Sunshine Coast Council
Technical Officer
Submission

PRODUCTIVITY COMMISSION

Public Inquiry into Barriers to Effective Climate Change Adaptation

December 2011

Executive Summary

This submission to the Productivity Commission inquiry into *Barriers to Effective Climate Change Adaptation* has been made by Sunshine Coast Council officers. Technical officers involved in developing this submission welcome the inquiry and believe it has the potential to make a significant contribution to increasing the capacity of local councils to respond to the impacts of climate change.

As indicated in this submission, Australia's coastal councils are attempting to deal with a complex and difficult range of issues. Responding effectively to climate change is one of the most challenging of these issues.

This submission has focussed on current and future issues which are likely to prevent or impede the implementation and continuation of climate change adaptation initiatives by local government. Some of the issues include:

- Legislation and Policy:
    - Uncertainty in projections for sea level rise for 2100;
    - Key coastal policy which remains in a draft form;
    - Adaptation options such planned retreat and rolling easements - leadership is required;
    - Roles and responsibilities of government agencies on this issue are currently not clearly defined; and
    - The potential exposure to financial and economic implications of injurious affection.
- Behavioural and Cultural Values:
    - Engagement with the community – a coordinated approached is recommended across all levels of government;
    - Constraints with current resources to engage in increasing studies, research etc.; and
    - Further guidance around decision making with regard to climate related risks, community expectations and social equity is needed.
- Resourcing and Financing Adaptation:
    - Cost implications for implementing adaptation options.

In addition to the above it has been highlighted in this submission that there is a need for a national policy framework as part of the response to these issues.

Where possible, responses to these potential barriers have also been identified.

Please note comments that have been provided are based on:

- Officer involvement in climate change risk assessment and adaptation planning initiatives and associated engagement with consultants, officers from state agencies and other council staff;
- Officer involvement in climate change adaptation research projects;
- Officer involvement in local government related initiatives, at both the state and regional levels, which have been focussed on climate change adaptation;
- Engagement with state agencies and other council staff with regard to policy development which incorporates climate change adaptation;
- Development of the Sunshine Coast Climate Change and Peak Oil Strategy 2010 – 2020 and the associated community engagement processes;
- Officer involvement in coastal management initiatives;
- Council's involvement in the Sea Change Taskforce; and
- Relevant literature.

1.0 LEGISLATION AND POLICY FOR ADAPTATION

1.1 Background

Within Queensland, land use planning policy is implemented at three levels:

- At a state wide level through the Sustainable Planning Act and subordinate legislation, particularly through requirements to address matters of state interest through State Planning Policies;
- Through statutory regional planning processes such as the South East Queensland Regional Plan 2009-2031 (the SEQ Regional Plan); and
- At the local level via local government planning schemes.

The Queensland Government is currently taking action to improve the response to climate change and its implications for coastal hazards through the development of the draft Queensland Coastal Plan and the draft State Planning Policy for Coastal Protection (SPP Coastal Protection). Significantly, these plans remain drafts.

Local government in Queensland will be required to develop Coastal Hazard Adaptation Strategies as a precursor to incorporate climate change considerations into their planning schemes with regard to coastal hazards (i.e. sea level rise, coastal erosion and inundation due to storm surge). Appropriately, identification of adaptation options for the Coastal Hazard Adaptation Strategies will utilise a risk based planning approach.

Local government land use planning for South East Queensland (SEQ) is also required to respond to the provisions of the SEQ Regional Plan. The SEQ Regional Plan is the Queensland Government's plan to manage growth and protect the region's lifestyle and environment within SEQ. The plan responds to issues such as continued high population growth, traffic congestion, koala protection, climate change and employment generation.

A number of key elements of the SEQ Regional Plan include:

- The identification of preferred areas for urban development;
- The identification of projected future populations for local governments up to 2031 and provisions requiring local government planning to respond to the projected population; and
- The identification of specific policies and programs which are intended to be addressed with regard to implementing land use planning responses to climate change.

It is also understood that a risk assessment will be used to inform the next iteration of the SEQ Regional Plan.

