

Barriers to Adaptation to Sea-Level Rise

Jon Barnett and Elissa Waters

Department of Resource Management and Geography, The University of Melbourne



NCCARF

National
Climate Change Adaptation
Research Facility

Adaptation Research Network

SOCIAL, ECONOMIC AND INSTITUTIONAL DIMENSIONS

Overview

1. Aim and approach
2. Barriers identified in submissions to the Productivity Commission inquiry
3. Who should be responsible for adaptation?
4. Conclusions



1. Aim and approach

Rationale:

- As adaptation science and policy evolves it is clear that there are obstacles that impede adaptation to climate change (*barriers*).
- Yet knowledge about these barriers is limited.
- The literature on barriers is largely deductive in nature, and not well informed by examples
- This NCCARF-funded project (SD1104) seeks evidence about barriers, with respect to the risk of sea-level rise



1. Aim and approach

Aim: to understand how institutional factors impede or facilitate adaptation to sea-level rise and to investigate community preferences for responsibility for adaptation.



Approach has two phases



1. Aim and approach

Phase One:

- a. Literature review and review of Australian cases
 - b. Negotiating with CIs and local government partners (Mornington Peninsula, Eurobodalla)
 - c. A systematic analysis of the submissions to the Productivity Commission inquiry
- Uncertainty about roles and responsibility for adaptation is one of the most important legal, social and institutional barriers



1. Aim and approach

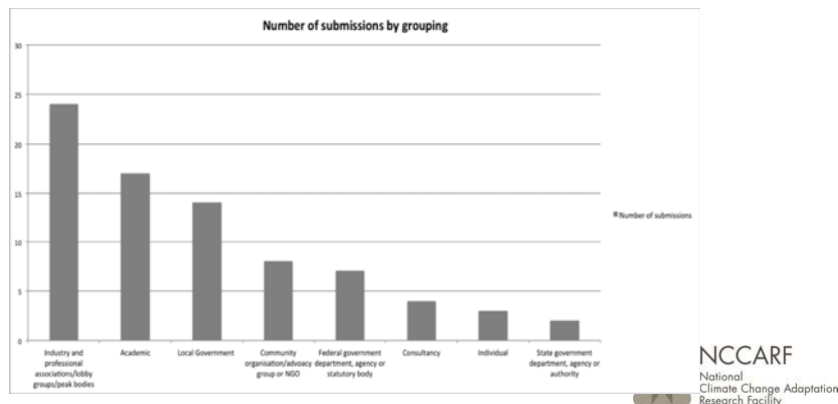
Phase Two

- 106 semi-structured interviews across Eurobodalla and Mornington Peninsula, eliciting preferences for the distribution of responsibility for adaptation
- with planners, business owners, home owners and community leaders
- asking which levels of government, sectors or members of the community should be responsible for sea level rise under different circumstances
- Ave length ~ 1 hour, all transcribed and coded for key themes in NVIVO.



2. Barriers identified in submissions to the Productivity Commission inquiry

79 submissions, over 850 pages – evidence on barriers according to key players in adaptation



2. Barriers identified in submissions to the Productivity Commission inquiry

50 unique and distinct barriers identified in the submissions, which together were mentioned 372 times.

