

## CLIMATE CHANGE AND ENVIRONMENTAL ISSUES IN THE INDIAN OCEAN TERRITORIES

### Talking points:

- The Government is committed to an integrated approach to community engagement in the IOT. My Department has developed a draft strategy for climate change adaptation in the IOT, with reference to the National Climate Change Adaptation Framework and in consultation with the Department of Climate Change and Energy Efficiency and the CSIRO.
- Consultations on the effects of climate change with the Indian Ocean Territories' communities are ongoing with the aim of developing community capacity to adapt to the effects of climate change and to develop community led projects to address local impacts.

### *Christmas Island Expert Working Group Report*

- The Department is working collaboratively with other relevant agencies on climate change and environmental issues in the Indian Ocean Territories. For example, the response to the matters raised in the Expert Working Group report will require a whole of Government response.

### Background

In 2008, Munsell Australia Pty Ltd (now AECOM Australia) conducted a climate change risk assessment of the Indian Ocean Territories (IOT) on behalf of the Attorney-General's Department (AGD). The report predictions indicate the effects of climate change could have a significant impact on the IOT biodiversity, community and infrastructure.

In June 2010 AGD engaged AECOM Australia to update the risk assessment for the IOT using latest data and sea level rise projections accepted by the Department of Climate Change and Energy Efficiency. The updated risk assessment report provided no changes to the predictions on the effects of climate change in the IOT.

The Cocos (Keeling) Islands are affected by high tides, strong currents and cyclonic storm surges. Rising sea levels will affect areas of Cocos over time, but the islands are in a dynamic environment with some gaining and others losing. Christmas Island is less vulnerable to the impacts of rising sea levels, however human settlement and a small tourism industry based on ecological systems may be impacted by climate change. The number of tropical cyclones (category 4 and 5) occurring within

500 km of the Cocos (Keeling) Islands is expected to double, while the number of intense tropical cyclones occurring within 500 km of Christmas Island is projected to increase by 63 per cent by 2030.

The Department has developed a draft Climate Change Adaptation Strategy for the IOT, using the recommendations from the updated risk assessment report as the framework. The purpose of the strategy is to establish resilience within the community to adapt to the risks and vulnerability of climate change.

Consultation with the Cocos (Keeling) Island community was scheduled for December 2010, however, poor weather conditions prevented travel to Home Island for the meeting. Another meeting is planned for March 2011.

#### *Christmas Island Expert Working Group Report*

On 9 September 2010, the Director of National Parks released the Final report of the Christmas Island Expert Working Group to the Minister for Environment Protection, Heritage and the Arts (EWG Report). The genesis of this report was an examination of why the Christmas Island Pipistrelle (microbat) population was in decline. The EWG Report examines the biodiversity of Christmas Island as a whole and has made 32 recommendations on how environmental management could be improved. The majority of the recommendations have minimal impact on the work of the Department. The implementation of the recommendations is likely to require a whole-of-government approach. The EWG Report could have ramifications for mining, tourism and future land use if the Department of Sustainability, Environment, Water, Population and Communities takes the lead role in its implementation.

## Attorney-General's Department—Territories West

### Briefing

**Item:**                   **Adaptation to Climate Change in the Indian Ocean Territories**

**Position:**           The Australian Government should develop a climate change adaptation strategy for the Indian Ocean Territories.

### Background

The Indian Ocean Territories are potentially vulnerable to the effects of climate change.

In 2008, the Attorney-General's Department commissioned a report about the potential impacts of climate change in the Indian Ocean Territories. The research indicated that the impacts of climate change could have major consequences for the Indian Ocean Territories' biodiversity, community and infrastructure.

Coastal zones of the Cocos (Keeling) Islands are affected by high tides, strong currents and cyclonic storm surges, which contribute to erosion and accretion in some areas of the Islands. Rising sea levels may increasingly affect areas of the Cocos (Keeling) Islands. The impact of an intense tropical cyclone and storm surge coupled with high tides could result in total loss of life for Home Island and have catastrophic consequences for West Island.

Christmas Island is less vulnerable to the impacts of rising sea levels, however human settlement and a small tourism industry based on ecological systems may be impacted by climate change.

An officer from the Attorney-General's Department will be visiting the Cocos (Keeling) Islands to conduct community consultations on, and gather evidence about, the effects of climate change. The Attorney-General's Department will develop a long term strategy to climate change adaptation designed to increase the natural resilience of the Territories and reduce vulnerability to the effects of climate change.

Cleared by Julian Yates, Assistant Secretary, Territories West

Work:       6218 6901

Mobile:    section 47F

Action officer:

Work:

16 July 2015

## **Incoming Minister's Brief —Office of the Minister for Regional Australia, Regional Development and Local Government**

### **Climate Change and Environmental issues in the Indian Ocean Territories (IOT)**

#### **Issues**

- The IOT are located in the tropics and subject to tropical cyclones. Climate change could lead to an increase in the frequency and severity of cyclones and shoreline erosion.
- In early September 2010, the Director of National Parks released the *Final report of the Christmas Island Expert Working Group to the Minister for Environment Protection, Heritage and the Arts* (EWG Report) examining and providing recommendations on various environmental issues.
- Implementation of the EWG Report could have ramifications in mining, tourism and future land use.