The Queensland Government has also developed coastal hazard mapping which incorporates climate change considerations and, in the absence of an endorsed local government equivalent, are to be utilised for land use planning and decision making. It is also expected that many local governments will develop their own coastal hazard mapping.

The following matters have been identified as potential barriers to adaptation associated with legislation and policy:

1.2 Uncertainty with regard to Projections

Barrier: Uncertainty in projections for sea level rise for 2100 – increased coordination between government agencies is recommended.

Early drafts of the new Queensland government coastal policy incorporated provisions which required planning to consider a minimum of 0.8 metres of sea level rise (for 2100) for the purpose of coastal hazard analysis and planning. This figure was derived from global average sea level rise projections provided in the Intergovernmental Panel on Climate Change's (IPCC) fourth assessment report (AR4).

Concern for local government was created in 2009 when the Australian Government released the report "Climate Change Risks to Australia's Coast". The report advocated the use of a 'high end' scenario for sea level rise of 1.1 metres for 2100 for risk assessment purposes on the basis that this reflected scientific evidence which had become available since the release of the AR in 2007. http://www.climatechange.gov.au/~/media/publications/coastline/cc-risks-full-report.pdf

The presence of two credible projections for sea level rise for 2100 significantly impeded progress with regard to adaptation to coastal hazards as opinions within and between local governments was divided. Significant time and effort was expended developing responses to this issue. While it was argued that the 'high end' scenario could be used as it reflected the best available science, it was also argued that there were legal precedents which made the AR4 projections more desirable from a land use planning perspective.

The Queensland government was able to resolve this issue through changes to their draft policy. However, it needs to be recognised that the impact on local government could have been avoided if the state and federal government agencies had provided a clearer message to local governments with regard to the way that the new information should be managed.

In addition, it needs to be recognised that similar issues can easily be envisaged. For example, it is expected that the sea level rise projections in the IPCC AR5 report will be higher than those identified in the AR4 report (https://www.ipcc-wg1.unibe.ch/publications/supportingmaterial/SLW_WorkshopReport.pdf).

It is likely that this will also impede climate change adaptation initiatives given that the release of the AR5 in 2013 will also coincide with local government developing and implementing Coastal Hazard Adaptation Strategies based on the 0.8 metre sea level rise projection for 2100. Whilst there will inevitably be a lag time between the release of new scientific information and its uptake in adaptation approaches, there simply needs to be recognition that, for both the community and all levels of government, criticism or confusion can be reduced or avoided if an effort is made to make the implementation of new information as efficient as possible. Policy responses need to recognise and respond to the need for this cycle of constant updating and this needs to be based on the identification of timeframes regarding the transfer of projections to planning outcomes.

In response to these issues, it is recommended that:

- State and federal government agencies improve their co-ordination and ensure that implications for local government policies or policy development are considered prior to their release of new scientific

information and effectively communicated on release of the new information;
- All levels of government work together to standardise their approaches to climate change adaptation; and
- In order to avoid the provision of mixed messages to the public and the generation of uncertainty and inappropriate resource allocation for local government, the implementation and review of all government policies which incorporate adaptation responses be better aligned with the release of the IPCC reports.

1.3 South East Queensland Climate Change Management Plan

Barrier: The SEQ Climate Change Management Plan is currently in draft – A final plan is essential to progress key actions and enhance coordination of the implementation of climate change adaptation projects, programs and policies within SEQ.

Within the SEQ Regional Plan, it is indicated that a program (1.4.4) would be implemented which would "align and coordinate the implementation of regional policies to increase resilience to and reduce risks from natural hazards, including the projected effects of climate change through the development of an SEQ Climate Change Management Plan.

A Draft South East Queensland Climate Change Management Plan (SEQ CCMP) was subsequently released for consultation in July 2009 but, at this time, a final version has not been yet been endorsed by the State Government http://www.dlgp.qld.gov.au/regional-planning/climate-change-management-plan.html.

While it is recognised that a number of the adaptation actions identified in the SEQ CCMP have been or are being progressed by state agencies and local governments, the status of a number of other actions which are intended to inform local government and the community is uncertain. For example, there is uncertainty with regard to:
- Draft action 29. Improve understanding of the vulnerability of ecosystems to the impact of climate change in SEQ; and
- Draft action 32. Develop and implement a communications strategy to support actions to build resilience to natural hazards and the projected effects of climate change in SEQ.

