LGAQ SUBMISSION ON THE *CLIMATE CHANGE: ADAPTATION FOR QUEENSLAND* ISSUES PAPER

Thank you for the opportunity to make a submission on the issues regarding climate change and in particular, adaptation to climate change that currently affect local government in Queensland. As with any significant and long term threat, it is important to have a common understanding of the specific challenges being faced by each sector. LGAQ appreciates the recognition of the critical role local government has to play and appreciates the granting of an extension to allow additional time for consultation with our members. This submission is preliminary only and is to be followed by a final report by 21 November 2011 following a meeting of the Coastal Councils Adaptation Taskforce and completion of an internal survey currently being conducted.

The Issues Paper provided an up to date overview of the multitude of work currently being undertaken at International, National and State level. Missing from this overview was the inclusion of examples of research and projects being undertaken by Australian local governments. Local level action is occurring nationally, however, the omission of this work in the overview is possibly as a result of the difficulty in being able to easily access and collate this information. This highlights one of the critical issues of climate change adaptation for Queensland local governments - the resource intensive nature of coordination and compilation of existing information about research, policy examples, adaptation options and current activities or case studies.

Queensland councils need support to:

- clarify the issues for their local government areas;
- understand and access the data and information they need;
- understand the processes and access the methodologies required to determine responses to assist with decision making; and
- formulate the responses required for the complex areas of policy and operations they are responsible for.

In turn, the improved coordination and access of information will ensure all levels of government are equally aware of the activites that are occurring and reduce wasted effort and resources on unnecessary duplication.

CHAPTER 3 SCIENCE

- Do you feel well informed about the risks that climate change poses to your community?
- Are there any specific areas of climate change science research that the Queensland Government should be undertaking or enhancing?
- What areas of climate science need better communication?
- How can we make the modelling of Queensland's future climate more relevant for you?

1. There is a vast amount of climate change science information available at international and national level. There are now a multitude of reliable sources of high quality science information all producing and promoting their specific findings – particularly to professionals working in this area – to the extent that it is becoming prohibitively resource intensive to review, synthesise and disseminate appropriately for individual sectors.

2. There are fewer reliable sources of climate change science data at the state, regional and local levels. The state plays an important role in coordinating and providing this data to local governments. Important issues associated with this are:

    i. Timeliness of data provision
    ii. Access to locally appropriate data for the full range of potential climate change impacts
    iii. Communication of research outcomes

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iv. Demonstrated integration with the work of other research institutions
v. Perceived integrity of information

3. Communication of research outcomes requires a significant overhaul. There needs to be greater consideration by science communicators of the level of communication required – awareness, engagement in issues, engagement in problem solving, professional capacity building etc. – and the development and delivery mechanisms of communication products that are appropriate for the required level. For example, the NCCARF seminars are advertised to their entire audience however the level of information communicated varies from a level appropriate to the general public or students to high end professionals, without this distinction being made in the advertisements.

4. There is a rapidly increasing need for a filtering service to reduce the review burden on individuals within local government and other specific sectors. Some consideration needs to be given to which sector is the most appropriate to provide such a service. Initiatives such as the NCCARF local government portal are a step toward, however there are questions about data synthesis being left to organisations with uncertain funding tenure.

5. Conflicting information between State and Federal governments does little to convince the public of the integrity of the information (in particular, the difference between State and Federal sea level rise estimates).

6. There remains a need for continuous updating and downscaling of available climate change data. This role is considered to be best delivered by the state in close working collaboration with multiple research institutions nationally and internationally with input from stakeholders, in particular, local government. Further information is required by local government to better understand the impacts of climate change on:

vi. The natural environment – soils, ecosystems function – especially wetlands and aquifers in coastal areas and individual species responses and requirements for adaptation;
vii. Threatening processes – for example fire, invasive species, salinity, drought.
viii. Lifecycles and maintenance requirements of construction materials – particularly local government infrastructure such as roads, bridges, culverts, footpaths, amenities and recreational facilities, streetlighting and stormwater pipes;
ix. Urban and suburban design – especially in relation to reducing vulnerability of residents to heat waves, bushfire and flooding – lot sizes and layout, dwelling styles and proximity to each other, fencing, rainwater collection and stormwater management;
x. Social disadvantage – particularly around housing accessibility and human well being;
xi. Health implications – disease and vector management

7. From a local government perspective there is an urgent need for projects that apply the science to practical aspects of local government operations – implications scenario development, methodologies for addressing uncertainty, understanding of the capacity of existing systems or processes to adapt to impacts, investigations into linkages and interactions of various responses to adaptation and the potential for positive or negative outcomes.