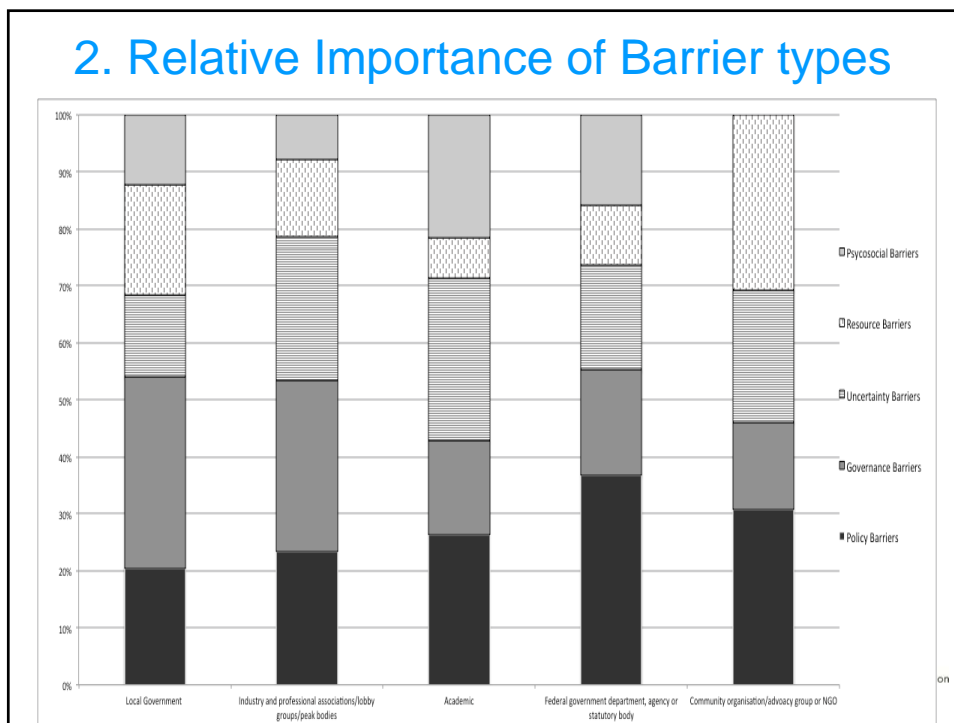
On the basis of the emphasis, language and examples that the respondents put forward in the submissions, we grouped these into five types of barriers:

- 1) governance,
- 2) policy,
- 3) psychosocial,
- 4) resources
- 5) uncertainty



Governance (83)	Policy (84)	Psychosocial (39)	Resources (46)	Uncertainty (65)
<ul style="list-style-type: none"> A lack of clarity on roles and responsibilities across levels of government A lack of clarity on roles and responsibilities between the public and private sector A lack of leadership at state and federal levels A lack of leadership from organisations and business A lack of coordination among arms of government Competing demands between the public and private sectors A mismatch between the time horizons for adaptation and political and management practices Inconsistency in standards and policies across jurisdictions Difficulties in trade-offs between policy priorities 	<ul style="list-style-type: none"> Lack of clarity on liability for decision making Lack of certainty around compensation and injurious affection Weak planning legislation unable to control development Lack of uniformity in building regulations The focus on mitigation has been a barrier to accepting adaptation Regulation comes before appropriate technology Insurance policies are unclear Taxes on insurance products A focus on disaster recovery rather than disaster prevention A lack of consideration of equity in 	<ul style="list-style-type: none"> Perceptions of a lack of efficacy Public disbelief in the science of climate change The contestability of climate change, which creates a "mandate barrier" The tendency of people to discount future benefits An emphasis on the individual rather than community A lack of public understanding about levels of risk that they face Cultural resistance to change The adversarial nature of Australian politics The "desirability" of living in high risk areas Apathy and issue fatigue A fear of the unknown 	<ul style="list-style-type: none"> A lack of staffing, skills and expertise – particularly in local government The cost of implementing adaptation actions A lack of access to funding Local governments constrained in their ability to raise revenue The capital costs of engineering solutions Constraints on the efficient use of capital for adaptation A lack of targeted funding to vulnerable groups and areas Increasing cost of doing business due to climate change policies Low returns and limited markets for investment in adaptation 	<ul style="list-style-type: none"> Uncertainty about climate impacts A lack of data at local and regional scales A lack of confidence in climate change projections at a local level A lack of knowledge on implementation A lack of support for interpretation of data Uncertainty about appropriate planning tools and methodologies A lack of research focusing on adaptation A reliance on historical data and experience Information not directed at specific audiences Information is not relevant to many people A lack of standards for interpreting data reliability

2. Relative Importance of Barrier types



2. Relative Importance of Barrier types

A sequence for addressing barriers to adaptation?



2. Barriers identified in submissions to the Productivity Commission inquiry

Ambiguity about governance and policy are the most important barriers to most respondents

Adaptation first and foremost requires clear governance arrangements, and appropriate policy and legislation.

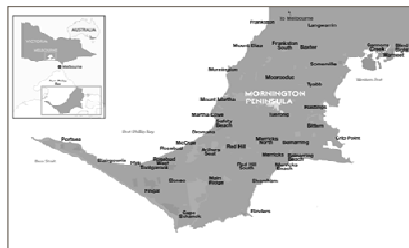
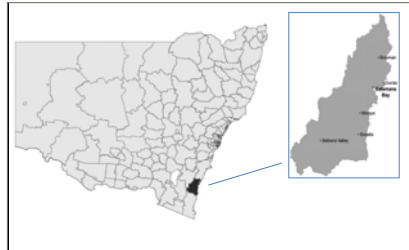
The impediment to adaptation is not knowing who is to do whatever needs to be done.



