the development and implementation of balance and inclusive adaptation policies and processes. During policy development, terminology can be used inconsistently and definitions of key concepts and phrases vary greatly. It is therefore critical to:

- Put effort into uncovering existing framings of adaptation from the outset of adaptation initiatives, through formal and informal discussion with all stakeholders.
- Gain a shared understanding of the purpose, goals and approaches of adaptation through consolidated scoping exercises at the beginning of an adaptation process. Scopes may need to remain flexible to accommodate changing climatic and non-climatic drivers.

Left unaddressed, a lack of awareness of framing differences can create barriers to effective adaptation policy and implementation.

How framing occurs

Framing occurs when people with different knowledge, experiences and personal backgrounds consider any activity or challenge. Framing makes sense of a complex topic (like climate change), allowing individuals to develop a shared meaning and sense of purpose to address the challenge.

In adaptation, as well as in other areas of policy, three nested levels can be identified at which framing occurs (Table 1):

- At a meta-level, public discourses on climate change adaptation draw on culturally distinct values and beliefs, such as the worth of protecting the earth's environment. Such meta-framing of climate change adaptation, using values and beliefs, is often apparent in the media and public political debates.
- At the conceptual level, theories, concepts and definitions of adaptation processes and their outcomes constitute another form of framing by which adaptation is given particular meanings. Abstract concepts, such as hazard, risk, vulnerability, and resilience are commonly used in research and policy making. Conceptual-level framing inevitably draws on the underlying values that frame the meta-level of public discourses.
- At the operational level of policy implementation and adaptation practice, decisions are made and actions taken based on certain adaptation framings. These can be articulated in policy documents, public debates, internal meetings and consultancy reports. Operational-level framing draws on conceptual *and* meta-level frames.

At all three levels, the frames that guide climate change adaptation can be explicit, i.e. openly discussed as part of policy or program design, or they can be unconsciously represented without ever being mentioned or discussed. Such implicit framing is common and manifests itself in:

- How adaptation is referred to (e.g. as 'problem', 'challenge', 'opportunity', or 'process for increasing capacity'),
- Who is expected and permitted to make qualifying statements about adaptation (e.g. politicians, government staff, scientists, local residents),
- What questions are considered relevant and important (e.g. 'what are the key climate change impacts?'; 'how certain is climate change?'; 'who and what is going to be affected by climate change?; or 'who or what assets do we want to protect?'), and
- The range of answers considered appropriate (e.g. depending on underpinning values, professional traditions, and political risk involved).

(modified from de Boer et al., 2010)

Climate change adaptation can mean many different things to different people. There is no single way of defining adaptation that can be applied to all local and organisational contexts.

Table 1: Summary of enablers

Levels of framing	Determining process of framing	Example
Meta	Referring to value and belief systems	The value that people are entitled to certain human rights and should not suffer unnecessary harm
Conceptual	Theorisation	Defining what vulnerability means in the context of climate change
Operational	Day-to-day implementation and decision-making	Applying a certain understanding of vulnerability to the assessment of climate change impacts

Source: Fünfgeld and McEvoy

Framing adaptation as a process

An alternative adaptation framing places greater emphasis on the way human or natural systems operate, and how individuals and organisations can learn and improve their way of planning and operating in the face of climate change and other, non-climatic drivers. Such framing considers adaptation as a continuous process of interaction between human social systems and their environment, which is characterised by social interactions and individual and organisational learning and development.

Framing adaptation as a process inevitably emphasises the role of people and institutions, their evolving capacity of effectively dealing with climate change impacts, and the role of non-technological adaptation measures.

Framing climate change adaptation as a learning process can be useful in providing answers to the question of how adaptation is going within a given social context and therefore should be considered a vital component of any operational adaptation framework. By committing to a process of institutional and individual learning for climate change adaptation, an organisation can explore a broad range of adaptation options that can become more sophisticated as its organisational adaptive capacity increases.

