



## Climate Change and the Sydney Coastal Region Forum Summary

As part of the Partnership Program between the SCCG and the Division of Environmental and Life Sciences (ELS) at Macquarie University, the SCCG convened a Climate Change Workshop entitled: "Climate Change and the Sydney Coastal Region" on Wednesday 20 July 2005.

The Workshop was open to all SCCG member councils, various invited State and Commonwealth agency representatives and staff from Macquarie University. Expert presentations provided an opportunity for delegates to gain a better understanding and awareness of this very important issue.

The aims of the Workshop were:

- to provide jargon-free summaries:
  - (i) of the key science of past and future climate change;
  - (ii) of the likely frequency and intensity of hazardous climate events in the Sydney coastal region in the coming decades;
  - (iii) to consider what the negative impacts of future climate change will be in our region; and
  - (iv) to explore possible adaptation and mitigation strategies; and
- to identify specific information, research and policy and planning needs of SCCG members and other relevant stakeholders.

This summary of the Workshop provides:

- an introduction, outlining the importance of addressing climate change;
- needs and actions associated with hazard, risk and vulnerability management and policy and planning identified during the workshop breakout group sessions;
- Local Government needs for addressing climate change (identified through participant feedback forms);
- possible useful future activities for the SCCG and Macquarie University Partnership program:
- a discussion of the need for intergovernmental partnerships; and
- a conclusion outlining future activities for SCCG and its member councils.

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### 1. Introduction

That climate change will have a significant impact on the natural and built environment is unquestionable. Climate (average weather at a fixed place) changes naturally through time. However, it is now certain that humans are also having a significant and dramatic effect on global climate.

Regionally, long term global climate trends are expected to have negative effects on the Australian environment, causing increasing temperatures, a possible overall reduction in rainfall but with more frequent and intense storms, floods and droughts.



The impact of natural and human induced climate change on the activities of Local, State and Commonwealth Governments responsible for protecting the values and managing growth are considerable.

Adapting to future climates, mitigating the effects of hazardous climate change and planning for future generations requires a sound understanding of the science of climate change and an appreciation of the likely impacts of this change.

Key points to come out of the presentations from the expert panel at the Climate Change and the Sydney Coastal Region Workshop were:

- climate change happens naturally but humans have accelerated the rate at which it is currently occurring;
- climate conditions will vary significantly and there is a need to address extreme variations;
- climate change will have different impacts in different regions and on different species. As a result, some species will benefit and others will suffer;
- there is a possibility for increased frequency and intensity of storms and other hazardous processes and that such changes may lead to greater 'losses' in the future; and
- there is a need for a framework to integrate climate change into strategic planning.

## **2. Hazard, Risk and Vulnerability Management and Planning and Policy**

During the afternoon breakout sessions, delegates were asked to identify aspects of climate change management they would like to further discuss. The issues identified for further discussion were Hazard, Risk and Vulnerability Management and Planning and Policy. Tables 1 and 2 (Attachment 1) outline the needs, issues, actions and desired outcomes identified during both breakout sessions.

The overlapping needs and actions identified for both issues were:

- the need for a gap analysis of existing policies and strategies for addressing the impacts of climate change at state, regional and local levels;
- a framework that identifies the roles and responsibilities of Local, State and Commonwealth government to ensure that all levels contribute in an effective and timely manner;
- the development of regional scenarios and models to inform the decision making process on issues associated with infrastructure planning as well as environmental and social impacts;
- an integrated response from all levels of government to climate change through an agreed national, state and regional framework; and
- a uniform education strategy.

## **3. The needs of Local Government in addressing climate change**

Additional needs of Local Government were identified in the forum feedback forms.

### **3.1 Information**

The need for more information on all aspects of climate change was identified by all of the delegates who responded to the feedback form. When asked if they required more information on the following topics all respondents answered "yes":

- the impacts of climate change on the NSW coastline;



- the impacts of climate change to your Local Government Area;
- climate change and risk management; and
- integrating climate change into Local Government policy.

Other areas where information was required include:

- scenario modelling;
- information on asset protection; and
- managing uncertainty.

### **3.2 Capacity to address climate change**

Most respondents felt that their organisation was beginning to address the impacts of climate change through education. However, very few considered their organisations were adequately addressing the impacts of climate change through the planning process, management activities and capital works.

Reasons that the councils and state agencies are not addressing climate change adequately include: the uncertainty of impacts of climate change, the need for a consistent approach to managing climate change and the cost of capital works.