#### **Background**

In 2008, Maunsell Australia Pty Ltd conducted a climate change risk assessment of the IOT on behalf of the Attorney-General's Department (AGD). The report predictions indicate climate change could have a significant impact for the IOT biodiversity, community and infrastructure over the next twenty years. In June 2010, AGD engaged AECOM Australia to update the sea level rise projections for the IOT, using latest data and projections accepted by the Department of Climate Change and Energy Efficiency.

Cocos (Keeling) Islands are affected by high tides, strong currents and cyclonic storm surges. Rising sea levels will affect areas of Cocos. Christmas Island is less vulnerable to the impacts of rising sea levels, however human settlement and a small tourism industry based on ecological systems may be impacted by climate change. The number of tropical cyclones (category 4 and 5) occurring within 500 km of the Cocos (Keeling) Islands is expected to double, while the number of intense tropical cyclones occurring within 500 km of Christmas Island is projected to increase by 63 per cent by 2030.

The Department is committed to an integrated approach to community engagement in the IOT. The Department is developing a strategy for climate change adaptation in the IOT, with reference to the National Climate Change Adaptation Framework and in consultation with the Department of Climate Change and Energy Efficiency.

On 9 September 2010, the Director of National Parks released the EWG Report. The genesis of this report was an examination of why the Christmas Island Pipistrelle (microbat) population was in decline. The EWG report examines the biodiversity of Christmas Island as a whole and has made 32 recommendations on how environmental management could be improved. The majority of the recommendations have minimal impact on the Department. However, their implementation, like those of the Indian Ocean Territories Taskforce, is likely to require a whole-of-government approach.



Sub No: 0412  
File No: 08/295

13 FEB 2009

**MINISTER FOR HOME AFFAIRS**

**Impacts of Climate Change in the Indian Ocean Territories**

**Deadline:** None

**Key Issues:** In 2008, the Department commissioned a report about the potential impacts of climate change in the Indian Ocean Territories. A copy of the report is at **Attachment A**. This is the only Australian Government research on climate change that includes impacts on human settlement in the Indian Ocean Territories.


Officers from the Department will begin community consultation in the week of 16 February 2009 on Christmas Island and the week of 23 February 2009 on the Cocos (Keeling) Islands.

**AGD Analysis:** The Attorney-General's Department is following the community consultation model of the Department of Climate Change. Following community consultation the Department will develop a long term adaptation strategy designed to increase the natural resilience of the Territories and reduce vulnerability to the effects of climate change.

**Financial Implications:** None

**Recommendation:** I recommend that you:


- (i) note the report at **Attachment A**, and
- (ii) sign the letter at **Attachment B** which includes a copy of the report for the Minister for Climate Change and Water, Senator Penny Wong.

  
.....  
Iain Anderson  
First Assistant Secretary, Territories and Native Title  
Division  
02 6218 6904  
/ / 2009

Approved / Not Approved / Discuss

  
.....  
Minister for Home Affairs

14 / 2 / 2009

Action Officer: 

## **Background**

2. Research indicates that the impacts of climate change could have major consequences for the Indian Ocean Territories' biodiversity, community and infrastructure.
3. The coastal zones of the Cocos (Keeling) Islands are affected by high tides, strong currents and cyclonic storm surges, which contribute to erosion and accretion in some areas of the islands. Rising sea levels may increasingly affect areas of the Cocos (Keeling) Islands.
4. Christmas Island is less vulnerable to the impacts of rising sea levels, however human settlement and a small tourism industry based on ecological systems may be impacted by climate change.
5. The number of intense tropical cyclones (category 4 and 5) occurring within 500 km of the Cocos (Keeling) Islands is expected to double while the number of intense tropical cyclones occurring within 500 km of Christmas Island is projected to increase by 63 per cent by 2030.
6. The impact of an intense tropical cyclone and storm surge coupled with high tides could result in total loss of life for Home Island and have catastrophic consequences for West Island.
7. The Department is developing an approach to community engagement in the Indian Ocean Territories. To encourage the involvement of local people in future climate change planning and adaptation activities the Department will undertake consultation in February 2009 with Territories' communities.
8. It is important the Minister for Climate Change and Water is aware of the impacts of climate change in the Indian Ocean Territories. This is the only Australian Government research on climate change that includes impacts on human settlement in the Indian Ocean Territories.

## **Consultation**

9. Officers from the Department of Climate Change have been consulted about the approach to the communities.

## **Sensitivities and Media Implications**

10. The findings of the report have the potential to alarm the residents of the Indian Ocean Territories. It is important that this consultation is beginning of an ongoing process with both the Attorney-General's Department and Department of Climate Change.
11. The impacts of climate change in the Cocos (Keeling) Islands were reported in the media in October 2008. There is the potential for further media coverage on this issue.

