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Barriers to Effective Climate Change Adaptation
Productivity Commission
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Dear Commissioner

The Council of Capital City Lord Mayors (CCCLM) welcomes the Productivity Commissions' review into the *Barriers to Effective Climate Change Adaptation* to identify regulatory and policy barriers to effective adaptation and high priority reform options to address barriers. Local Government is at the frontline of working to prepare communities for the future, dealing first hand with the many uncertainties which climate change involves.

The CCCLM comprises the Lord Mayors of Australia's eight capital cities and the Chief Minister of the ACT. Collectively the cities are implementing a range of initiatives in response to climate change and we appreciate the opportunity to provide our expertise and experience.

Overarching comments

As recognised by the Productivity Commission in its Issues Paper, "climate change will inherently involve incomplete information about expected outcomes". The CCCLM looks to the Federal Government to provide strategic leadership on adaptation for climate change. In the absence of Federal leadership, adaptation responses will remain poorly coordinated, inefficient, and costly.

The issue of uncertainty needs to be owned by the Federal Government. A single measure should be identified at a national level and adopted as the official benchmark against which planning controls and programs Australia-wide must be designed.

Policy roles and program responsibilities need to be agreed between the three levels of Government to provide clarity, avoid duplication and remove inconsistencies. Where possible, regulations should be harmonised between the jurisdictions to enhance the mobility of labour and capital and facilitate the timely use of new technology.

Local government should be encouraged and empowered, with information and resources, to deliver local climate change solutions. Council land use plans should be informed by nationally agreed benchmarks and state and territory strategic land use planning and infrastructure plans.

What does adaptation to climate change mean?

Defining 'effective adaptation'

Effective adaptation is not a simple concept. It can be defined as a community responding to the consequence(s) of a climate change impact(s), factoring vulnerability and adaptive capacity, to reduce overall negative cost including personal safety and ecosystems impacts. The issues of timing will be different for different impacts of climate change, geographical locations, communities and subsets, amongst other issues.

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Effective adaptation should address environmental, social and economic impacts, and not focus narrowly on economic or community impacts, as this would ignore the importance of healthy and resilient ecosystems to sustain human communities. Judging an action's effectiveness based on 'least cost and net benefit to the community' creates many difficulties. It can be very difficult to measure the environmental cost of actions (and the opportunity cost to the environment of not doing something). This produces a real risk of de-valuing environmental outcomes unless their economic cost to the society can be quantified.

Effective adaptation to climate change

While comprised of multiple individual actions or projects, to be truly effective adaptation requires the creation and embedding of broader resilience. In addressing immediate impacts of climate change, consideration should be given to opportunities for developing broader benefits of strong communities, sustainable economic growth and a healthy environment.

Effective adaptation requires community awareness and acceptance. Communities should be given sufficient and timely information to be able to adjust to the effects of climate change.

In Brisbane a good example of an adaptation response to climate change has been the recent drought, with the community responding positively to: a well defined problem; clear performance indicators and monitoring; and a range of policy responses including regulation, incentives, education and media.

The City of Sydney's most successful climate change adaptation responses include:

- research to measure the urban heat island effect and thermal imagery to inform measures related to building materials,
- local energy generation and energy efficiency to reduce peaks and improve reliability of energy systems during peak heat events while reducing a contributing factor to climate change,
- increasing canopy coverage
- increasing green spaces, including green roofs
- drought proofing parks
- planning for projected sea level increases and storm events
- water recycling and reuse projects putting less strain on centralised supplies during drought, and better equipped to deal with flood and pollution events.

The City of Melbourne's Climate Change Adaptation Strategy released in June 2009¹, has resulted in the following climate change adaptation actions:

- development of an inundation model and visualisation tool for the municipal area
- development of Melbourne's Urban Forest Strategy
- undertaking research to measure urban heat island impacts in the city and developing guidance on the installation of infrastructure to minimise urban heat island impacts, such as cool and green roofs
- drought proofing parks
- undertaking social research to establish the level of climate change risk awareness. This research will feed into the development of the cities climate change adaptation communication and engagement strategy.

The Hobart City Council has, under the auspices of the Southern Tasmanian Councils Authority, initiated a Regional Councils Climate Adaptation Project across the regions 12 councils. The federally funded project seeks to provide a consistent approach to climate adaptation planning across the region and encourages the collaboration and cooperation of councils at the local, regional and state-wide level, in the absence of clear leadership and policy. Importantly it equips all councils with the knowledge and tools to undertake on-going climate action and review, articulates the councils core roles, provides a platform for advocacy and responsibilities and builds capacity for implementation as individual or groupings of councils.