3. Who should be responsible for adaptation?

Two case studies were chosen based on three criteria:

- Adaptation planning underway in some form
- Rule of experience
- Local government support



3. Responsibility for adaptation: the project

Eurobodalla

- Controversial interim sea level rise policy
- Experience with significant erosion problems and storm damage



3. Responsibility for adaptation: the project

Mornington Peninsula

-No official sea level rise policy – regional climate change planning initiative

-Experience with erosion issues (Portsea Beach) and coastal planning controversies



3. Responsibility for adaptation: the project

We did two things:

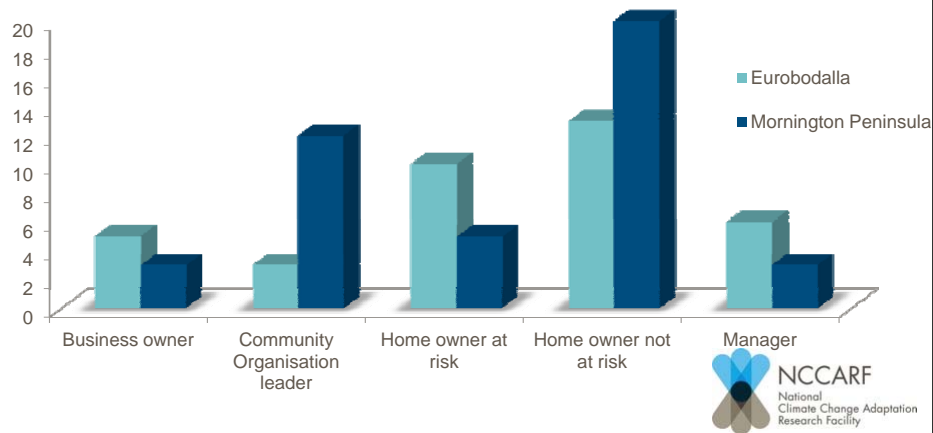
1. We had a case study of one locality (*Surfside*), $n = 26$
2. We interviewed 80 people across both local government areas people using a semi-structured interview guide



3. Responsibility for adaptation: the Interviews

The interviews targeted the following groups:

Number of Respondents by Type and Study Site



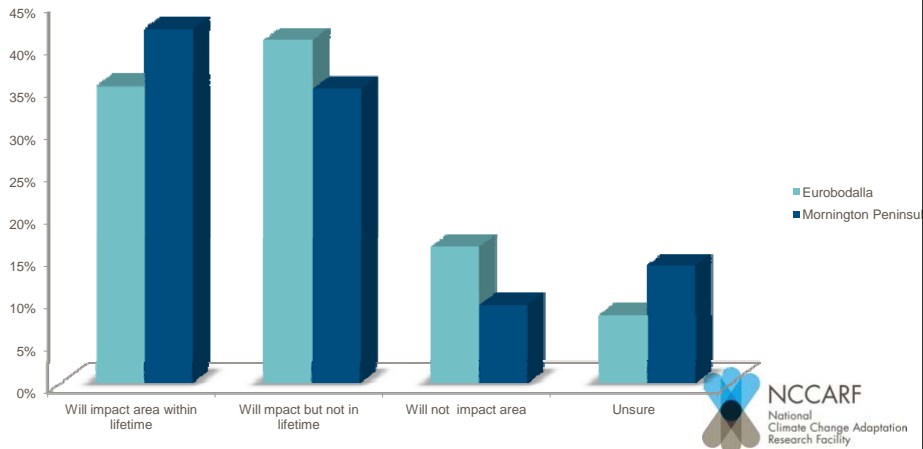
3. Responsibility for adaptation: the project

We asked people about their:

- opinions on coastal management
- opinions on the risk of sea-level rise
- preferences for different types of adaptation responses
- opinions on compensation as a policy instrument
- preferences about who should be responsible for:
 1. Information provision
 2. Managing public assets
 3. Managing private assets
 4. Making adaptation plans
 5. The costs of adaptation