The later of these options is of particular relevance, as the outputs could provide a template for local government communication to their communities. In addition to ensuring that the community receives consistent messages from different levels of government, a suite of tools and strategies would provide local governments, as an operational level of government, with improved options for conducting consultation and eliciting community feedback.

With regard to community engagement, a suite of tools and strategies has been suggested in recognition of the fact that hazard exposure and social, environmental and economic considerations will vary at different spatial scales.

Clearly, all levels of government need to be accountable for commitments that they make. It is also incumbent on all levels of government to ensure that appropriate mechanisms are in place in order to continue the process of alignment and coordination of the implementation of climate change adaptation projects, programs and policies.

1.4 Planned Retreat and Rolling Easements

Barrier: Leadership is required at a federal and state level in relation to planned retreat and the use of rolling easements (as potential adaptation options and appropriate land use planning alternatives) as well as their social, environmental, cultural and economic considerations in a local context.

It is of note that there is a growing volume of literature suggesting that activities such as planned retreat and the use of rolling easements[1] are potential adaptation options and appropriate land use planning alternatives when responding to climate change.

Local governments require guidance about these options and their social, environmental, cultural and economic considerations in a local context. Literature has focussed on case studies from the United States, an approach which introduces uncertainty with regard to its transferability to the local land use planning context. In addition, research is limited to demonstrating the suitability of these adaptation options from a broader planning policy perspective only.

An integrated understanding of the social, economic, environmental, cultural and policy perspectives of these options is required. Key issues to address would include:

- Could the option be implemented under the current land use and coastal planning polices that are in place in each state?
- What are the triggers for implementing a planned retreat, particularly with regard to the fact that impacts from extreme events as well as the slow onset of sea level rise?
- Where and how should affected people be accommodated?
- What tools or mechanisms are available to facilitate the implementation of these options and what are the barriers which prevent their uptake?
- Will the accommodation of these people in a new location create social issues or generate a need for additional infrastructure or services? Is further development required to accommodate the affected people, is this culturally acceptable and who should pay?

Clearly, an improved knowledge of the social, environmental and cultural considerations of these approaches would provide a greater opportunity to contextualise these options and to engage the community in relation to these options, particularly from a perspective of developing locally relevant Coastal Hazard Adaptation Strategies.

1.5 Roles and Responsibilities in Adaptation Planning

Barrier: Roles and responsibilities for determining and implementing adaptation options for assets and infrastructure - clearly defined roles and responsibilities for each level of government are recommended.

A potential barrier relates to the allocation of responsibilities for determining and implementing adaptation options for assets and infrastructure.

[1] Rolling easements are a land use planning approach, predominantly utilised in the United States. A rolling easement can be either (a) a government regulation that prohibits shore protection or (b) a property right to ensure that the risk to assets and people are reduced while also allowing wetlands, beaches, barrier islands, or public access moves inland with the natural retreat of the shore.

This issue stems from the provisions of draft guidelines for the preparation of Coastal Hazard Adaptation Strategies which have been recently developed by the Queensland Government.

According to the guideline, local governments would be required to identify current and known future 'assets' at risk (residential, commercial, community), assess their vulnerability to coastal hazards to the year 2100 and to identify potential adaptation options for these assets. Following this process, local governments would be obliged to consult the community, including stakeholders such as asset owners and managers, about the potential adaptation options, in order to progress the development of an adaptation strategy.

The guidelines also indicate that, among other things, a core objective of this process is to ensure that adaptation is implemented which maximises the functionality of essential community service infrastructure during and immediately following inundation events. Essential community service infrastructure is indicated to include: emergency services infrastructure, emergency shelters, police facilities, hospitals, power stations and substations, communications facilities, sewerage treatment plants and water treatment plants.

The guideline goes further to indicate that the role of the local government is to:

- assess adaptation strategies when planning schemes are submitted for State interest checks required under the Sustainable Planning Act 2009; and
- consult with councils during the preparation of adaptation strategies to ensure adaptation options are consistent with relevant regulatory requirements.