¹http://www.melbourne.vic.gov.au/AboutCouncil/PlansandPublications/strategies/Documents/climate_change_adaptation_strategy.PDF

The City of Perth is currently undertaking a joint project with the East Perth Redevelopment Authority and City of Vincent examining climate change risk and adaptation with a focus on buildings (new and existing) and their users. This project has revealed a lack of clarity regarding which agencies and levels of government should take the lead on the various matters, and also the major gaps in verified and agreed information on which to base decisions.

In the City of Perth the predominant climate change issue involves existing commercial buildings. The City has investigated opportunities to provide town planning incentives to existing commercial offices to achieve energy efficiency improvement, but has found its application very difficult. The City is now exploring other mechanisms.

Addressing uncertainty

The issue of uncertainty needs to be owned by the Federal Government in collaboration with other levels of government. A single national measure should be adopted, informed by a review of the science, as the official benchmark against which planning controls and programs must be designed. This should be reviewed periodically as better science and data, both observed and forecast, becomes available. In the absence of Federal leadership, adaptation responses will remain poorly coordinated, inefficient, and costly.

At a community level, climate change information should be accessible and understandable so that it is:

- credible and informative;
- accessible and engaging
- allows individuals and businesses to understand their role and responsibilities; and
- evolving historical data and climate science.

The suggested 'no regrets' approach to addressing uncertainty should not be the default principle or approach. The Issue Paper undersells the level of certainty we have generally and the power of the decision-making tools available to decision-makers.

Are there barriers to adaptation?

Classifying barriers

The categories identified by the Productivity Commission; market failures, regulatory barriers, behavioural and cultural barriers, and organisational barriers; are suitable categories in which to examine obstacles to effective adaptation. We suggest that consideration should also be given to exploring an additional 'mandate' barrier, which is a result of the sheer contestability of climate change in the public realm. This barrier inhibits legislative / regulatory responses, financial and human resource allocations and collaborative organisational responses.

Market failures inhibiting adaptation

In addition to the market failures identified in the Productivity Commission's Issues Paper, we note that cyclical economic conditions are a factor which influences government, business and household responses to climate change. Economic uncertainty resulting from the current global financial downturn could impact the priority and funding given to climate change adaptation activities. Short term economic conditions should not distract decision makers from implementing long term actions to prepare for climate change.

Another market failure which should be considered includes the higher operating costs experienced in regional and rural Australia as a result of distant, smaller and isolated markets. Addressing climate change Australia-wide will require an acknowledgment of the variability of Australia's economy, with some communities already facing higher living costs which could be exacerbated by the need to implement climate adaptation measures.

Policy or regulatory barriers inhibiting adaptation

Land use planning and building regulations need to be updated to ensure that current policies do not hinder adaptation efforts. Currently developments and buildings are not always durable and adaptable to changes over time. Buildings and infrastructure currently being developed will need to operate and endure future climatic conditions, therefore consideration of the current science in decision making is necessary. Adaptation efforts would be assisted by a focus on ensuring longer life-spans for developments and durability considerations are addressed.

Site cover and setback requirements should also be reviewed to ensure that neighbourhoods are adequately designed for climate impacts. Building placement on individual lots (particularly small lots) should allow space for shade trees. Contemporary building requirements (i.e. site cover and boundary setbacks) result in whole neighbourhoods with inadequate tree cover on private properties as insufficient space is allowed between buildings and boundaries which will significantly limit adaptation efforts to retrofit with natural shade as space will not be available.

The primary non-financial factor that inhibits clean energy projects are the regulatory and institutional barriers to decentralised energy, both trigeneration and renewable energy. Barriers do exist to the large scale implementation of trigeneration and other forms of decentralised energy in New South Wales, particularly with regard to electricity regulation which was designed for centralised energy not decentralised energy. However, the electricity regulatory regime in New South Wales is not dissimilar to the electricity regulatory regime in the UK.

The regulatory barriers to decentralised energy in the UK were overcome initially by class exemptions and private wire networks (the Woking model) and later by the 'virtual private wire' over public wires concept through the application of a simple supply license modification (the London model). Suggestions on how to overcome the regulatory barriers to decentralised energy in Australia are detailed in the following papers:

- Submission to Prime Minister's Task Force on Energy Efficiency, City of Sydney ²
- Removal of Barriers to Trigeneration Report, City of Sydney ³
- Unlocking the Barriers to Cogeneration, Climate Works Australia and Property Council of Australia ⁴

Behavioural, organisational and other barriers inhibiting adaptation

The lack of consistent and relevant data and guidance is the major barrier to deciding on whether and how to adapt to climate change.