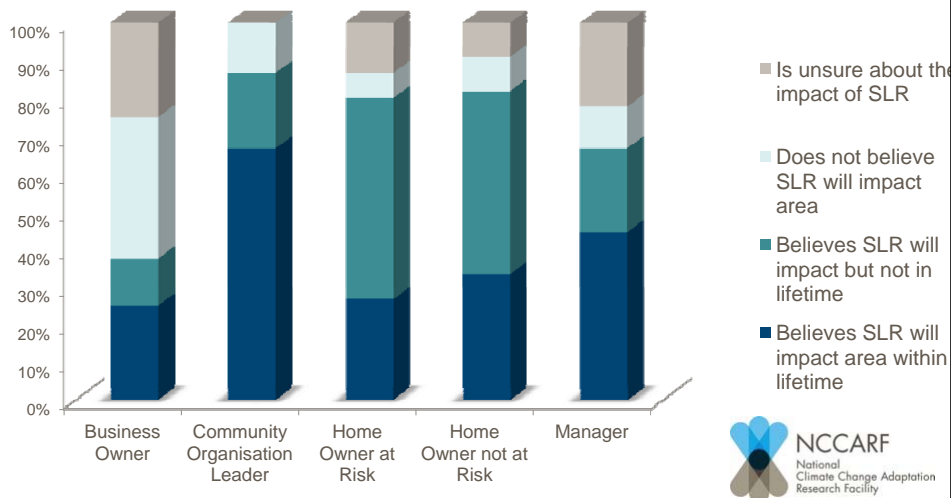
3. Responsibility for adaptation: opinions on sea level rise

