Response to the Productivity Commission Inquiry into Effective Barriers to Climate Change from Ku-ring-gai Council

30th November, 2011

Preamble

These comments are provided by Dr Jennifer Scott, Sustainability Program Leader, Ku-ring-gai Council. The work Council has undertaken with tertiary sector and on our own can be found on Councils web site. Specifically the climate change adaptation work is located at. http://www.kmc.nsw.gov.au/www/html/3857-climate-change.asp

Staff have published widely in academic journals and presented at many conferences. The methods devised have generally met with enthusiasm in peer reviewed outlets.

Response to Part 2 What Does Adaptation Mean?

a) *How is effective adaptation best defined?* Our research has defined adaptation as 'the identification and implementation of options that produce a substantive reduction in the risk associated with extreme weather events (benefit) for the most sustainable triple bottom line (social environmental and financial) result'.
b) *How can it best be assessed?* Our model assesses the impact to community and natural values of the Ku-ring-gai area using a thorough assessment of the projected weather changes over time; a vulnerability and resilience analysis of the local area via consultation with local experts and community groups; identification of potential adaptations; the analysis of each adaptation for its capacity to reduce specific risks associated with the weather changes for the most sustainable adjustment to Council and community's triple bottom line. This has been achieved with structured review and ranking of adaptations by local experts and community groups and the use of Poisson Distribution, Baysian Theory and the Borda Count method. This then reduces the influence of arguments regarding too much, too little or mal-adaptation because these projects are ones that a Council would likely undertake for sustainability reasons alone. It just so happens they also produce substantial risk reduction when it comes to the specific impacts climate change is likely to have on this area. Such analysis disarms the sceptics and provides confidence in decision making as the pros and cons, trade offs, secondary and tertiary level impacts are clarified for the decision makers.
c) *What other considerations may be relevant for maximising the net benefits to the community from adaptation?* The answer this question can be found in our modelling where we had to create specific criteria not only to analyse the risks but also to determine the potential impact of each adaptation option considered. For example under bushfire risk we have specific criteria related to risks arising from increasing frequency and intensity of wildfire which includes the impact to physical anthropocentric assets and also the natural and social assets of the local area. To determine the triple bottom line impact we review the financial implications for Councils recurrent budget and the local community, a suite of environmental impacts including the impacts to air, water, noise and biodiversity and finally the social impacts where considerations include equity (who benefits and who pays), property rights, and physical and psychological health to name but a few.
d) *What kinds of adaptations to climate change have proven the most effective to date?* After our analysis, those adaptations which have emerged as a priority for investment are the ones that have an ability to reduce risks across more than one risk sector. That is, some adaptations not only reduce the

impact of wildfire, they also reduce the impact of storm and heat. For example storm shutters that are fire rated on the side of houses facing the bushland. These shutters not only prevent radiant heat from bursting the glass, they reduce the impact of ember attack plus the reduce the risk of storm (in particular hail) impacts, reduce heat penetration on extreme heat days thus keeping the internal temperature down plus they provide added security from break and enter burglary. These types of adaptation options have the best return on investment.

e) *How can uncertainty be addressed in the context of adaptation to climate change?* Uncertainty needs to be considered in the use of the regional climate change modelling which has greater uncertainties than national or global modelling. We analysed the risks using local experts applying a framework of probability and consequence to rank the risks in order of magnitude. This required excellent local knowledge and the range of experts we included in this consultation process were: RFS, SES, NSW Fire Brigade, local Police command, local hospital manager, aged care facility managers, NPWS, State Rail, RTA, Sydney Water, Energy Australia, local business representatives, academics, local community groups, RSPCA and others. Having very detailed community referenced local knowledge allowed the vulnerability and resilience factors to be accurately assessed. The model we created allowed that knowledge to be factored into the process and used to guide the outcome in a transparent and accountable way.

Response to Part 3 Are there Barriers to Adaptation?

a) *What is the most useful way to classify, define and identify barriers to adaptation*? The barriers to climate change are no different to the barriers encountered for many years to implementing sustainability programs. The low priority accorded these programs means little money is available to implement plans. The inability to analyse true cost benefit due to a refusal to acknowledge non monetary costs and benefits by economists has been a major stumbling block. A more useful way to classify barriers are to examine what they to enable the implementation of plans. It is not the creation of plans that is inhibited, it is the next step, the implementation due to lack of funding and a misunderstanding of the benefits and the skills to quantify these benefits in a non-monetary accounting system. Also classification could relate to specific risk reduction parameters such as reduce impact of heat stress on vulnerable populations. Classification by risk type and magnitudes rather than bureaucratic division would be useful.