What policy instruments could be used to address barriers?

Broad-based reforms to facilitate adaptation

As identified in the Productivity Commission's Issues Paper, broad base reform should focus on removing obstacles and facilitating the efficient transfer of resources to enable our economy to transform to a low carbon economy. This will include reducing compliance costs and regulatory burdens on business and the community which can be assisted by harmonising regulations across jurisdictions.

An integrated suite of policy interventions and actions are required to effectively adapt to our changing climate. Broad-based reforms that offer potential for facilitating adaptations include:

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https://s3.amazonaws.com/media.cityofsydney/2030/documents/Submission_PrimeMinistersTaskGrouponEnergyEfficiency.pdf

³ <https://s3.amazonaws.com/media.cityofsydney/2030/documents/RemovalofBarrierstoTrigeneration.pdf>

⁴ http://www.climateworksaustralia.org/ClimateWorks_Unlocking_Barriers_to_Cogeneration_Report.pdf

- planning – using a range of plans and strategies to identify desired outcomes (eg. National Urban Policy implementation, or national infrastructure plans), together with the strategies and actions to achieve these outcomes;
- regulating – reviewing and strengthening legislation and regulations (eg. Building Code of Australia);
- leading by example – implementing international best management practices;
- providing incentives – through grants, rebates, technical assistance, awards, use of economic instruments, etc (this would greatly assist with addressing the social consequences of legacy issues);
- educating – raising the level of understanding both in the broader community and with specific key stakeholders whose actions have a significant influence on adaptation outcomes; and
- procuring – through the government's own capital works (eg. location, design and construction of new government buildings and precincts) and government purchasing policies (eg. local food).

In determining the appropriate mix of policy reforms for effective adaptation, the following should be considered:

- the level or response required (ie. for effective action);
- key stakeholders and potential partners that could improve the level of take-up;
- associated costs for action, as well as costs associated with a failure to act;
- the ease of implementation, including any enforcement and compliance efforts required; and
- likely effectiveness.

Taxes affecting capital and labour mobility, therefore affecting adaptation

State Government Transfer Duty on land limits the mobility of communities to adapt to our changing climate by increasing the cost of any relocation.

Other capital or labour impediments to adaptation

Restrictions need to be removed that hinder the start up of businesses focused on alternative sustainable technologies or growing local produce.

Other taxes or regulations affecting adaptation

Greater certainty is required in planning systems. In Queensland, injurious affection provisions under the *Queensland Sustainable Planning Act*, the lack of climate change planning policies and information on addressing liability considerations, significantly constrain the ability for local governments to make critical land use decisions based on climate change considerations. To remedy this, new legislative and policy provisions are required to enable local governments to make land use decisions based on the best available science and to ensure significant risk avoidance and impact mitigation measures are undertaken in communities and regions facing significant climate change exposure and vulnerability (e.g. coastal communities).

In regards to taxation, the following reforms could be considered:

- transfer duty should not be applied to the purchase of land for nature conservation purposes
- changes could be made to payroll, income and fringe benefits taxes and GST legislation to encourage households to implement adaptation measures
- tax concessions should be used to encourage private sector involvement in adaptation responses.

Financial assistance grants will be more relevant to support for local government engagement in climate change adaptation.

Other reforms to improve economy flexibility and contribute to adaptation

Improving the accessibility of information, knowledge, skills and technology is just as important as capital and labour to implement effective and sufficient climate change adaptation. Resource barriers for local government should be addressed as a priority, with a regional approach pursued.

Regulatory responses

Regulation that inhibits adaptation

Regulations that do not take into account risk assessment and known climate change science regarding specific localities in relation to sea rise and flood inundation will reduce the flexibility of individuals business' and organisations to adapt to potential impacts of climate change.

In Darwin, a number of regulations inhibit adaptation activities, including cyclone certification requirements for solar panels. Until solar panels are certified to cyclone requirements with the NT Government the panels were placed in a non-optimum location and are not being used to their full capacity. The delay in certifying products is one example where it impedes planned adaptation projects.

Non-financial factor that inhibits clean energy projects are the regulatory and institutional barriers to decentralised energy, both trigeneration and renewable energy are detailed earlier in our submission (page 4).

Reforms to improve existing regulation

Ensuring products meet building standards and cyclone codes before they are available to the market or speeding up the process of certification will assist organisations adopt new technologies.

New regulations to facilitate adaptation

Federal and State Governments need to legislate the thresholds and provide strategic frameworks within which local government can plan for and adapt to climate change.