Opinions on the Likelihood of Sea Level Rise Impacting the Local Area

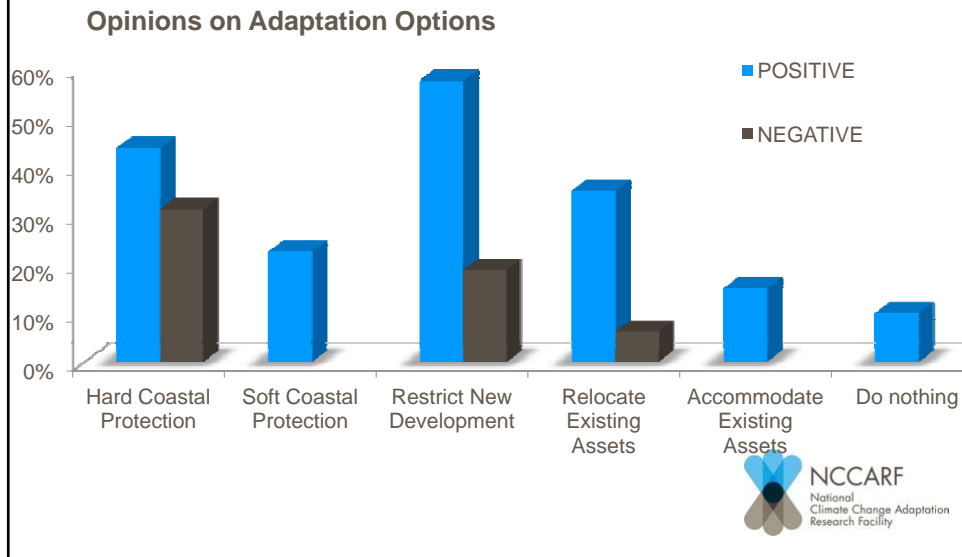


3. Responsibility for adaptation: opinions on sea level rise

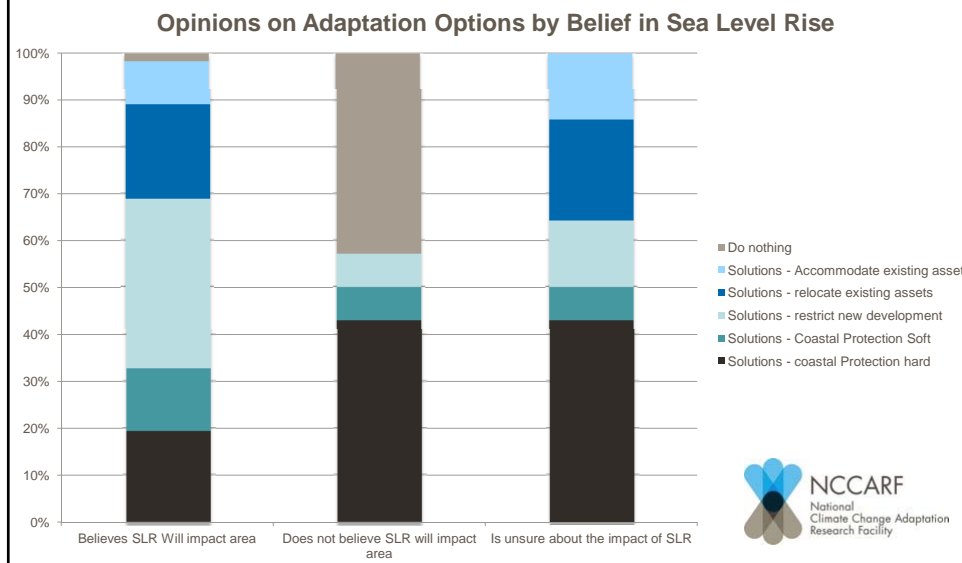
Opinions of Sea Level Rise Likelihood By Respondent Type



3. Responsibility for adaptation: opinions on policy options

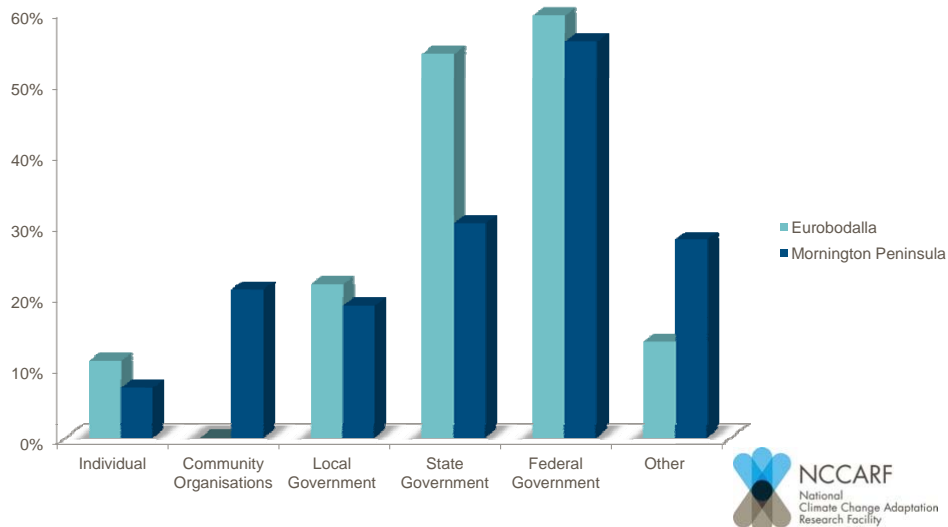


3. Responsibility for adaptation: opinions on policy options



3. Who should be responsible?

Preferences for Responsibility for Information Provision



Scale of the problem:

I think if we see an overall sea level rise it's not only going to affect one particular state. It's not going to affect Victoria only or the Peninsula only. It's going to affect every bit of the coastline of Australia. 46 Mornington Peninsula

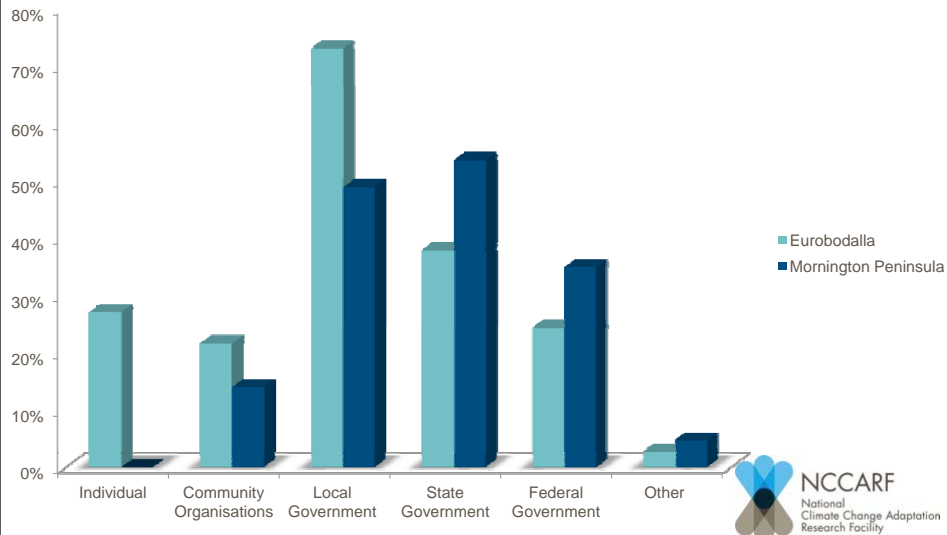
Trust in motives - not local governments