8. Issues currently exist with:
xii. Duplication of effort - multiple research bodies with apparently little cross integration or collaboration - all wanting similar input/participation from stakeholders such as LGAQ & local government.

xiii. Pure research dominance over applied science approaches to deliver required information to local governments eg how to determine and respond to transitional requirements between now and 2100.
xiv. Need for more communication of results in an outcomes/consequences style that provides stakeholders with relatable scenarios.

9. There is a requirement for the injection of funding into the areas of applied sciences, professional sectors and peak body groups to undertake fit for purpose projects and prepare sector appropriate information materials.

10. The risks of inefficiencies and unnecessary duplication of research effort at the regional and local level are high. To this end, LGAQ is working with local governments in Queensland to establish the Coastal Councils Adaptation Taskforce (C-CAT) to provide a platform to reduce this risk and provide an avenue for integration with research institutions, industry and other levels of government.

11. The timing of modelling and scaling of data must consider and where possible, fit in with relevant planning horizons.

12. There is a likelihood of communities that are currently more frequently subjected to extreme weather events to be de-sensitised to messages about the increased impacts of climate change on an already extreme climate. Communication of climate change impacts needs to be presented differently to different communities and regions to be effectively received.

13. The science community and allied professionals must accept and understand that findings will need to be used as evidence to justify adaptation/mitigation strategies by local governments. As a result, wherever possible, translation of research outcomes and data into language that is better suited to this purpose is required. Where this is not possible, scenarios to account for uncertainty are required.

14. Sea level rise estimates need better communication. The uncertainty in the projections makes this more difficult however an effort needs to be made to communicate the inevitability of sea level rise. It is important that this message is communicated clearly so that planning decisions are better understood by the community.

CHAPTER 4 HUMAN SETTLEMENTS

- How can we better empower local communities to plan for, live with and manage climate change risks to human settlements?
- What more can be done to ensure climate resilience is a key feature of our urban fabric?
- What are the risks and risk factors that influence the capacity for stakeholders to develop or take up adaptation mechanisms on the ground?
- What tools, strategies and mechanisms are needed to facilitate effective adaptation to climate change despite of and considering the uncertainties about the timing and extent of impacts?

15. Prioritising and supporting community-led initiatives that enhance community resilience and empowerment for decision making and action taking. Appropriate initiatives may include food security, social cohesion, energy security etc.

16. Community empowerment needs to be support by a long term commitment to ongoing cycles of awareness raising and education about projected climate change impacts, resilience and adaptation opportunities and decision making processes.

17. Planning should consider not just physical climate change impacts, but also accommodate the need for stronger communities through provision of community infrastructure and space for community projects. Climate resilient communities will have climate appropriate buildings, with reduced dependence on electricity for heating and cooling. Despite improvements in the Queensland Development Code in recent years, inefficient and climate-inappropriate buildings continue to be approved. This makes communities vulnerable both to electricity price rises and to blackouts due to natural disasters.

18. Risk factors for local government include litigation resulting from refusal of development applications. Clearer guidelines for appropriate planning responses for development in High and Medium Coastal Hazard Areas are needed.

19. Adopting a model similar to the protection offered to local governments under Section 733 of the Local Government Act 1993 (NSW) would support councils in managing their risks and result in better planning outcomes.

20. Mandatory inclusion of the requirement to consider and respond to climate change impacts should be incorporated into all grants application proformas, capital works funding submissions and other related templates.