**DEPARTMENT OF REGIONAL AUSTRALIA, REGIONAL DEVELOPMENT AND  
LOCAL GOVERNMENT**

To: Minister (for information)

**CLIMATE CHANGE ADAPTATION STRATEGIES FOR THE INDIAN OCEAN TERRITORIES**

Timing: Routine

**Recommendation** - that you:

- note the climate change adaptation strategies being developed for the Indian Ocean Territories.

Simon Crean MP

Date:

2/11/11

**Purpose:** To brief you on climate change adaptation strategies for the Indian Ocean Territories.

**Key Points:**

1. In 2010, Territories Division commissioned a climate change risk assessment for the Indian Ocean Territories. A copy of the risk assessment is at Attachment B.
2. In response to the risk assessment, a Climate Change Adaptation Strategy has been developed by the Division. The strategy aims to build resilience within the communities and to help them adapt to the likely risks and copy is at Attachment C. The strategy will be circulated to the Indian Ocean Territories communities for comment before finalising later this year.
3. The Cocos (Keeling) Islands, at their highest point rise only four metres above sea level, and are already vulnerable to high tides, strong currents and cyclonic storm surges and are expected to be further impacted by expected sea level rises. Christmas Island is likely to be less affected by rising sea levels as it is much higher.
4. Potable water on Cocos (Keeling) Islands is sourced from shallow freshwater lenses less than two metres below the surface. Managing the continuity and quality of the water supply, especially on Home Island, is an ongoing issue and is likely to be exacerbated by the effects of climate change, including predicted sea level rise.
5. The Department is aiming to develop two infrastructure projects to adapt to these vulnerability issues on Cocos (Keeling) Islands:
  - A community centre on West Island that can be used as a second cyclone shelter; and
  - A desalination plant on Home Island to ensure a safe and reliable water source.
6. Lack of offsetting savings will constrain seeking funding for these projects through the 2012-13 Budget process. We are investigating other funding sources for climate change adaptation.

**Consultation:** Department of Climate Change and Energy Efficiency; WA Water Corporation.

Julian Yates  
First Assistant Secretary  
Territories Division  
19 September 2011  
02 6274 7878

Policy Officer: Belinda Moss  
Phone no: 02 6274 7916

## **ATTACHMENTS**

- A.** Background
- B.** Indian Ocean Territories Climate Change Risk Assessment
- C.** Draft Climate Change Adaptation Strategy

## BACKGROUND

### Indian Ocean Territories Climate Change Adaptation Strategy

In March 2008, Territories Division commissioned Maunsell (now AECOM) to undertake a risk assessment of the impacts of climate change on the Indian Ocean Territories (IOT) of Christmas Island and the Cocos (Keeling) Islands. The predictions in the IOT Risk Assessment indicate the effects of climate change could have a significant impact on the IOT biodiversity, communities and infrastructure. This work was updated in 2010 to incorporate the latest climate change modelling figures accepted by the Department of Climate Change and Energy Efficiency.

The risk assessment received a silver award, under the Environment category, in *Consult Australia's 2010 Awards of Excellence*.

The risk assessment predicts that the IOT will experience:

- an average sea level rise of 14cm by 2030 and 40cm by 2070;
- a doubling in the number of category 4 and category 5 tropical cyclones occurring within 500km of Cocos (Keeling) Islands by 2030; and
- a 63 per cent increase in the number of intense tropical cyclones occurring within 500km of Christmas Island by 2030.

Cocos (Keeling) Islands is currently affected by high tides and swells, strong currents and cyclonic storm surges. Rising sea levels already affect areas of Cocos (Keeling) Islands. The islands are in a dynamic environment with some islands gaining and others losing land mass. However, human settlement, the environment and biodiversity and the small eco-tourism industry may be impacted by climate change. Christmas Island is less vulnerable to the impacts of rising sea levels.

The risk assessment suggests two approaches for addressing the predicted vulnerabilities in the IOT. The first through long term planning for the development and redevelopment of infrastructure and land use, and the second through community led adaptation projects and an increase in the community's capacity for resilience.

Territories Division has developed a Climate Change Adaptation Strategy for the IOT which responds to the recommendations in the risk assessment. The strategy aims to build resilience within the communities and to help them adapt to the risks and vulnerabilities associated with climate change.

The strategy comprises of four elements:

- Information and Education – update the risk assessment every two years to ensure information is current, and create an education program to assist in establishing a clear understanding of the climate change risks and vulnerabilities within community groups and stakeholders;



- Future Planning – ensure that climate change adaptation is on the agenda of all future planning activities, in particular Health and Emergency Management Plans and infrastructure development;
- Communication Plan – develop an internal and an external communication plan to assist the successful delivery of the education program and enable communications between the Department, stakeholders and community groups; and
- Community Action Plan – develop in consultation with the communities, a community action plan that reflects the communities' ideas and priorities for addressing the climate change risks and vulnerabilities.