Unravelling adaptation framing

Organisations can facilitate and encourage discussion with internal and external stakeholders on the most appropriate framing of adaptation. To do this it may be useful to refer to a set of strategic framing questions (Table 2). These can assist with:

- Uncovering existing frames held by individuals and organisations involved in adaptation processes (e.g. different ideas about the relevance of different climate hazards or the goals of adaptation)
- Forming a shared understanding (or framing) of the meaning and purpose of adaptation, to enable more effective and more efficient adaptation planning and decision-making.

These framing questions can be disaggregated into subsets of strategic questions that are directly relevant to planning and decision-making for climate change adaptation at an operational level (right column of Table 2). These questions can be asked during policy development to reveal different perspectives (i.e. divergent framing) on adaptation among the stakeholders involved. Open discussion of these questions can assist in forming a shared understanding of the goals, preferred methods and expected outcomes of adaptation policies and plans.

Table 2: Strategic questions to address adaptation framing

Adaptation to what?	What climatic stressors exist? What non-climatic stressors exist? What local impacts are likely to result from these stressors (climatic and non-climatic, in what time frame)?
Who or what adapts?	What system(s) will need to adapt to climate change impacts? What system elements are at risk of climate change? What are the goals of adaptation?
How does adaptation occur?	What is the intended outcome of adaptation? What actors and organisations need to be involved in adaptation? What process will be followed to plan adaptation? What concrete adaptation measures will be taken, by whom?
What is good adaptation?	What can be deemed successful and efficient adaptation? How can the success of adaptation be measured? How can measures be adjusted to ensure robust adaptation outcomes?

Source: Fünfgeld and McEvoy

Operational approaches for climate change adaptation

Approaches to adaptation are usually determined at the organisational level, including specific guidelines or methods for how to implement adaptation. Framing plays a crucial role in the selection or development of a particular organisational approach towards adaptation.

Approaches may differ in that they:

- Are based on different theories and concepts of adaptation
- Focus on different goals and objectives for adaptation
- Rely to different degrees on input from experts as opposed to other interested parties
- Can be administered, to different degrees, in a top-down, instructive or a bottom-up, consultative fashion.

The following four broad approaches can be identified that have direct relevance for devising an adaptation process and its operational steps. In adaptation practice, none of these approaches may be selected explicitly, and often a mixed approach is used. Most adaptation initiatives however are influenced by one or several of these approaches.

Hazards-based approach: Takes the perspective that the climate and climate change are the origin of threats that can affect a system in the form of perturbations and stress; producing specific, localised impacts. Framing adaptation in the context of a hazards approach tends to focus on the assessment of possible impacts (e.g. increased flooding) from a specific climate-related hazard (e.g. an increase in average rainfall), and devising response measures that will reduce or manage these impacts. Hazard-based approaches typically rely on the use of climate impact assessment methods to obtain a better understanding of biophysical and/or socio-economic impacts.

Risk-based approach: While closely related to a hazard-based approach, this approach differs in that it explicitly embraces notions of uncertainty and risk perception. In business management, risk has been defined in the ISO31000 standard as the effect of uncertainty on objectives. Risk-based approaches to climate change adaptation therefore emphasise individual and/or collective perceptions of risk emanating from climate-related hazards. Although risk can be quantified using various formulas, qualitative, perception-based data

The challenge is to devise guidelines for local and regional adaptation that enable policymakers and practitioners to put adaptation approaches into operation by integrating them into day-to-day processes.

often supplements risk assessments. In Victoria and in Australia as a whole, it can be argued that risk-based approaches have been dominating adaptation by public sector organisations.