b) *What market failures could inhibit adaptation in any specific sector or region*? Market failure is characteristic of every sustainability program whether it urban development, native vegetation conservation, water allocation or bushfire protection to name but a few. Markets are constrained by their inability to value the true cost of the loss of an environmental or social good or service. As such these commodities are discounted in the analysis deemed as being to vague or woolly to be included. Our modelling demonstrates it is possible to include these factors into a decision making process so the unintended consequences can be made clear and dealt with rather than remain hidden and the costs bequeathed to the environment and local communities.

c) *Are there examples of policy or regulatory barriers that could inhibit adaptation*? State planning legislation greatly inhibits the capacity of new development to allow for climate change adaptation. The weak commitment to biodiversity through EPBC Act, the Native Vegetation Act and state threatened species legislation all inhibit the capacity for buffering impacts to

natural areas, protecting the ecosystem services that these areas both rely on for survival and protect human populations from the ravages of disease, maintain the productivity of soils and allow each area to keep its distinctive characteristics and diversity.

d) *What other significant barriers might inhibit adaptation*? Community attitudes to climate change are probably the single most significant barrier. This comes from the distortions in press that confuse and confound non scientist and the weak leadership from the state and federal government in response to both adaptation and mitigation. The strategies instigated to reduce the impacts of climate change have attracted much criticism that makes Councils job all that much more difficult when convincing local communities to take up the challenge of climate change. Strong leadership, good research that importantly develops practical targeted products, an adaptive economy supported by better valuation systems that can incorporate social and natural values rather than be dominated by narrow but persuasive financial interests. Progress at the local level may be slow but it is setting the pace in comparison to the other two tiers of government when it comes to adaptation. Finally for Councils ahead of the game in adaptation the rewards are few. Reputational rewards are good but we really need access to funds to help implement the adaptation plans and promote the uptake of the adaptation agenda in our local communities.

Response to Part 4 (p.15) What Policy Instruments Could be Used to Address the Barriers?

a) *Which broad based reforms also offer potential benefits for facilitating adaptation to climate change ?* Local government needs the power and the revenue to implement its adaptation plans and promote adaptation in their local areas. Currently local government is hamstrung by a slow to respond state government (NSW) and a federal government consumed by the demands of a carbon tax. To date most adaptation planning is formatted by sector, that is agriculture, water, mining, forestry etc. This broad based format is useless for local government. That is why we have chosen to format our adaptation plan around risks arising from changing weather patterns. The advantage is that we can discover much more easily the interconnectedness of risk and the interdependencies associated with adaptation. Conversely when you format adaptation by sector you loose much of the ability to see those associations and it is these associations that lead to gains in efficiency and promote sustainability in adaptation planning.

b) *What taxes affect the mobility of capital and labour and may therefore affect adaptation?* This question and the subsequent questions in this section are not so much a question for our local government other than to say the tax system needs to enable sustainable technologies and services rather than inhibit.

Response to Part 4 (p.20) What Policy Instruments Could be Used to Address the Barriers?

a) *What government provided goods and services might be significantly impacted by climate change? What decisions or trade-offs may have to be made?* At the local level emergency disaster response funding means Councils generally have the cost of these events subsidised. However it is clear that the number of disasters requiring access to this fund is increasing and as a result the capacity of the fund to meet the increased

demand may be compromised. Councils are severely constrained by law to raise revenue, therefore it is unable to cushion the demand on disaster funding and implement preventative measures to reduce the risk and so reduce the demand on this fund.

b) *What kinds of information are already available?* This Council has had to create much of its own information for use in the adaptation model. It has done so in collaboration with the tertiary sector, namely Macquarie and Bond Universities to develop regional climate models, economic forecasts for the 'do nothing' option in comparison with various adaptation options and finally a comprehensive analysis model of adaptation. Adaptation needs to be undertaken as close to the grass roots as possible as relies heavily on the knowledge and capacity of the local community to interpret and evaluate the risks and the responses. The kind of information that may be of value would be the development of regional and federal networks that feed local responses into a network where ideas could be exchanged and where appropriate regions could collaborate on similar risks response. Regional responses are very appropriate to mitigation strategies but are somewhat more problematic for adaptation due to the very specific nuances of vulnerability and resilience from area to area. Risk needs to analysed in light of the local communities vision for the future and the values they identify. State of the Environment reporting has largely failed because they attempted to generalise local characteristics and in doing lost much of the value of the process.