Capacity and knowledge were identified as the issues preventing councils adequately addressing climate change in a range of areas. Direction from State and Commonwealth Governments was identified as an activity that would improve management of climate change amongst Sydney's coastal councils and assist in the development of standard guidelines, policy and model provisions for Environmental Planning Instruments.

### **4. Activities for the SCCG and Macquarie University Partnership program**

Major activities suggested by delegates that might be undertaken in the SCCG and Macquarie University Partnership program include:

- through a gap analysis develop a research and policy framework for integration into local government policy;
- an agreed scenario for predicting the cumulative impacts of climate change;
- pilot projects for mitigation and adaptation strategies;
- a Climate change information webpage; and
- an assessment of the impacts of climate change on human behaviour.

### **5. Intergovernmental Partnerships**

Throughout the Workshop the need for an integrated government response to climate change was raised a number of times. Representatives from the Australian and NSW Greenhouse Office's and the Department of Infrastructure Planning and Natural resources agreed that a coordinated approach to managing the needs of Local Government was required when addressing issues related to climate change.

As a result of the Workshop, the SCCG will be discussing and defining the role of the group and its member councils with the Commonwealth and State agencies present. A specific aim of these discussions for the SCCG will be a commitment to the development of a regional research and policy project framework to identify key research, planning, policy mapping and partnership activities for all levels of



government in managing for climate change. Figure 1: provides a potential model for such a framework.

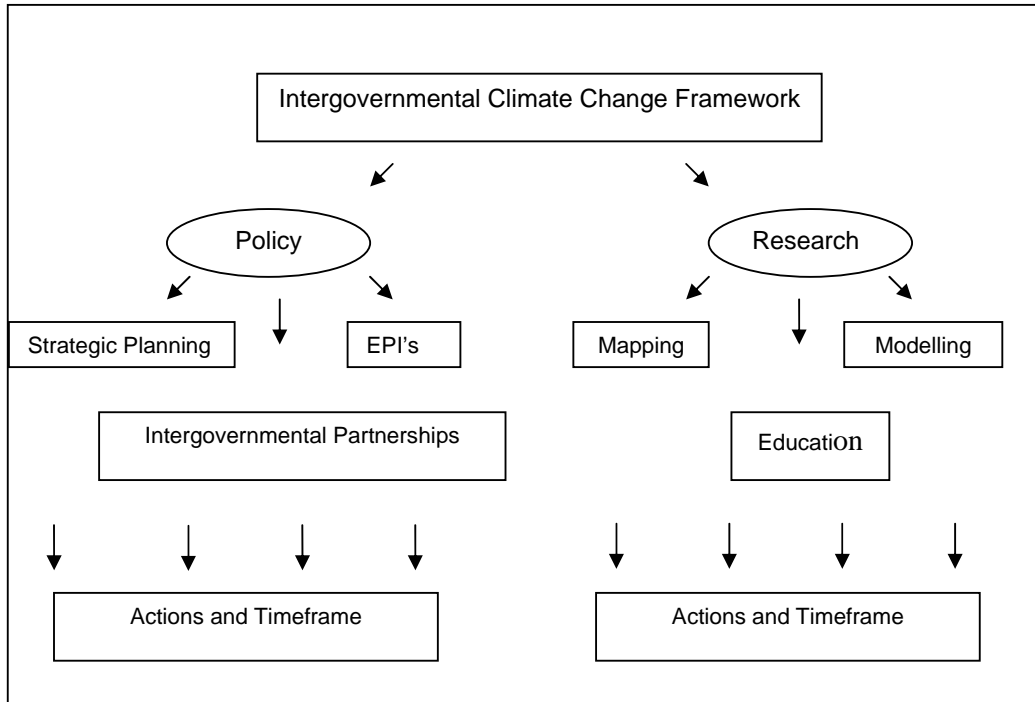


Figure 1: Possible model for Intergovernmental Climate Change Framework

## 6. Conclusion

As a consequence of the Climate Change and the Sydney Coastal Region Workshop, the SCCG on behalf of its member councils will undertake or assist member councils in addressing the following actions.

### 6.1 Seek partnerships and/or funding to achieve:

- a gap analysis of existing policies and strategies for addressing the impacts of climate change;
- a framework that identifies key research, planning, policy mapping and partnership activities of Local, State and Commonwealth government to ensure that all levels contribute in an effective and timely manner; and
- the development of scenarios and modelling to assess the potential impacts of climate change including, but not limited to, sea level rise, major storm events and reduced overall rainfall.