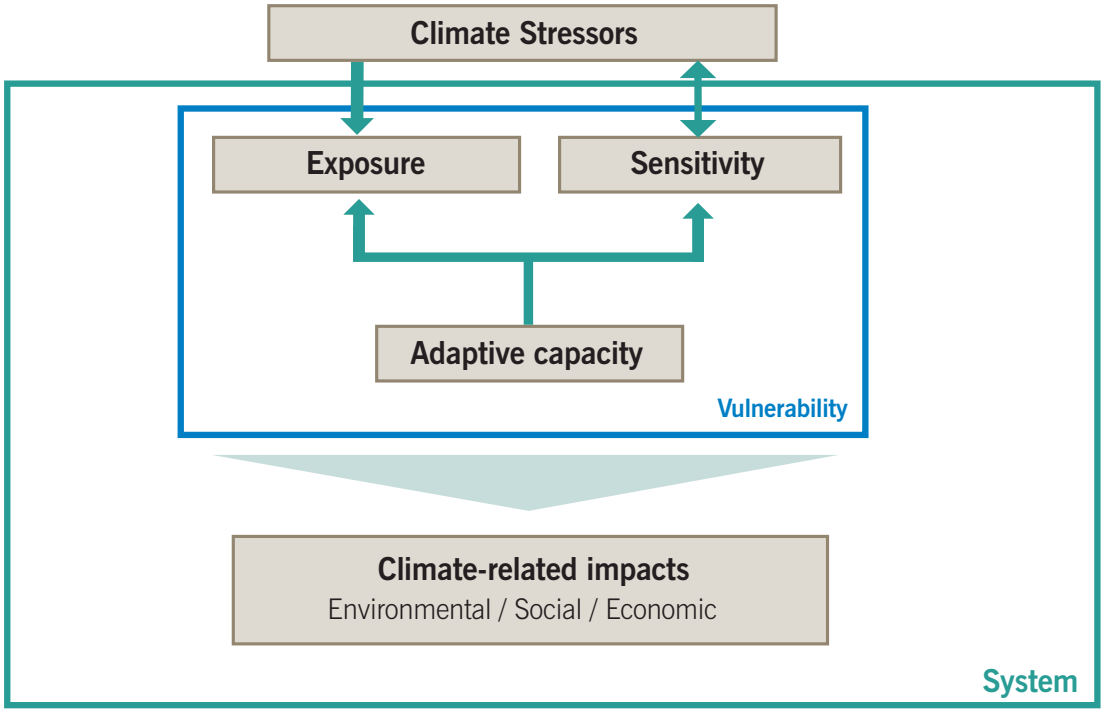
Resilience-based approach: Originates in ecology but is being translated and applied to human systems and their responses to climate change. Social resilience can be defined as the ability of groups or communities to cope with external stresses and disturbances as a result of social, political, and environmental change. Although methodologies for resilience-based assessment have emerged in recent years, resilience remains a fluid concept that provides challenges when placed in the operational context.

Vulnerability-based approach: Places emphasis on understanding the degree to which ecological, social, or socio-ecological systems are susceptible to the impacts of climate change, as well as other drivers of change. Exposure, sensitivity and adaptive capacity are core concepts underlying the vulnerability-based approach.

- **Exposure** refers to a system being subject to climate-related hazards.
- **Sensitivity** is a system's responsiveness to a climatic hazard, where it is assumed that the higher the sensitivity of a system, the higher the impact resulting from a particular hazard.
- **Adaptive capacity** refers to a system's ability to reduce exposure and/or sensitivity.

Figure 1 illustrates how these components of vulnerability relate to each other.

Figure 1: Vulnerability and its components



Source: Fünfgeld and McEvoy 2011

Selecting a suitable approach to adaptation

The challenge is to devise guidelines for local and regional adaptation that enable policymakers and practitioners to put adaptation approaches into operation by integrating them into day-to-day processes of planning, decision-making, and project implementation.

The four approaches discussed earlier can provide useful avenues for climate change adaptation planning, depending on local context and adaptation objectives.

The strategic choice of a particular adaptation approach, or a combination of approaches, sets the agenda and course of action for adaptation – in other words, it acts as a decisive way of framing an adaptation process. A range of factors can influence and guide the decision on adaptation approaches:

- Adhering to policy requirements or recommendations: New policy, legislation, or broad top-down guidance on the objectives of local climate change adaptation may give preference to particular approaches for adaptation planning. Local adaptation practitioners may be encouraged or legally required to use a particular approach. For example, in early adaptation programs funded by the Australian Government, risk management approaches were recommended.