c) *To what extent do government infrastructure decisions draw on a 'real options' approach.* In my experience Councils are limited on their ability to influence the uptake of 'real' options. For example to reduce dependence on carbon fuels, Councils sought to make street lights more energy efficient. The infrastructure owner placed barriers in the way of Council changing to energy efficient street lights to the point when Council said they intended implementing new technology, the infrastructure owner's response was that Council could do so but any cost savings would offset price rises the owner would implement. In the end Council had no option to but to dismiss this plan. Councils need to be given the authority to govern infrastructure in their areas and allow change to occur where the cost benefit permits.

d) *Who bears the climate change risk in public private partnerships and other government contracts?* In any project plan, climate change needs to be factored in with other sustainability criteria. It is clear that many projects are poorly considered when it comes to sustainability and therefore climate change, from coastal land releases for urban development to infrastructure that is sub optimal from the start, for example desalination plants favoured over stormwater treatment and re-use. The risks lie with the project proponents and financiers who neglected to accurately assess the real cost benefit of the projects. The burden of the risk still typically falls to the environment and local communities. Nimbyism is derided by many in state and federal government but local communities are not stupid, they can see when hidden costs are going unacknowledged and therefore unallocated. It is the local communities and their natural environment that bear the cost in the long term. Such costs need to be made transparent, and these externalities included as direct project costs and compensated for if local communities are to have any faith in the planning system.

Response to Part 4 (p.21) What Policy Instruments Could be Used to Address the Barriers?

a) *in what areas or sectors might structural pressures as a result of climate change be greatest?* Disaster preparedness and response appears to be in need of a comprehensive review. In particular bushfire. The current dependence on hazard reduction burning as the key preventative measure to reduce risk has proved time and again to be inadequate and at best limited in terms of risk reduction. Disaster preparedness is this country is so heavily focused on response to natural disasters that the preparedness element is almost an afterthought. Bushfire coronial inquests and royal commissions have proved to be of limited value in terms of elucidating lessons learned or changing the status quo. Linking disaster preparedness with sustainability is an obvious yet overlooked objective. More emphasis needs to be given to preparedness and the subsequent need for response capacity will be moderated.

b) *What pressures might be placed on the existing social safety net as the impacts of climate change are felt by households?* Insurance companies are divesting themselves of the responsibility for climate related losses. However when reading insurance policies the vagaries of the language and indecisive nature of responses to question leave householders unsure exactly what they are and are not insured for. It is important that the insurance industry be regulated and the products they provide clarify exactly what the insured person is purchasing. In no other industry can purchase a product and be uncertain exactly what it is that are buying. Also much of the adaptation strategies being implemented by Council will not so much benefit the Council, the leading beneficiary will be insurance companies followed by property owners. Councils themselves owe a duty of care to act in the best interests of the local community

Response to Part 4 (p.23) What Policy Instruments Could be Used to Address the Barriers?

a) *Are there significant overlaps or inconsistencies between the adaptation policies of different levels of government?* Local government policies are guided by state and federal in some specific instances such as sea level rise. However for non coastal Councils there has been very little of practical value to guide local government on the integration of local plans with broader state or national adaptation plans. Such integration needs to be carefully thought, the risk here is that generic plans loose the all important local valuation and characteristics. State of the Environment Reporting while it worked well on paper proved of little value in reality. The same mistake must be avoided if local plans are to be integrated into broader reporting mechanisms without losing their on the ground value. Unlike mitigation where reporting can start at the top and the subsequent levels of government can integrate their reporting systems into that system, hierarchical reporting is not suitable for adaptation. Local communities needs to be able to dictate what values need to be monitored and reported on. If these don't exactly mesh with categories in other Councils then the reporting needs to be done one level up. For example if a community says climate change will affect biodiversity and local threatened populations, that could feed into a state level indicator on biodiversity and the measure may simply be dollars invested or area maintained. This way it doesn't matter how the local community reached their objective, the measurement is one that demonstrates how much effort has been invested in achieving that objective. This objective may be the entire project or a phase of larger more comprehensive project. It is essential that the priority be to keep the control of the process and outcomes in the hands

of the local community. If not Councils will be again hamstrung by a useless reporting requirement that achieves very little and is ignored in the real world of decision making.

b) *Is there a need to alter policy responsibilities across the different levels of government in order to facilitate adaptation?* It is critically important that the focus remain on the actions undertaken at the local level rather than the reporting. If Councils have to invest more time in reporting than actually working on their climate adaptation outcomes then there is little benefit to be had from the reporting requirement. State and federal government can best facilitate local adaptation outcomes by streamlining and minimising any reporting process and this importantly includes the reporting required on any funding provided to Council. Reporting requirements around public funding have become absurdly onerous and do little to verify the legitimacy of investment. Project reporting needs a consolidation to ensure the return on investment predicted in the proposal has actually been achieved. State and federal policy should be about enabling local government to get on with the job rather than policing local government which if the enabling is done well should reduce the need for policing.