State and local government planning and zoning responses

NSW Government sea level scenarios are factored into the City of Sydney's planning guidelines.

The City of Melbourne and other Victorian local councils are working with Victorian Government Departments to identify the most appropriate way to incorporate the risks associated with sea level rise and increased rainfall inundation into planning schemes. While the City of Melbourne is assembling available climate change information, a state-wide approach would be superior to planning decisions by individual councils. The science around climate change will continue to be enhanced into the future and a strategic, flexible, state or national approach will allow councils to incorporate the most up to date science into their decision making processes.

The Brisbane City Council is revising its planning policies in response to the 2011 Brisbane flood and disaster management planning work is underway.

The Queensland Government has introduced sustainable housing provisions to mitigate the impacts of climate change by making new homes more water and energy efficient. There are no restrictions, other than cost, for property owners to upgrade their building to meet the current standard.

Concerns exist about the ability to implement equitable requirements for addressing climate change adaptation issues (particularly through planning and development responses).

State and local government responses are being impacted by national level policies. For example the Clean Energy Futures legislation discriminates against public transport by exempting fuel for private use from carbon pricing while imposing a new excise duty on CNG (compressed natural gas) used in bus transport from 1 December 2011. The ATO advises that the excise will be calculated on the GST inclusive value of the CNG. This is effectively a tax on a tax and imposes further costs on public transport operators and ultimately the travelling public.

Another example is the Queensland Government's introduction in December 2011 of a waste levy that will increase the cost of operating landfills in addition to the costs imposed under the carbon pricing regime.

Climate change implications for local councils' planning policies and development approval processes

Local councils need to consider a range of impacts on planning and development assessment as a result of climate change, including flooding, building design and cooling mechanisms for the building and streetscapes. Local councils need to be able to change their planning schemes to reflect the latest climate change science and risk assessment outcomes.

Queensland issues regarding compensation (or injurious affection) and changing land uses need to be urgently addressed. To ensure effective climate change planning responses, legislative provisions need to be amended to enable no compensation provisions to apply when planning decisions are made based on climate change science and modelling that has been undertaken using approved methodologies. This should also cover information included in state planning instruments such as the Queensland Coastal Plan, which will have the status of a state planning policy once in force.

Darwin City Council is not the consent authority in the NT. Darwin City Council continues to advocate for progressive changes to the NT Planning Scheme as new research on climate change is published (e.g. storm surge data).

Building regulation impact

Building regulation is provided for under the Building Code of Australia (BCA), which is a national code and therefore consistent, efficient building design can be achieved.

Following recent floods, the Brisbane City Council has adjusted building regulation to require more flood free construction.

Costs and benefits of changing the application of the building code

Adjustment of the building code may be feasible in the same manner as there are variations in BCA for cyclone prone areas. This would require further mapping. Extensive mapping in Queensland of probable areas exposed to sea level rises has occurred.

Regulation of network infrastructure

A standard, broad-based cost-benefit analysis methodology for use by all governments and infrastructure providers should be introduced. The cost-benefit analysis should assess all environmental, social and economic costs and benefits associated with the specific design and provision of an infrastructure network. Infrastructure networks should be widely conceptualised, including 'green' infrastructure networks.

The economic loss that occurs from community disruption from network outages in times of extreme events or natural disasters should be included in the assessment. Any cost implications should be tested with the relevant community to confirm whether the community is willing to pay for any necessary infrastructure upgrades to ensure continuous supply of service.

Government provision of public goods

Government goods and services impacted by climate change

A broad range of local government goods and services are likely to be significantly affected by climate change, including:

- Land use planning frameworks

- Local government-provided infrastructure networks (eg. standards for resilience of transport networks, storm water and drainage systems, community facilities and public parks).
- Public transport service provision (eg. air conditioned buses)
- Asset management and infrastructure maintenance programs
- Biodiversity protection and restoration initiatives (eg. Bushland Acquisition Programs fostering safe wildlife movement across the landscape, strategic ecological corridor re-planting projects, etc).
- Weed and pest management programs
- Community education and awareness programs
- Community development and capacity building programs
- Immunisation programs
- Vector control protocols and programs
- Compliance and regulatory services
- Provision of evacuation centres and emergency services

In Darwin, a number of council assets located along coastal reserves will be impacted through increased erosion, including East Point Nature Reserve and the Nightcliff Foreshore. Foot and bike paths, fencing, outdoor furniture, carparks, street lamps and other lighting systems will all be affected.