Well, the federal government is the only one without a close vested interest, in my opinion. My experience here is that all coastal decisions are influenced by vested interests, whether it's on the state level or the local council level. Interview 43 Mornington Peninsula



3. Who should be responsible?

Preferences for Responsibility for Managing Public Assets



Local knowledge

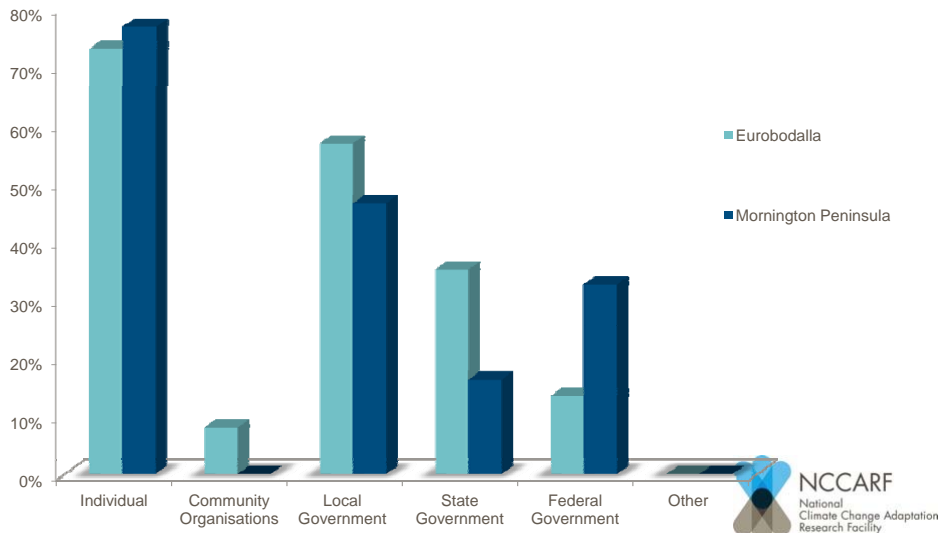
'They're the only ones that know their local area and the situations, the winds, the tides, the weather events. The local government's the only one's got a real handle on what's happening up and down our coast.' Interview 19 Eurobodalla

With some preference for state coordination

'Well I suppose it has to be done at state level and local government would have some responsibility. I think there needs to be uniformity along the coast. It's no good one little local government doing one thing and another neighbouring one doing something different.' Interview 5 Eurobodalla

3. Who should be responsible?

Preferences for Responsibility for Managing Private Assets



Strong preference for a combination of individual and government regulation

'The individual property owner has to determine what's best and what they are willing to pay for and endure from the point of view of risk. But they have to work within some sort of framework otherwise it will get out of hand, so I guess government, yes.' Interview 37 Mornington Peninsula