In order to be applied literally, local government must have the necessary information, skills, expertise and understanding of the assets and their financing to identify adaptation options in the absence of the asset owner or manager, whilst also avoiding mal-adaptation and potential liability issues.

Whilst it may be appropriate for local government to take on a role in adaptation planning for some privately owned assets as well as the public assets that council own, there should also be a recognition that adaptation planning for some assets, particularly essential community service infrastructure, is likely to be much more complex and, as a result, an integrated approach to vulnerability and adaptation option selection and analysis should be undertaken involving the asset owner, particularly if this is the state government or a government owned corporation, and the local government.

This issue provides further evidence of the need to clearly define the roles and responsibilities of each level of government with regard to climate change adaptation. There is also a need to expand this dialogue with regard to determining how those roles and responsibilities relate to the implementation of adaptation options for privately owned assets and assets which are not owned or managed by local government.

1.6 Injurious Affection

Barrier: The potential exposure of local governments to major financial and economic implications of injurious affection could preclude the effective implementation of climate change adaptation policy decisions – there is a need for appropriate legislative provisions to enable no compensation when planning decisions are made based on natural disasters or climate change science.

In Queensland, 'injurious affection' is a long-established statutory concept relevant to compensation

- for the compulsory acquisition of part of a person's land under the Acquisition of Land Act 1967 (Qld); and
- under the Integrated Planning Act 1997 (Qld), for the adverse effects to a person's development rights from changes to a planning scheme or planning scheme policy.

The process in the Sustainable Planning Act 2009 provides for landholders to claim compensation for loss of entitlement due to changes in planning schemes. This has meant that local governments are unwilling to reverse past decisions.

With regard to climate change adaptation, the potential exposure of local governments to the major financial and economic implications of injurious affection could preclude the effective implementation of policy decisions that extend beyond the provisions of the Queensland Coastal Plan. This would particularly apply with regard to land use planning approaches such as planned retreat, even if the local government action was implemented in order to meet local priorities and respond to local level risk assessments. The potential for compensation as a result of essential and carefully considered planning decisions is highly counterproductive because it prevents local governments from taking a proactive approach to dealing with worsening coastal hazards.

It is crucial that councils are able to make changes to their planning schemes to adapt to climate change and the rising risk associated with coastal hazards. In order to ensure effective climate change planning responses, the local government should provide appropriate legislative provisions to enable no compensation provisions to apply when planning decisions are made based on natural disasters or climate change science.

The New South Wales Government has already adopted an approach of this type by including indemnity provisions within its legislation with a particular focus on protecting government decisions made in relation to sea level rise.

2.0 Behavioural and cultural barriers

There is a range of behavioural and cultural issues which, either individually, or in concert, are likely to pose barriers to climate change adaptation. The following briefly introduces some of these issues:

2.1 Community Engagement

Barrier: Engaging effectively with the community on climate change - A coordinated approach from government agencies including the development of a range of communication tools and resources (with consistent messaging) is needed.

Involvement in the community consultation for the Sunshine Coast Climate Change and Peak Oil Strategy 2010 – 2020 highlighted the difficulty in obtaining community engagement with regard to climate change.

During the consultation processes, many community members were not prepared to engage in discussions regarding climate change.

While it was recognised by more than 80% of the respondents that there needed to be planned responses to climate change, more than 30% of this cohort were uncertain about or did not agree with the science which underpins the climate change debate.

Only 25% of the people who lodged submissions were under the age of 40, while the majority of submissions were lodged by people who were 55 years of age or older (55%)

While the nature of these responses indicates a need for extensive community education on climate change, it highlights the need for the development of different approaches and information if a broader cohort of the community is to be engaged in adaptation planning.

In effect, promoting behaviour change through local government initiatives and the support of community initiatives, will require significant additional funds and resources. This impact could be reduced if all levels of government worked together to develop the necessary resources to provide tools and templates in order to facilitate engagement and the dissemination of consistent messages to the community.

2.2 Resource Demands Created by Research Initiatives

Barrier: Local government resource constraints to engage in the increasing number of climate change adaptation studies, projects, etc. means that local government staff are likely to become more selective with their involvement in climate change adaptation initiatives.