21. Ensuring timely and effective policies are in place will reduce the potential for undesirable or inappropriate market drivers such the inability to access insurance for future developments or existing assets impacting on state and local government adaptation plans.

22. Provide community engagement and consultation tools to ensure adaptation issues are addressed in a meaningful way in Community Plans and other corporate documents

23. Target education of coastal property owners and potential developers through real estate agencies and capacity building to reduce the expectation of compensation or unrealistic adaptation activities.

24. Build greater understanding of “risk” in the community through, for example, the adoption of the Annual Exceedance Probability expressed as a percentage in favour of the current use of Annual Recurrence Interval which promotes misunderstanding of the risk and likelihood of it occurring.

25. Accounting for various planning horizons - statutory Ten year planning schemes, long term community plans, 5 year regional plans, asset management plans – and alignment of critical information updates, etc with these to ensure timelier integration and adoption.

CHAPTER 5 INFRASTRUCTURE

- How should the Queensland Government improve adaptation of infrastructure that is privately owned?
- Where do you see vital connections between infrastructure sectors and systems that could lead to cascade failures if impacted by the climate risks identified above?
- Do you have any other suggestions or ideas for protecting critical infrastructure in Queensland?

26. Local governments have raised issues of concern with ‘Inherited Assets’, where the council does not have details of the construction standards used in their development. These are typically assets that were illegally constructed at some time in the past, with an ongoing use and long life span eg. Coastal protection barriers. These assets may

represent a risk or high maintenance cost under climate change scenarios. Councils are seeking guidance in the most appropriate way to reduce their risks.

27. Adaptation and resilience building is already being compromised by the lack of inter and intra departmental coordination and capability.

28. Climate change thresholds are required for design standards, depending on the life span of the infrastructure/asset.

29. A mechanism is required to trigger asset managers to review asset maintenance/replacement dependant on the thresholds as discussed above.

30. Section 2.3 in the last paragraph states 'What is less clear is the extent to which states should use planning and regulation to minimise private risk'. The new Coastal Plan and associated SPP which directs LGAs to constrain development in coastal hazard areas will assist in the reduction of private risk in relation to future development within urban areas. A policy mechanism is still required to reduce the risk for existing development.

31. Local governments still require a statutory provision for exemption from claims for injurious affection.

32. If connecting infrastructure is designed to differing future climate change scenarios then the failure point will differ. The development of Climate Change Impact Statements will enable consistent consideration of the matter via an agreed methodology.

33. Vulnerability assessment across infrastructure sectors needs to occur. State legislated asset management planning could go further than current requirements. Infrastructure asset owners need to communicate with connecting asset owners in order for failures to be reduced.

34. The climate change impact statement documentation should be made available so that other levels of government which build supplementary infrastructure around state government infrastructure can design to the same specifications as the state government has considered regarding the changes from climate. Particularly, in coastal hazard areas major infrastructure should consider climate change.

35. It is essential that the impact of higher temperatures on infrastructure such as pavement for bridges and recycled material be undertaken. Appendix 3 does not seem to outline what research is being undertaken or when it will be completed.

CHAPTER 6 ECOSYSTEMS

- What key information gaps must be addressed to inform Queensland's response to climate change impacts on ecosystems and biodiversity?
- Does the projected scale of climate change impacts on biodiversity warrant significant changes in biodiversity management, such as adopting a triage approach?
- Should government be seeking to conserve existing ecosystems or manage for change?
- In what ways might current land use and biodiversity management practices be modified and enhanced to address the need for increasingly dynamic and adaptive management of natural systems in a changing climate?
- In light of inevitable species loss and ecosystem change, how might the Queensland Government prioritise the use of limited public resources and encourage private investment to protect the intrinsic and economic value of Queensland's biodiversity?
- How might biodiversity outcomes of carbon sequestration projects be optimised?
- What mechanisms might be employed to enhance or create markets for biodiversity, or to
- incentivise improved biodiversity management by private landholders?