The priorities for the implementation of this strategy are:

- Promoting the strategy to all key stakeholders;
- Developing the communication plan;
- Establishing the community action plan; and
- Updating the risk assessment (due June 2012).

These four priorities will entail ongoing partnerships and collaboration with the Christmas Island and Cocos (Keeling) Islands communities. It is anticipated that the development of strong partnerships through this process will also support other Government initiatives.

The strategy will be circulated for comment to the IOT communities for comment prior finalising before the end of this year.

### **Cocos (Keeling) Islands Community Centre / Cyclone Shelter**

In May 2008, the Shire of Cocos (Keeling) Islands wrote to the Minister for Home Affairs seeking support for the development of a Community and Recreation Centre on West Island. This project was agreed by the Minister and is supported by the community. One of the key recommendations from stakeholder consultations is to have the community centre also be available as an additional cyclone shelter.

While there were earlier procurement difficulties in attracting suitable tenderers, GHD Pty Ltd has now been engaged to prepare full design documentation and a quantity surveyor to estimate the construction costs. Full design documentation is due to be completed in October 2011. Funding for the construction is yet to be confirmed as the costs are not finalised. Further advice will be provided once the cost is determined. The funding originally intended for the project was removed through Operation Sunlight as it was not considered to be committed by the Department of Finance and Deregulation.

### **Desalination plant on Cocos (Keeling) Islands**

The Western Australia Water Corporation (WA Water Corp) believes that the current water supply on Cocos (Keeling) Islands potentially poses a very serious risk to public health. Potable water on Cocos (Keeling) Islands is sourced from shallow freshwater lenses less than two metres below the surface, making the lenses highly vulnerable to contamination and inundation from rising sea levels and storm surges.

WA Water Corp strongly recommends that a permanent desalination plant be installed on Cocos (Keeling) Islands to ensure a safe and reliable water source for the Home Island community. The estimated cost of the desalination unit project is \$7.6 million.

In the interim, on advice from Water Corp, the Department is costing a UV filter system which, if affordable within current Territories budget allocation, could be installed to increase barriers to contamination. However, this is not a long term solution.

It is proposed that both the above infrastructure projects be considered in the 2012-13 Budget process, although the lack of offsetting savings is a constraint. The Department is investigating alternative funding from other sources aligned with climate change initiatives to inform this process.



**Australian Government**

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**Department of Regional Australia,  
Regional Development and Local Government**

# **INDIAN OCEAN TERRITORIES CLIMATE CHANGE ADAPTATION STRATEGY**

**September 2011**



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## **Introduction**

The Indian Ocean Territories Climate Change Adaptation Strategy (the strategy) is for the Department of Regional Australia, Regional Development and Local Government, the Shire of Christmas Island, the Shire of Cocos (Keeling) Islands and Regional Development Australia Midwest Gascoyne.

The purpose of the strategy is to establish resilience within the Indian Ocean Territories (IOT) communities to adapt to the risks and vulnerabilities of climate change.

The strategy has been developed to respond to all of the recommendations from the IOT Climate Change Risk Assessment (the risk assessment), and to address the key findings in a holistic manner. The strategy is comprised of four elements; each of the elements respond to the risks and vulnerabilities identified in the risk assessment and aims at building an understanding of climate change issues within the local community.

The strategy is designed to respond to the recommendations of the current and future risk assessments. Each element can be refined as future updated scientific predictions become available and evolve throughout the life span of the strategy. Modifying particular elements of the strategy allows the primary function to maintain focus on the bigger issue of establishing resilience within the community to the vulnerabilities and risks associated with climate change.

## **The Indian Ocean Territories Climate Change Risk Assessment**

In March 2008, the Territories Division of the Department commissioned Maunsell (now AECOM) to undertake a risk assessment of the impacts of climate change on the Indian Ocean Territories of Christmas Island (CI) and the Cocos (Keeling) Islands (CKI). The risk assessment was revised in June 2010 to incorporate the latest climate change modelling figures. While the predictions for the impact of climate change altered slightly, the six recommendations from the first report were unchanged in the revised version.

The risk assessment suggests two approaches for addressing the predicted vulnerabilities identified by the risk assessment. The first through long term planning for the development and redevelopment of infrastructure and land use, and the second through community led adaptation projects and an increase in the community's capacity for resilience.

It is important to note that the risk assessment does not recommend the immediate development of infrastructure such as sea walls, or the relocation of existing infrastructure. The report recommends that infrastructure issues such as long term viability and exposure to climate change risks should be addressed towards the end of the lifecycle of the physical structure.

The approach adopted in this strategy allows for technical adaptation options to be implemented for some specific sites with specific adaptation requirements and eventually the development of sector specific adaptation that will focus on sustainability and viability. It offers the opportunity to develop tailored adaptation projects combining soft and hard adaptation actions.