- Evolving sectoral standards: In administrations or sectors where adaptation remains largely unregulated, leaders and early adopters may be able to provide the research and development input required to establish feasible approaches for climate change adaptation in a particular sector, geographical area, or level of government. These may then be adopted by other organisations.

- Alignment with internal organisational processes: Where organisations have the choice, they are likely to use an adaptation approach that fits in best with their organisational objectives and established processes. For example, organisations that already have corporate risk management systems in place may be able to integrate climate change into these systems.

- Prevailing individual / professional trajectories: In many situations, individuals within organisations will be tasked with adaptation. In the early stages of adaptation planning, such champions are well positioned to determine the approach to be used, including how to combine different approaches. Their choices may be influenced by individual professional background, disciplinary traditions, or performance-based needs, and it is important that these choices are documented and discussed to ensure shared understanding and ownership across the organisation.

- Time and resource constraints: In most organisations significant resource constraints exist, and adaptation activities will need to be planned and implemented within the limits of budgets, time frames, and human capabilities. This can have a direct impact on choice of adaptation approaches.

Conclusion

- Climate change adaptation can mean many different things to different people. There is no single way of defining adaptation that can be applied to all local and organisational contexts. For this reason, it is vital that organisations obtain clarity as to the meaning and purpose of adaptation, in relation to their needs, their local/regional/state context, and their capacity.

- Framing occurs inevitably, when people with different knowledge, experiences and personal backgrounds consider an activity or a challenge. Framing is a way of making sense of a topic (like climate change) from an individual perspective but it can also be used to arrive at a shared meaning and sense of purpose in addressing the challenge. Policy makers may want to incorporate the means for exploring different framing at the outset of adaptation projects, for example as part of scoping exercises.

- As an example of divergent framing, climate change adaptation can be considered either an outcome ('being adapted') that individuals, organisations, and communities strive towards, or it can be understood as process of continuous social

and institutional learning, adjustment and transformation. Understanding adaptation as an ongoing process of learning is particularly relevant for local and regional scale decision-making and more appropriate in the context of dynamic change and uncertainty.

- The choice of a particular adaptation approach or a combination of approaches can be highly influential in establishing a dominant framing for an adaptation process. Policy developers and decision-makers should provide room for discussion of why a type of approach or method will be applied to an adaptation initiative and ascertain the relevance of the underlying concepts for the purposes of the activity.

- The framing of adaptation can be explicit in strategies, policy documents, or procedural guidelines, but is often unconsciously applied to discussions, choices about planning approaches and processes, and the selection of methods and tools. Making framings explicit is important for establishing a collaborative process for adaptation. Explicit consideration of framing is also likely to influence the types of adaptation options and 'pathways' considered.

The 'Framing Adaptation' project

This project was funded by VCCCAR and coordinated by the Climate Change Adaptation Program at RMIT University, in collaboration with Monash University and the University of Melbourne.

The research investigated some of the key framing challenges of adaptation through four discrete work packages:

1. Operationalising adaptation by local and regional authorities through the development of an overarching local adaptation planning 'navigator',
2. Analysing the economic dimension of both climate-related impacts and adaptation,
3. Developing and testing of proposed adaptation guidance in close consultation with State Government and local authorities to ensure that deliverables are 'fit for purpose', and
4. Exploring the role of social narratives to assess how different groups identify with climate change at the local scale.

This policy brief summarises research from all four work packages to highlight policy implications for better understanding the role of framing of climate change adaptation at the local and regional scale.

Project team:

- Professor Darryn McEvoy, Dr Hartmut Fünfgeld, Professor John Handmer, Adriana Keating and Sophie Millin (RMIT University)
- Professor Rod Keenan (The University of Melbourne),
- Professor Ray Ison, Dr Jana-Axinja Paschen and Dr Phil Wallis (Monash University

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