The growth in the number of climate change adaptation research initiatives is affecting the allocation of local government goods and resources.

There is a wealth of research being undertaken with regard to climate change adaptation, ranging from PhD studies by early researchers through to detailed post

doctoral research and complex cross sectoral regional projects, such as the South East Queensland Climate Adaptation Research Initiative.

Whilst it is appreciated that there is recognition of the need to facilitate local adaptation responses via local government, the number of research initiatives has grown overtime, to the extent that, at times, the demand for engagement with council staff and requests for access to local government resources and data, are significant.

In addition, it needs to be recognised that many local governments are actively seeking to shift from the development of policy initiatives towards the business cases for further action.

As a result, local governments are likely to become much more selective with regard to the nature and scope of the research initiatives that they likely to engage in.

2.3 Risk, Community Expectations and Social Equity

Barrier: Climate related hazards, community expectation and social equity - reputable guidance around decision making is required.

Without an effective response, issues regarding current responses to climate related hazards, community expectations and social equity indication can also be expected to provide barriers to adaptation.

Historically, councils tended to focus on hard engineering as the preferred coastal management option as it provided greater certainty with regard to achieving risk reduction. In general, these activities were ad hoc and tended to focus on hot spots for coastal erosion. More recently, beach nourishment and dune management have become a more prominent focus of coastal management options for council as a result of escalating costs and the need to respond to social and environmental considerations. Councils are also shifting to a more detailed planning approach in order to address the management and cost implications associated with existing and future coastal management activities.

However, discussions with people who live in low lying coastal areas provide a different perspective. In general, there is a common expectation that government (local, state or federal) will be responsible for defending their property.

If, as suggested by the discussion in the Productivity Commission Issues paper, effective adaptation is that which maximises the net benefit to the community as a whole, then these differences in perspective with regard to coastal management are likely to result increased tension within the community unless clear and rational criteria have been developed and are being applied consistently within and across councils.

In addition to coastal hazards, equity and net community benefit considerations are relevant to a range of changing hazards such as bushfire and landslip. For example, there are current tensions regarding the need to protect biodiversity and the potential implications this has for individuals and rural communities with regard to bushfire risk and, in the future, these tensions are likely to be exacerbated as the impacts of climate change are likely to require responses that require trade offs with regard to the responses implemented to address these risks.

In effect, there is a need for reputable guidance which ensures that decision making by staff and councillors will balance the need for a regionally sustainable approach to climate hazards while also recognising and managing community expectation for

hotspots where the implementation of an adaptation may not be warranted as it fails to provide the desired net benefit to the broader community. Approaches to equity and net community benefit should also recognise and respond to multiple hazards.

Further to this issue, it needs to be recognised that each person will have a different perspective with regard to the spatial scale and characteristics that constitute their "community" and that these perspectives will vary depending on the knowledge, experience and the perspective of the individuals that are being engaged. As a result, there is a need for decision makers to define the 'broader community' and the method for estimation of the 'net benefit' for that community.

From this perspective, it is suggested that net benefit of the community is best determined with regard to the resilient of the region as a whole.

A focus on net benefit for the broader community also raises potential issues regarding the funding of coastal management options and social equity. Currently, general revenue is utilised as the primary source of funding for coastal management activities. Should the whole of the community fund local coastal management initiatives? Is this equitable if local residents get the bulk of the benefit?

Clearly, guidance for decision making also needs to provide consideration with regard to the identification of long-term funding sources and the equitable allocation of funds for climate change adaptation within the community, particularly with regard to coastal management.

While this may not eliminate friction within the community, it does have a potential reduce points of contention trough a single consistent framework for decision making.

It is expected that outputs from the projects funded via the Federal governments Coastal Adaptation Decision Pathways program will assist in responding to these issues by provide guidance and tools which can be utilised as templates by local governments across Australia.

3.0 Resourcing and Financing Adaptation Actions

Barrier: Cost implications of implementing adaptation options – recognition of cost implications by all levels of government is recommended and mechanisms developed in order to enable implementation at a local level.