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1. Support is sought for the identification of 'indicator or umbrella' species that could be used to monitor ecosystem health. LGAs often have a range of local initiatives such as acquisition, private land conservation, restoration and corridor planning as part of their natural area management and conservation initiatives portfolio, that would benefit from monitoring targeted species to establish the progress and success of such initiatives.

2. More specific (at species and community level) and downscaled (to at least regional level) information on how climate change will affect ecosystems such as increased rainfall in rainforests, migration of dunes, drying or migration of wetlands and increased bushfire frquency or intensity. This information is required for establishing adaptation plans within local and regional areas.

3. A greater understanding of the impacts of increased average wind speeds to vegetation communities is a knowledge gap.

4. Whilst the degree of impact upon our biodiversity is still a topic being researched. Adopting a triage approach may prevent the loss of some notable species, but a more holistic approach should be taken to biodiversity management that incorporates the protection of as many species and hence ecosystems, as possible. In some cases it is noted that targeted efforts may result in the protection of more than just one species.

5. In section 1.2 an example of adaptation is listed as building biodiversity corridors, however, current practices advocate conserving existing ecosystems. If research shows that ecosystems are going to be lost or significantly changed then a move should be made to manage for change. There is considerable work underway within SEQ to identify corridors and protection areas that are sufficiently resilient to cope with climate change and allow for the movement of species. Councils have major corridors that are consistent with the state bioregional corridors and assistance would be welcomed to provide protection for them. Under currepolls ding policy, it is difficult for local government to access external funding for this important work.

6. The inherent value of the environment needs to be considered when determining the impact upon it from a cost benefit analysis. An ecosystem services perspective needs to be implemented to factor in the externalities.

7. Identification of priority areas for rehabilitation and protection, as well as identification of areas of future refuges and predicted loss so that local government and land owners can target resources and efforts. Further assistance on management practices and resource provision is required.

8. By identifying strategic parcels of land that could be progressively rehabilitated by state and local government offsets (biodiverse and carbon). These land parcels may connect corridors, protect existing ecosystems, or allow for ecosystem migration. This would be particularly useful in the protection of coastal wetlands.

9. By encouraging biodiverse plantings for carbon sequestration a dual benefit will be achieved for both carbon and biodiversity. Sequestration projects could be targeted to identified priority restoration areas in corridors that facilitate species movement.

10. Recognition and reward programs usually work well for encouraging private landholders to improve biodiversity management. At a local level most local governments have education programs, free or discounted trees, recognition of involvement through marketing such as signage and newsletters. support to expand such programs will have far reaching benefits.

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11. Investigate how the mechanism of biodiversity offsets could be utilised to provide climate change adaptation outcomes.

CHAPTER 7 WATER MANAGEMENT

- Are you aware of initiatives in relation to water sources in Queensland which should be highlighted?
- How can we achieve better integration across sectors and/or across institutions on water management?
- Is diversification of water supply resources the key to successful adaptation and, if so, what are the key resources and what new initiatives are required? Are you aware of initiatives in relation to water sources outside Queensland or internationally which should be highlighted?
- What are the barriers to increasing use of recycled water?
- What information do you need about how water can be used and managed sustainably?

1. Non climate dependent water sources require significantly more research to make sure that maladaption does not occur. Desalination is an example of an alternative with significant risks for maladaptation if not considered holistically.

2. Gold Coast and Brisbane City Councils are two local governments with water sustainability plans in place that outline the future potable water requirements and the potential sources from which it could be sourced.

3. Water and energy sectors have been operated as businesses in Queensland over recent times and this has lead to reduced collaboration. Improved information sharing would increase integration of solutions and management across these sectors and reduce the risks of mal adaptation.

4. Acclimatisation via behaviour change which leads to adjusted consumption patterns is as important as diversification. Diversification is key to supply security but if the alternatives are too expensive then the only further adjustment is to modify consumption.

5. This is not a comprehensive list, however, there are many barriers including cost, perception, education, historic planning restrictions, security of supply quality, infrastructure maintenance, access for business/industry.