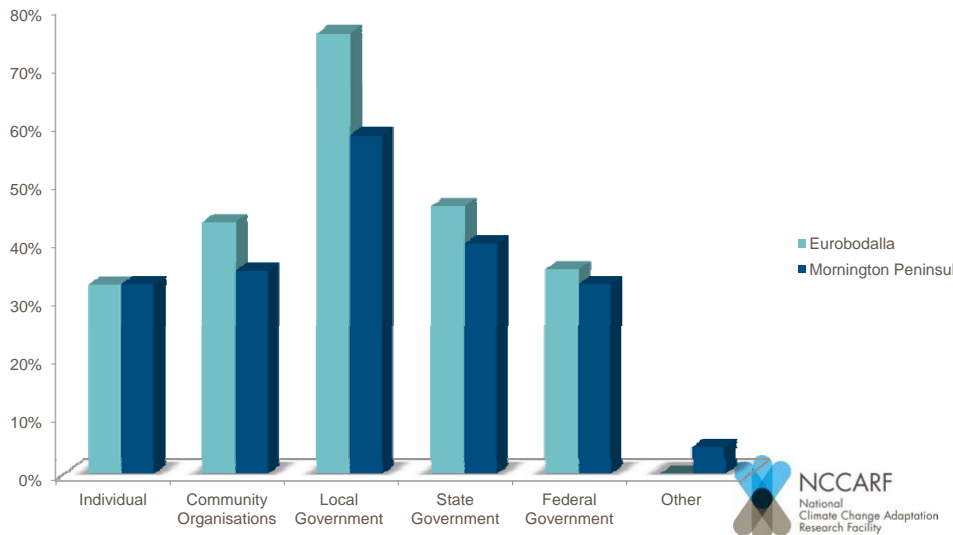
Prior knowledge of risk is a major qualifier

'As I was saying before, the properties that have been there for 50 years-plus where they weren't any reports available, that's got to be looked after by local government and state government. If you've had your reports done and it says that you're in an area of risk, it's on you.' Interview 28 Mornington Peninsula

NCCARF
National
Climate Change Adaptation
Research Facility

3. Who should be responsible?

Preferences for Responsibility for Local Planning



This question elicited the most amount of combination responses

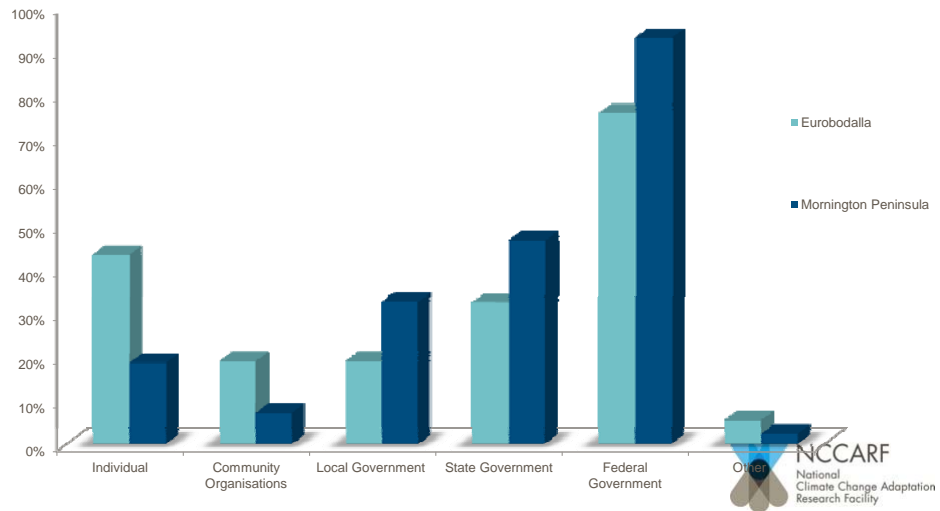
'Well, the local government and the residents [should be responsible for a strategic plan] but there should be guidelines from state and federal government first. Strict, accurate guidelines, as accurate as possible according to scientists. Then the local government takes over because they are in charge. They have engineers and planners and they're the only people who know the terrain.' Interview 20 Eurobodalla

A recurring tension between the importance of local knowledge and legitimacy in decision making