Council officers have commenced a process of identifying regional scale, adaptation options which are relevant to council. To date approximately 150 adaptation options have been identified for further evaluation.

The identified adaptation options respond to a wide variety of local government activities. For example, initiatives have been identified which relate to:

- informing council with regard to determining the implications of climate change and associated adjustments required with regard to social planning and policy, economic development, environmental planning and policy delivery of sports and recreation facilities;
- increasing community and business awareness and resilience;
- incorporating responses to changing risks associated with climate change into land use planning and disaster management;
- developing guidelines and decision criteria into council operations particularly with regard to the provision of new infrastructure and the retrofitting or replacement of existing infrastructure; and

- preparing for potential environmental health impacts with particular regard to changes in vector, food, and water borne disease which is relevant to council.

Crude estimates of the additional cost and resourcing implications for council have been determined for each of these options.

Although a cost benefit analysis is still to be undertaken, the gross resource and funding implications associated with these adaptation options may provide some insight into the potential impacts for local government.

Development of all of the identified adaptation options was estimated to require approximately 140 full time staff for periods varying from 3 to 4 weeks to 3 or 4 years. On top of wages and on-costs, it was estimated that an additional $13 million would be required if the full suite of these adaptation options was to be developed, From an operational perspective, maintaining these actions could require: an additional 84 staff and their wages and on-costs, while additional operational costs were estimated as $12.5 million per annum.

This figure does not include projects which require consultancies or consideration of the implications for staff where it was indicated that options could be developed within current staffing constraints. Nor does it fully incorporate costs associated with programs which are likely to be required to build community resilience.

It also needs to be recognised that:

- Few of these activities have mechanisms where cost recovery can be implemented;
- Sources of external funding are becoming more limited;
- Many of these activities address day to day issues and, as a result, are unlikely to achieve the strategic criteria applied to federal government and state government funding initiatives; and
- Most councils are already under pressure from the community to avoid the passing on additional costs through rates increases.

Clearly, the cost implications of implementing adaptation options need to be recognised by all levels of government and appropriate mechanisms need to be developed and implemented in order to enable the implementation of adaptation options at the local level. In addition, further consideration needs to be given to the need for national level approaches to funding climate change adaptation responses.

4.0 Sea Change Task Force

Barriers to adaptation have been identified through a number of studies including the National Sea Change Taskforce Inc. research which highlights the need for a national policy framework.

While much of the previous discussion has focussed on specific concerns which are relevant to the Sunshine Coast and, in particular, the Sunshine Coast Council, it needs to be recognised that current literature already identifies a range of common barriers to adaptation which are likely to constrain the decision-making abilities of organisations, including local government.

For example, the following common barriers to adaptation have been identified through the UK Climate Impacts Program:

- Limited understanding of climate risks and vulnerabilities – current and projected;
- Lack of supportive policies, standards, regulations, and design guidance, encouraging status quo and/or presenting impediments to progress;
- Existing legal or regulatory restrictions;
- Lack of availability or restricted access to appropriate technologies;
- Costs of identified adaptation options when budgets are limited;
- Lack of availability of resources such as in-house expertise;
- Social/cultural/financial rigidity and conflicts;
- Short-term nature of planning horizons – necessity of realising return on investment; and
- There are also barriers associated with perceptions of uncertainty;
    - Confidence for the long-term – mismatch between business planning horizons and timeframe of projections of climate change;
    - Not seen as a big problem yet, so the temptation is to wait for the impact then react;
    - Belief that the uncertainty is too great to warrant taking adaptation action now;
    - Lack of useful precedents or evidence of adaptation actions – what are others doing?
    - Lack of acceptance/understanding of risks associated with implementation – what if the decision is wrong?

These matters are also relevant to other governments and communities in Australia. Further to this, the National Sea Change Taskforce Inc. (NSCT) has undertaken research to identify barriers to adaptation which are common across coastal local governments. This process has highlighted the need for a national policy framework that integrates the environmental, social and economic wellbeing of the Australian coastline and its communities with the timely funding and delivery of hard and soft infrastructure http://www.seachangetaskforce.org.au/New.html.