Section 47C

## Section 47C

### **Adaptation to the Risks**

#### Section 47C

An outcome from such a plan will be an understanding of climate change within the IOT communities that will enable them to set priorities and to lead programs and projects that address the vulnerabilities identified in the risk assessment.

Some of the key findings and recommendations can be addressed through planning guidelines and other legislative arrangements relating to the development of infrastructure for the IOT. This key area of adaptation has commenced by building climate change risks into infrastructure work being undertaken at local and Commonwealth government levels.

A community focused adaptation plan will be developed in partnership with the IOT communities and using specialist advice from Australian and Western Australian government agencies.

### **The Four Elements of the Strategy**

#### **1. Information and Education**

Information and education are the key tools for establishing a clear understanding of the risks and vulnerabilities within community groups and stakeholders. The strategy is dependent on having up to date information available on all aspects of climate change. To meet this need the IOT Climate Change Risk Assessment will be updated every two years to ensure the elements of the strategy remain current and effective.

#### Section 47C

It is also important to gather information from the community and from stakeholder groups on the changes they see in their environment. During initial discussions with some community groups, changes to the shoreline and fish stocks have been mentioned. Information is spread across a variety of agencies and interest groups, and is not centralised for ease of use by the community or agencies responsible for similar but separate bodies of work.

Social media outlets could be used to inform the communities, and to capture information about marine life, birds, animals and plants on the IOT. Locals and visitors would have the opportunity to upload images and comments about the IOT, documenting the environment as seen by them. This information could then be used by the scientists conducting the risk assessments for the purpose of seeing changes at a micro level.

Education is essential for gaining the support of the local communities and ensuring they are able to understand the information contained in the risk assessments. Such knowledge will assist the community in its response to the risk and vulnerabilities and assist with sound decision making when setting priorities for their own action plans.

The Western Australian Department of Education, Department of Western Australia Fisheries and Parks Australia all have education programs available for community groups and schools at very little cost that will assist in delivering this element of the strategy. The Department of Regional Australia has current Service Delivery Agreements with all three agencies which can be leveraged for this purpose.

## **2. Future Planning**

The success of an adaptation strategy relies on the inclusion and consideration of climate change risks in future planning of all types. Climate change impacts and vulnerabilities must be on the agenda when future planning activities are undertaken, particularly for long term projects, the development of infrastructure and decisions on appropriate land use.

Future planning will require a program that educates decision makers so that the risk assessment is considered for all future planning projects. Decision makers will benefit from an education program that explains the contents of the risk assessment and its key findings and recommendations. The emphasis will be on establishing an understanding of the risks and keeping the decision makers informed with updated reports every two years, and holding information sessions to discuss the report as soon after its release as possible.

Some future planning activities may include:

- **Health and Emergency Management**

The IOT have advanced Emergency Management plans focusing on their vulnerabilities to extreme weather events and an increased prevalence of tropical diseases.

- **Managing Risks to infrastructure through Regulation and Legislation**

Currently there are a number of administrative processes and legal instruments available to regulate development, re-development and refurbishment in the IOTs.

Western Australian legislation, as well as Commonwealth legislation and ordinances, are applicable to the IOT. Some legal instruments that may be applicable in the context of climate change are listed at **Attachment A**. Each project/situation will have unique legal requirements, and the list is not exhaustive.

Legislation and ordinances provide a practical and legal tool for the consideration of the risks and vulnerabilities, but social and economic planning may not be as easily regulated as physical infrastructure. It is therefore necessary to have the risk assessment recommendations considered and, if necessary, built into criteria for projects, programs, grants and community services and facilities.

### **3. Communication Plan**

A communication plan will be established to assist the successful delivery of the education program developed for element one of the strategy. The first part of the plan will be an internal communication plan for use within the Department and with stakeholders who have a direct working relationship with the Department.

The internal communication plan will be managed by Strategic Policy and Projects section and will be updated regularly to ensure opportunities to have climate change issues on relevant agendas are not missed. The plan will be circulated to all stakeholders to establish and maintain awareness of the strategy. The plan will be a living document that all internal stakeholders can contribute to at any given time.

The second part of the communication plan will be an external plan. The external plan will be used for communication with community groups, and stakeholders that do not have a direct working relationship with the Department.

To attract and encourage local community engagement, information must be shared with the community. The external plan will enable two way communications between the Department and community groups. The plan will include ways of identifying what needs to be communicated, and to whom, when and how the communication will occur.

### **4. Community Action Plan**

The community action plan will be reflective of the community's ideas and priorities for addressing the risks and vulnerabilities presented by climate change.

The communities and landscapes of CI and CKI are vastly different and will therefore require separate action plans and activities. It is important to note the most significant risks and vulnerabilities identified in the risk assessment will affect CKI. Consequently, the scale of the community action plan for CKI will be greater than the community action plan for CI.