Information provided by governments to help individuals and business assess risks

Brisbane City Council's early warning service on the weather is a good example of providing a community preparedness service and the Queensland Government has produced mapping of coastal hazard areas.

There is an urgent need for "real" unambiguous, forecast scenarios and response frameworks. Detailed information is required on future climate change projections, together with support for correct interpretation. The provision of model codes and model policies for adoption would assist councils.

Government infrastructure decisions

State and Territory Government infrastructure planning frameworks for local government should require climate change adaptation responses to be included in proposed infrastructure. For example, the provision of street trees to provide shade for pedestrian and cyclists, as well as to provide natural shade to offset an urban heat island effect should be included as standard infrastructure items (as part of natural infrastructure assets or 'green' infrastructure networks).

Direct assistance

Sectors facing greatest structural pressure

With respect to local government, significant structural adjustment pressure is anticipated in regards to protecting existing development from sea-level rise impacts.

Pressures on existing social safety net

There are pressures on the existing social safety net as households particularly in vulnerable communities do not have the means to retrofit their homes to cater for disaster events. There would need to be mechanisms or measures put in place to address this.

Which governments are responsible for addressing the barriers to adaptation

Overlaps and inconsistencies between governments

Currently roles and responsibilities are uncertain and inconsistent. Greater clarity of policy responsibilities and timings between the three levels of government is required.

For example, the South East Queensland Regional Plan 2009-2031 sets the quantum of sea level rise to be accommodated by new development to 2100. However, the policies of the regional plan are strategic in nature and do not provide the necessary impetus for local governments to amend their planning schemes to reflect this policy outcome. This level of rigour will be introduced when the Queensland Coastal Plan comes into force, as this plan will have the status of a State Planning Policy which must be reflected in a local government's planning scheme.

A range of overlaps exist between the NT Government's 2009 Greening the Territory and Darwin City Council's 2011 Climate Change Action Plan 2011-2020, especially in regards to reducing carbon footprint and becoming a leader in climate change policies. There are also some inconsistencies which may prevent both plans from coming to fruition. For example, the NT Government have targets about waste reduction within the community, however Darwin City Council coordinates the facility.

All levels of government should identify and seek agreement on the required scope of a complementary suite of policies and legislative frameworks that will be introduced and enacted by each level of government, including commitments to the timely introduction of policies or legislation at higher levels where other levels are dependent upon this.

Darwin City Council has also applied through a number of Australian and Territory Government funding streams to seek financial assistance for the implementation of adaptation activities. In these applications, Council was advised that our works were best suited to the other tier of government.

A need to alter or clarify policy responsibilities

The roles and responsibilities for each level of government for climate change adaptation policies should be clarified and agreed by all levels of government through a consensual and collaborative approach. Strategic leadership from the Federal Government is required in relation to research priorities and risk assessment approaches.

Instead of working in silos, perhaps there is the opportunity to discuss planned projects and programs and to identify where partnerships can be developed in order to maximise resources and ultimately the success of programs.

Resourcing and equipping local government

In general, local governments lack the necessary funding and skills to effectively implement climate change adaptation involving significant changes to business operations. Many councils will continue to rely on grant money to implement one-off projects.

Appropriate governance arrangements

To facilitate adaptation responses at the local level, a complementary suite of cascading policies and legislative frameworks need to be in place from the Federal and State or Territory Governments and those of local governments. This requires a collaborative, partnership approach. Regional level organisations or state based local government associations could assist with coordinating input from councils.

In Queensland significant delays have occurred with providing planning advice and provisions to councils to adequately address climate change considerations when new planning schemes are being drafted.

The integrity of existing legislation or policy can be undermined unless there are adequate resources allocated towards compliance and enforcement activities.

Setting priorities for reform

Criteria to assess reforms

The criteria identified in the Productivity Commission's Issue Paper are relevant to assessing reforms to reduce barriers to adaptation, but of themselves they are not sufficient. Value for money criteria should also be included.

Depth and breadth of reform are essential priorities when considering the welfare of communities whilst cost may be non-negotiable (some costs may simply have to be accepted in regards to unforeseen events) . Developing community resilience in the long term should alleviate foreseen climate change adaption costs.

Assessing the cost and benefits of reform

A cost-benefit assessment of options for a defined range of sectors, issues and communities is necessary. All environmental, social and economic considerations should be considered when assessing policy interventions for effective climate adaptation. This assessment should include the cost of interventions as well as the cost of no action. It will be qualitative for some sectors given available data and information. Also, it should be a collaborative effort, involving all levels of government.

This submission was prepared with the kind contributions from the following, who would be pleased to expand upon comments provided in this document.

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Yours sincerely

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