With due regard to this, it is recommended that, from a national perspective, the Productivity Commission inquiry recognises and gives consideration to the following recommendations (as sourced from the NSCT's Coastal Policy Framework):

Recommendation 1 – There is a need to increase the adaptive capacity of local government to deal with the impacts of climate change through measures such as the Local Adaptation Pathways Program, as recommended in Recommendation 7 of the Parliamentary coastal inquiry report, noting, however, that competitive funding programs are resource intensive and tend to disadvantage smaller councils which have fewer professional staff to prepare grant applications and implement funded programs.

Recommendation 2 – There is a need to establish a collaborative national approach to climate change adaptation, with the participation of Australian, State and Territory governments, to assist local government develop the capacity to address climate change risks. Australia has approximately 36,000kms of coastline which requires a consistent response to rising sea levels and other climate change risks, rather than the current piecemeal approach adopted in individual jurisdictions and local government areas.

Recommendation 3 - There is a need for a comprehensive, nationally consistent program to support and guide local government adaptation decisions. Councils need adequate resources to implement adaptation measures and clearer guidance in determining when a development application should be refused. There is also a

need for a Coastal Natural Disaster Mitigation scheme to assist councils to implement emergency mitigation, preparedness, response and recovery arrangements to address the impact of extreme weather events.

Recommendation 4 - Promote the adoption in all jurisdictions of legislation to give similar effect to that provided by Section 733 of the NSW Local Government Act, which affords protection from legal liability for local councils where they provide advice or make a decision in good faith relating to coastal planning and the impact of climate change.

Recommendation 5 - Develop a national growth management policy to better coordinate the planning and provision of infrastructure in regional and rural areas, including rapidly expanding coastal communities. The policy would involve the three spheres of government working collaboratively to more effectively meet growth in demand for economic, social, cultural and community infrastructure and services. One of the aims of the policy would be to prevent expanding populations being housed in areas that are vulnerable to the impacts of climate change. Another aim would be to prevent the loss of productive agricultural land which is a major issue in many rapidly-growing coastal communities.

Recommendation 6 - Review current governance and institutional arrangements for the coastal zone. One option to consider is the recommendation by the Parliamentary coastal inquiry that the Australian Government develop an Intergovernmental Agreement on the Coastal Zone, in cooperation with state, territory and local governments. The agreement should define the roles and responsibilities of the three tiers of government involved in coastal zone management and be overseen by a Coastal Zone Ministerial Council. The Parliamentary coastal inquiry further recommended that the Intergovernmental Agreement on the Coastal Zone form the basis for a National Coastal Zone Policy and Strategy that sets out the principles, objectives and actions to be undertaken to address the challenges of integrated coastal zone management for Australia.

5.0 Conclusion

In summary, the barriers (and possible solutions) to effective climate change adaptation raised in this technical officer submission are highlighted below:

Legislation and Policy

- Uncertainty in projections for sea level rise for 2100 – increased coordination between government agencies is recommended;
- The SEQ Climate Change Management Plan is currently in draft – a final plan is recommended to progress key actions and enhance coordination;
- Adaptation options such planned retreat and rolling easements – leadership at a federal and state level is required;
- Roles and responsibilities for determining and implementing adaptation options for assets and infrastructure - clearly defined roles and responsibilities for all levels of government are recommended; and
- The potential exposure to financial and economic implications of injurious affection – there is a need for appropriate legislative provisions to enable no compensation when planning decisions are made based on natural disasters or climate change science.

Behavioural and Cultural Values

- Engaging effectively with the community - a coordinated approach from government agencies including the development of a range of communication tools and resources (with consistent messaging) is needed;
- Local government resource constraints to engage in the increasing number of climate change adaptation studies, projects, etc. means that local government staff are likely to become more selective with their involvement in climate change adaptation initiatives; and
- Climate related hazards, community expectation and social equity - reputable guidance around decision making is required.

Resourcing and Financing Adaptation

- Cost implications of implementing adaptation options – Recognition of cost implications by all levels of government is recommended and mechanisms developed in order to enable implementation at a local level.

In addition to the above, through the research of the National Sea Change Task Force it has been highlighted that there is a need to develop a national policy framework as part of the response to these issues.

Thank you for the opportunity to provide a submission.