### 6.2 Advocate for:

- Local Government involvement in the development of climate change policy and strategy;
- the integration of climate change measures in strategic plans such as the Sydney Metropolitan Strategy and the Hunter and Illawarra regional strategies;
- the consideration of climate change provisions for Environmental Planning Instruments;
- the development of climate change hazard, risk and vulnerability maps to assist in decision making and strategic planning;



- an integrated and coordinated climate change education strategy for decision makers and the community; and
- An urban design that is conscious of the impacts of climate change and the need to limit or mitigate for outcomes.

**6.3 Address the needs of improved knowledge and capacity of Local Government through actions including:**

- capacity building workshops;
- public forums; and
- pilot studies.

The SCCG is seeking comment from all interested organisations and individuals on any additional issues not identified in this summary and a response to the list of actions outlined. To provide feedback or request further information please contact SCCG Coastal Project Officer Craig Morrison on (02) 9246 7702 or by email at [craig@sydneycoastalcouncils.com.au](mailto:craig@sydneycoastalcouncils.com.au)



**Table 1: Full Summary of Planning and Policy Breakout Session**

Major issues and needs	Actions and activities	Outcomes
<p>The integration of climate change into strategic planning at all levels of government</p>	<p>Gap analysis of existing climate change policy and legislation at all levels of government</p> <p>Creation of an integrated framework for research, strategic planning, policy, mitigation and education that identifies the issues, needs, responsibilities and actions for all levels of government planning for climate change and their integration into an appropriate timeframe of action</p> <p>Advocate for a local government role in planning for climate change</p> <p>Develop adaptation and mitigation policies for the impacts of future climate change</p> <p>Establish any potential role the Land and Environment in implementation of climate change.</p>	<p>Synchronicity between all levels of government on climate change issues</p> <p>A framework that identifies the roles and responsibilities of each level of government to ensure that all levels contribute in an effective and timely manner</p> <p>Inclusion of climate change in Plans of Management and EPI's</p> <p>Inclusion of climate change policies into regional strategies</p>
<p>Regional scenario for the impacts of climate change on Local Government</p>	<p>Develop regional scenarios to assist in predicting the impacts of increased storm events, rainfall variability, sea level rise, flooding and drought based on sound science</p>	<p>Regional scenario agreed to by councils and used to inform the decision making process on issues associated with infrastructure planning as well as environmental and social impacts assessment (?)</p>
<p>Education strategy</p>	<p>Simplify the climate change message</p> <p>An understanding of the communities needs and understanding of climate change</p>	<p>Delivery of a uniform message in all government policy</p>



**Table 2: Full Summary of Risk, Hazard and Vulnerability Breakout Session**

<b>Major issues and needs</b>	<b>Actions and activities</b>	<b>Outcomes</b>
Integration amongst all levels of government	<p>Develop a database of all existing information, and case studies related to risk and hazard assessment</p> <p>Develop a framework for integration of policy and activities of all levels of government on climate change</p>	<p>A central data base of risk and hazard assessment information to be used by developers, government and the community</p> <p>An integrated strategic and policy response from all levels of government identifying roles and responsibilities</p>
Balancing existing and future infrastructure needs	Develop risk assessment maps	<p>Risk assessment maps used to guide decision making</p> <p>Design standards for new and existing infrastructure to address the potential impacts of climate change</p> <p>Public acceptance of risk maps</p>
Uncertainty of predicting impacts.	<p>Scenario models</p> <p>- various situations, worst case, potential impacts (For example: based on an estimate of sea level rise)</p>	Ability to predict the cumulative impacts to the natural and built environments of multiple storm and flooding events resulting from sea level rise and stormwater events to coastal and estuarine environments
Property values not reflecting cost of risk	<p>Develop criteria for the inclusion of risk and hazard assessment into EPIs</p> <p>Establish the role and capacity that the insurance industry can play in mapping and defining the market impacts of risk (e.g., assessment of the financial impacts of risk)</p>	<p>Design standards for new and existing infrastructure that address the potential impacts to the built environment of climate change</p> <p>The economic cost of loss to environmental and social values integrated into climate change models</p>
An education strategy	<p>Utilise the work of the International Panel on Climate Change in educating policy makers and the community</p> <p>Provision of necessary skills to local government.</p> <p>Identify communication needs</p>	<p>A community aware of the probability of major climate change events occurring</p> <p>An assessment of:</p> <ul style="list-style-type: none"> <li>- Information and education models used in education strategies for bushfire and salinity</li> <li>- Overseas frameworks/ case studies</li> </ul>