The action plan activities will have guiding principles that must be met to receive support from the climate change project budget. All projects must:

- be deliverable and maintainable at a local level
- be economically and environmentally sustainable/beneficial
- have scientific merit
- be clearly linked to the risk assessment recommendations
- be costed at a level that is consistent with community funding levels
- contain a timeframe for implementation and completion as well as for ongoing maintenance/long-term management
- have outcome measurements delivered in regular reporting
- maximise community engagement

Community engagement in this element of the adaptation strategy is critical to ensure projects are given the best possible chance of delivering benefits into the future; for example during consultation with the Cocos Malay community, suggestions were made to replant trees along the shoreline to reduce erosion. While this is a great idea and certainly affordable, it will not deliver long-term outcomes unless someone accepts responsibility for the trees once they are planted to ensure they survive. To address these concerns, the Climate Adaptation National Research Flagship, a division of the Commonwealth Scientific Industrial Research Organisation (CSIRO), will provide advice and guidance on the appropriateness, effectiveness and viability of each project. CSIRO provided the science used in the current risk assessment and have a long association with the IOT.

The Strategic Policy and Projects Section's 2011-12 draft administered budget has \$300,000 allocated for IOT climate change adaptation. Projects from the community action plan will be funded through this allocation.

## **The Adaptation Strategy Implementation Plan**

The strategy will be implemented by Strategic Policy and Project section based in Canberra. Work can commence on all elements of the strategy once approval has been granted. All four elements of the strategy can be developed within a reasonably short period of time.

### **Actions**

1. **Develop the Communication Plan** - The plan will be used to educate planners and decision makers on the risks and vulnerabilities of climate change to ensure that they are considered when planning future activities, particularly infrastructure development and health and emergency management. The plan will be a live document which can be updated as required but will also be reviewed every two years after receiving the updated risk assessment report.
2. **Establish the Community Action Plans** – The action plans will be developed in consultation with the communities and therefore should, as much as practicable, reflect their ideas and priorities for addressing the risks and vulnerabilities presented by climate change. Projects within the action plan must be deliverable at the local level and maximise community engagement. The community action plan will be a live document and projects can be added to it as required.

The plan will include the following:

- a list of projects to be implemented
  - a timeline for delivery of milestones
  - lessons learned and transition document templates
  - measurement tools and reporting tools for project outcomes.
3. **Update the Climate Change Risk Assessment report** - To ensure that the elements of the strategy remain current and to provide a history of the climate change risks and vulnerabilities for the IOT, the risk assessment report will be updated every two years. AECOM developed the risk assessment report for the Department in 2008 and it was updated in 2010. The Department will be seeking approval to direct source AECOM to provide the next risk assessment update due in June 2012.

## Priorities

The priorities for the implementation of this strategy are:

1. Promoting the strategy to all key stakeholders
2. Developing the communication plan
3. Establishing the community action plan
4. Updating the risk assessment

## Timeline

Date	Task
<b>September 2011</b>	Seek Division Head approval for the strategy  Provide an update to the Minister for Regional Australia, Regional Development and Local Government on the strategy  Commence development of communication plans
<b>October 2011</b>	Seek comments on communication plans from all key stakeholders  Formalise agreement with CSIRO to provide advice and guidance on community action plan projects
<b>November 2011</b>	Commence development of the community action plan's project criteria – work with CSIRO to suggest projects to give the communities ideas for projects to be included in the plan.
<b>November / December 2011</b>	Promote the idea of the community action plan to communities and work with them to come up with projects ideas.
<b>January 2012</b>	Develop request for quote documentation for updating risk assessment and presenting findings to stakeholders and the communities
<b>February 2012</b>	Finalise contract with AECOM Australia to update risk assessment
<b>March 2012</b>	Follow up community action plan projects
<b>April 2012</b>	Seek funding for the next financial year
<b>May 2012</b>	Review implementation of strategy  Receive draft risk assessment
<b>June 2012</b>	Report review of strategy implementation to the community  AECOM to present updated risk assessment to stakeholders and communities



## Climate Change Related Laws Applicable to Christmas Island and Cocos (Keeling) Islands

### **Fisheries**

- FISH RESOURCES MANAGEMENT ACT 1994
- FISHERIES ADJUSTMENT SCHEMES ACT 1987

### **Water**

- WASTE AVOIDANCE AND RESOURCE RECOVERY ACT 2007
- WASTE AVOIDANCE AND RESOURCE RECOVERY LEVY ACT 2007
- WATER AGENCIES (POWERS) ACT 1984
- WATER BOARDS ACT 1904
- WATER CORPORATION ACT 1995
- WATER EFFICIENCY LABELLING AND STANDARDS ACT 2006
- WATER RESOURCES LEGISLATION AMENDMENT ACT 2007
- WATER SERVICES LICENSING ACT 1995
- WATERWAYS CONSERVATION ACT 1976
- Utilities and Services Ordinance 1996 (CI)
- Utilities and Services Ordinance 1996 (CKI)

### **Building/Infrastructure**

- BUILDING REGULATIONS 1989

### **Environment**

- CONSERVATION AND LAND MANAGEMENT ACT 1984
- ENVIRONMENTAL PROTECTION ACT 1986
- ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