3. Who should be responsible?

Preferences for the Responsibility for Cost Bearing



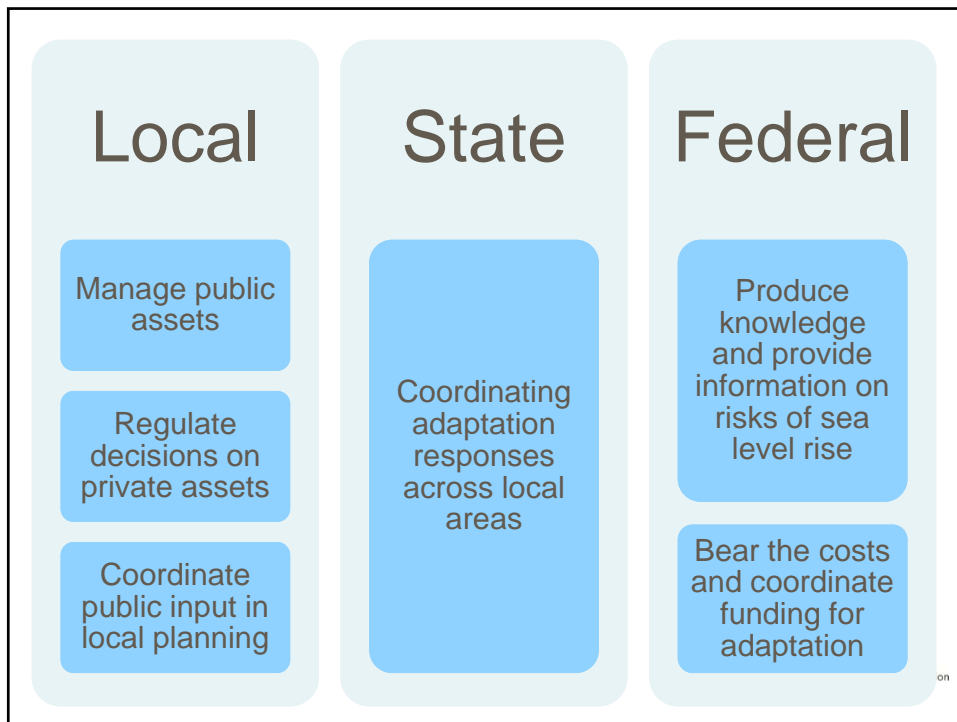
Capacity to pay

'The Federal Government because they've got the coffers, they've got the GST, they've got the whole lot. I mean, it would have to come from Federal Government. It would have to...' Interview 35 Mornington Peninsula

Collective problem = collective responsibility = federal taxes

'It's a collective, yes. At the end of the day everyone chips in. The same with our sewage system, our roads, everyone chips in.' Interview 27 Mornington Peninsula





4. Summary of findings

1. The major impediment to adaptation is not uncertainty about what should be done but rather, uncertainty about who is to do what.
1. The interviewees indicated a strong preference for a significant role for government in all aspects of adaptation to sea level rise (vis the Productivity Commission position)
2. Few interviewees saw state government as having a significant primary role in adaptation. The role for state government was around coordinating local adaptation responses to ensure consistency in policy responses and legitimacy in information provision/knowledge generation

4. Implications of findings

1. The findings suggest a sequence to addressing barriers to adaptation that begins with negotiating and developing a national framework of responsibility for adaptation
2. Given that the impacts of sea level rise will unfold over decades, it is important to take time to devise careful consultative, and coordinated adaptation responses (pathways)
3. Across all respondent types there was a preference for government leadership and regulation in adaptation (if consistent and fair) – so, no mandate barrier?
4. The strong preference for local and federal responsibility suggests support for new types of local/federal partnerships, which will have to be brokered by State governments.



Thanks – Questions?



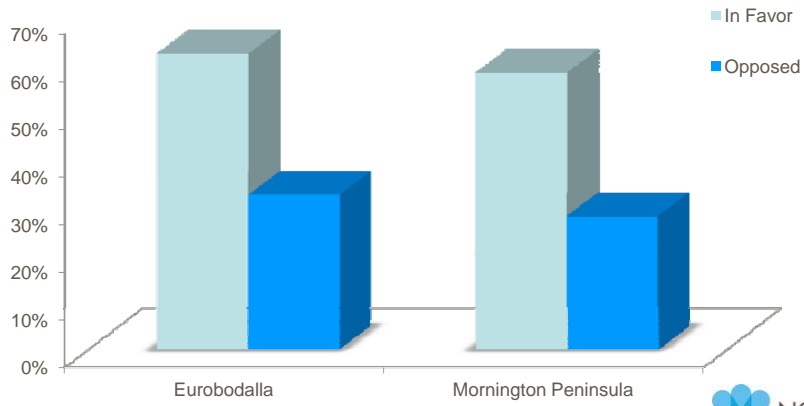
For more information contact:

Elissa Waters
elissa.waters@unimelb.edu.au

Jon Barnett
jbarn@unimelb.edu.au



Opinions on the Principle of Compensation as a Policy Tool for Adaptation



Opinions on the Principle of Compensation as a Policy Tool for Adaptation