c) *Are local governments adequately resourced and equipped to respond to climate change and implement policies developed by state and territory governments?* The answer to this question is self evident when one examines the number of on the ground projects arising from climate change adaptation plans. Councils have a range of expertise across many professions. Often the skills that are lacking are those interdisciplinary practitioners that can bring the complexity and uncertainty of issues such as climate change into a decision making framework that incorporates all the disparate views. If the focus is squarely maintained on local values then the inter-disciplinarian can bring together both internal and external local experts and the community to work through a process to prioritise investment. State and federal government find such place based processes problematic, it is only when you get the very grass roots level that such interdisciplinary co-operation collaborates well to achieve specific outcomes on the ground. Very few if any consulting companies understand this. Their objective is to fit every local area into the same framework regardless of how well it fits the community vision for the future. Disengagement from the process is often the outcome when consultants are involved because at the end of the day they walk away. Councils don't walk away, they are there for the long term, they build on-going relationships with the community and attempt to foster a sense of oneness. The days of handing down decisions to the community are gone, the modern decision making process should be a bottom up system with the state and federal government enabling the local Council and community to adapt.

d) *What are the most appropriate governance arrangements for overseeing adaptation responses at the local level?* This question is phrased in a way that suggest the expertise is in the higher levels of government. In the case of climate change adaptation the reverse is true. Rather than oversee local government, the attitude needs to change to one of enable. Enabling strategies might include education, subsidies, facilitation of community empowerment to guide decisions in their locality and rather than place more money into semi-dysfunctional disaster response systems, shift the focus to disaster preparedness. Strengthen building codes, enabling retrofits for mitigation and adaptation of domestic dwellings, improve local drainage and flood management strategies, enable investment to strengthen defendable space for bushfire, assist communities to be more resilient to drought and protect those vulnerable to heat stress by for example enhancing small business precincts to provide cool community recreational space in the

business precincts where there is already parking for cars, resources etc. and aid the sustainability of small business at the same time.

Response to Part 5 (p.24) Setting Priorities for Reform

a) *Are these criteria relevant for assessing reforms to reduce barriers to adaptation?* Having spent a great deal of time developing a cost / benefit prioritisation method for ranking adaptation our experience suggests that firstly you need to be very clear about how you will interpret cost and benefit. Returns on investment will be then be closer to truth if your cost benefit method permits the evaluation of non-monetary values. Criteria for adaptation critically need to acknowledge the specific risks arising from altered weather patterns and ensure they are integral to the cost benefit evaluation. If benefit is interpreted as ability to reduce risks, then the outcome may be practical. If it is simply a dollar value then it is very likely to outcome will be of little real value. In addition any adaptation should demonstrate that it will enhance sustainability in the local community which in turn should enhance the sustainability of the wider community. If traditional cost benefit methods are adhered to then we will likely more of same with little inspired innovation coming to the forefront.

b) *Are there other considerations or criteria the Commission should take into account to assess the likely costs and benefits of reform options?* If by reform options you mean adaptation options, then yes. The methods cites in draft discussion paper 'Identifying and Evaluating Regulation Reforms' using standard financial accounting criteria to evaluate programs. Our experience as non economists is that these tools have limited capacity to admit non-monetary externalities. As a result these tend to be either discounted or under valued. Using market valuation techniques is flawed for such value estimations. While our method may seem simplistic to an economist, to an inter-disciplinarian it is a very practical and readily understandable way to discover 'true' cost benefit in relation to climate change. Our method highlights the strengths and weaknesses of any adaptation option. It includes a broad range on non financial criteria that is according a number based on its ability to reduce risks specific to changed weather patterns and its capacity to enhance sustainability. While these measures may not mesh with those of state and federal government, they resonate with the local community.

c) *What reform options might satisfy these criteria?* Our adaptation planning method prioritises those options that produce a risk reduction in more than climate related risk. In terms of return on investment, such adaptation options represent good value to a householder, business or Council. It is important to recognised the interconnected nature of risk reduction. Many risks have common elements, whether they be found in the social, environmental or financial impacts. Highlighting the ability of adaptation options to be sustainable and reduce the risks of climate change has been a valuable weapon in reducing the retarding influence of sceptics in the Council and the community.