### **Mining**

- MINING ACT 1978

# DEPARTMENT OF INFRASTRUCTURE AND TRANSPORT

<b>FOR: The Hon Anthony Albanese MP</b> cc: Secretary Deputy Secretary O'Connell	<b>eWorks Number:</b> <b>05948-2011</b>	<b>For Information by:</b> 19 December 2011
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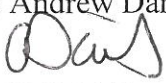
**SUBJECT: Release of Report - Role of regulation in facilitating or constraining adaptation to climate change for Australian Infrastructure.**

**Recommendation: That you:**

1. **NOTE** the Department's comments on the report titled "Role of regulation in facilitating or constraining adaptation to climate change for Australian Infrastructure" produced by the Department of Climate Change and Energy Efficiency (DCCEE); and
2. **DISCUSS** with Minister Combet any implementation and funding implications prior to agreeing to a joint media release.

**Key Issues:**

3. On 29 November 2011 the Department of Climate Change and Energy Efficiency (DCCEE) advised the Department that the Hon Greg Combet AM MP, Minister for Climate Change and Energy Efficiency intends seeking a joint Ministers' release of their report titled "Role of regulation in facilitating or constraining adaptation to climate change for Australian Infrastructure" (the Report).
4. The Report contains an examination of the regulatory frameworks affecting some of Australia's most important infrastructure to determine the extent to which these frameworks constitute barriers to adaptation or facilitate effective adaptation to climate change.
5. It specifically focuses on regulatory frameworks affecting the built environment, particularly land use planning, environmental assessment and building standards. It also addresses the regulation of pricing, performance and reliability of essential services provided by physical infrastructure, particularly, electricity, water, transport, communications and waste. The Report notes that regulatory responses to climate change will need to address particular risks that arise in relation to the various types of infrastructure and associated services.
6. The Report's findings have practical implementation issues and funding implications for the Department in terms of the development of policy and regulatory frameworks for new infrastructure and the development of core principles that underpin regulatory responses, including ensuring equitable distribution amongst all parties bearing direct and indirect impact of regulatory responses.
7. The Report also recommends, amongst other things, that the federal government provide leadership in amending regulatory frameworks, that state and territory governments are best placed to modify existing regulatory regimes and policy frameworks whilst ensuring consistency with national frameworks, and that local government is best place to implement national and state/territory policies. The report also recommends consideration be given to establishing a national body, with membership appointed by all tiers of governments, to assist governments with implementation.
8. The Department agrees that the establishment of a national body may provide an effective mechanism to review and develop policy and regulatory frameworks required to address this issue.
9. The Department has some concerns relating to infrastructure procurement (discount rate assumptions), Commonwealth funding implications for the inclusion of climate change adaptation for new infrastructure and notable support from jurisdictions, Aviation regulatory changes for Master Plans and potential costs for industry. General comments against the Report are at [Attachment A](#). A copy of the Report is at [Attachment B](#).
10. The DCCEE intend providing the findings of the Report into the Productivity Commission's inquiry into Barriers to Effective Climate Change Adaptation, announced by Ministers Combet and Shorten on 20 September 2011.

Division: Nation Building – Infrastructure Written by: <b>Section 22</b> Contact No. [REDACTED]	(1) NOTED
Approved by: Andrew Danks Signature:  16/12/11 Contact No.: 6274 6460	ANTHONY ALBANESE ..... / ..... / .....



**Sensitivity:** The Department was initially consulted by DCCEE at the early stage of their study, however subsequent to that, it has not had any input to the report or been consulted by DCCEE on draft reports.

### **Background:**

The Report notes that a new approach is needed to ensure that effective responses to climate change are embedded in relevant regulatory frameworks so that our infrastructure and associated services are resilient to climate change as we move into the future.

The Report notes that such a framework will need to address the risks that climate change poses for such infrastructure, not just in the short to medium term, but also for the duration of the life of the infrastructure. Additionally, the framework will need to address the considerable uncertainties associated with climate change, including the location, nature, timing and severity of climate change impacts or events that may occur.

The paper proposes a review and amendment of regulatory frameworks to ensure that infrastructure and associated services are capable of responding to the impact of climate change entails a significant reform agenda. It concludes that given that most of the pre-existing regulatory frameworks affecting infrastructure and associated services have already been developed by the state and territory governments, this level of government would be best placed to modify existing regimes. Further, local governments are closer to the general public than the other levels of government. Therefore, councils would be best placed to implement national and state/territory policies aimed at addressing the impact of climate change at a local level. It however notes that the exercise of local government powers are also governed by principles, policies, guidelines that may be adopted by the relevant state or territory government

The Report also notes that the federal government can help to set and drive change through the Council of Australian Governments. It adds that the federal government can also use its involvement in national sectoral bodies (ie Infrastructure Australia) to promote and/or co-ordinate policy and legislative change, including in the area of climate change.