6. Life cycle analysis of water supply such as has been undertaken by the Urban Water Alliance (http://www.urbanwateralliance.org.au/publications/conferences/DdeHaas-Ozwater-2010.pdf) can highlight the most sustainable options.

CHAPTER 8 PRIMARY INDUSTRIES

- What would be the most effective and relevant way to present information on the risks and impacts of climate change to your sector and/or region?
- Who would you trust and be willing to work with to assess the risks and identify opportunities for your business under changed climate conditions?
- What type of support do you, your sector or industry need from the Queensland Government to help take action to ensure your business is able to respond (adapt) to changing climate conditions?
- What would be the best approach to providing such support services, i.e. publicly, private or industry based, joint public-industry, or some other model?
- What would you need to make deeper structural changes in how you undertake your business in the event existing types of agricultural production could not continue?
- What may make such structural change difficult for you, or your sector?

No comments at this time. .

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CHAPTER 9 EMERGENCY MANAGEMENT

- To what extent are adaptive and continuous improvement processes in existing emergency management systems sufficient to accommodate increasing risk and uncertainty from a changing climate?
- How do agencies and systems prepare for the possibility of simultaneous and serial emergency events in Queensland, Australia and the region as a result of climate change, including for recovery efforts following the emergency phase?
- What are the opportunities and responsibilities for the private sector, civil society and community members to take account of risk and uncertainty from a changing climate in their preparedness and response for emergencies?
- To what extent are institutional and governance arrangements for emergency management covering local, regional, and state levels sufficient to accommodate increasing risk and uncertainty from a changing climate?

1. Extreme weather and natural disasters are already features of Queensland's highly variable climate. The main pressure on existing systems is the increasing volume and density of the population that could be affected by these events in areas of high hazard and the high costs associated with resillience building and response preparedness - training, equipment, systems maintenance.

2. The use of visualization is an important tool for communication of risks and appropriate responses, to improve community awareness and prepararedness, particularly in areas with a high population turn over such as tourist and mining towns.

3. Coordination of consistent information will enable effective response by all levels of government.

CHAPTER 10 HUMAN HEALTH

- What more can be done to reduce preventable disease, morbidity, and mortality in the event of extreme weather events for our most vulnerable members of the community?
- How can we improve our current practices to ensure the vulnerable are better protected during heatwaves?
- What do Aboriginal and Torres Strait Islander people feel is needed to improve individual and community health and well-being in the face of climate change impacts?
- In what ways can we minimise the spread of disease in the event of climate change?
- How can we improve our health care system and health protection services to better prepare for the impacts of climate change?

1. General improvement in quality of life, access to health services, education, awareness and reduced dependence upon welfare would increase resilience to climate change.

2. Social inclusiveness and communication are the best practices to reduce the risk. Reduce anxiety in relation to cost of electricity and risk of home invasion will enable active and passive cooling techniques to be utilised without fear.

3. IR issues need to be resolved to negotiate fexible working arrangements for outdoor staff that are both cost effective and acceptable to staff.. Current arrangements are not well supported by staff or unions due to scheduling inflexibities and business have concerns about scheduling costs and lost productivity, creating a catch twenty two.

4. Air conditioned public spaces such as libraries, community centres and shopping malls caactive ether utilized to educe heat stress outside normal business hours for at risk members of the community specifically, or for the broader community, by reducing obstacles to extended (e.g. 24 hour) trading.

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5. In Section 10.2 it states that climate change will almost certainly increase the intensity and frequency of heatwaves. The Garnaut Review Update paper 5 reference actually references a paper by Alexander and Arblester 2009 which does not mention that frequency of heatwaves would change. References should cite the source document.

6. Generally any improvement in the sustainability and robustness of the delivery of health care will have a positive impact upon the ability to maintain service under future changed conditions. Providing alternative power and uninterrupted power supply to key health care facilities along with moving critical health care infrastructure away from high hazard prone areas and maintaining access routes will result in better service.

Please don't hesitate to contact me on 07 3000 2202 or via email at: dorean_erhart@lgaq.asn.au if you would like to discuss any aspect of this preliminary submission.

Regards,

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