### **Consultation:**

Earlier this year, DCCEE commissioned Maddocks Solicitors to undertake an assessment of regulatory constraints and barriers to climate change adaptation of major infrastructure. Maddocks gave a presentation to representatives from relevant Commonwealth agencies and other interested organisations in mid September. Maddocks, in collaboration with the Monash Centre for Regulatory Studies, held a further seminar about the report's findings in November to participants such as CEOs from local government, economic and other regulators and public infrastructure operators.

### **Attachments:**

Attachment A – Departmental comments to the Report.

Attachment B – the DCCEE report titled “Role of regulation in facilitating or constraining adaptation to climate change for Australian Infrastructure”

**Department of Infrastructure and Transport - General Comments to the report “The Role of Regulation in Facilitating or Constraining Adaptation to Climate Change for Australian Infrastructure” by the Department of Climate Change and Energy Efficiency.**

General Comments

- The report would benefit by establishing the objectives it is trying to achieve before it looks at issues and solutions. Stating objectives clearly would provide a framework for discussion of issues such as the appropriate discount rate which in our view would seem to be a foundational principle of any legislation and regulation concerning infrastructure and climate change issues.
- We would also recommend a discussion of examples of success models of regulatory change to improve adaptation to climate change for infrastructure. For example, what has worked overseas in other similar jurisdictions? How could similar regulatory reforms be implemented in Australia?
- Whilst the report talks of evaluation of implementation measures, we feel its audience would benefit from a discussion of pilot and test cases and phasing of the implementation of measures, particularly in cases where this type of implementation has not been done before.
- Throughout all the transport sections, the focus seems to be on the regulations explicitly relating to final construction and operation of systems. It may be worth undertaking further investigation into regulations on related input industries, e.g. regulation on steel and concrete production and import.

BITRE

- Infrastructure Procurement - The report finds that the principles embodied in the National PPP Guidelines ‘are flexible and broad enough to allow climate change to be considered in the context of procurement decisions about public infrastructure. More specifically, the principles allow a response to climate change to be developed that is tailored to the particular infrastructure that is being procured’ (p.87).
- Infrastructure Procurement - The report also suggests that ‘the Public Sector Comparator and discount rates under national PPP Guidelines are not sufficiently focussed on the full life of the infrastructure asset’ (p. 138).
- Infrastructure Procurement - The detailed discussion of discount rates (p. 88) does not make it clear how the discount rate assumptions should be changed, but any change in the guidelines that had the effect of reducing assumed discount rates used would increase the weight given to impacts of climate change. We are undertaking work for NBII on discount rates which will be recommending use of standard rates of 4% and 7% - which is significantly higher than those typically used in climate change analysis (usually 1 or 2 %).
- Capital City planning systems - The report states that the national criteria for capital city planning systems—which include addressing climate change adaptation—‘provide a significant opportunity for the federal government to ensure that climate change adaptation is adequately addressed for new infrastructure. However, successful implementation will depend upon co-operation by the state and territory governments and the amount of federal funding available’ (p.100).

Aviation

- Chapter 2 - Overall role and approach to regulation –Regulatory framework for leased federal airports. The text is a bit misleading in that it states that the Environment Protection regulations regulate noise and while this is technically correct it does not mean taxiing, take off or landing or flight. It is only noise generated at the airport (including ground running).
- Chapter 3 - Assessment of regulatory frameworks – It recommends that Master Plans (MP) in the future should address climate change. **This would require regulatory change.** They also recommend reviewing MPs more frequently than 5 years. We don’t see that this would be

viable or reasonable due to the costs associated plus one would think that a 5 year timeframe would allow ALCs to reasonably assess Climate Change risks and mitigation strategies.

- The Report refers to the Environment Strategy as a separate document. This is now part of the Master Plan and should be recognised as such. Again they suggest reviewing earlier than 5 years. Our advice is as above for the MP process. The Annual Environment Report is also another mechanism that would help identify the need to amend activities in the MP that indicate CC is not being effectively addressed with current actions.

### Major Cities

- We would recommend more consideration be given in the report to the response to natural disasters associated with climate change. If a piece of infrastructure is damaged by a natural disaster, there seems to often be a ‘knee jerk reaction’ of rebuilding infrastructure as it was in the same location. Re-assessment before rebuilding and replacing infrastructure is critical to ensure that new infrastructure is designed, constructed and maintained in a way that makes it less susceptible to the risks of climate change in the future.
- One of the objectives of the National Urban Policy is to increase resilience to climate change, emergency events and natural hazards through mitigation and adaptation measures and one of the principles is to increase resilience to emergency events and natural hazards. Many of the reforms in the report are consistent with the National Urban Policy and could possibly further the implementation of this objective and principle.

### Surface Transport

- The Report notes that regulatory fragmentation is a significant barrier to effective Chapter 4 - National Sectoral Bodies adaptation to climate change (p86), however, it does not include up to date information on the COAG regulatory reforms to establish single national regulator’s for the Maritime, Rail and Transport industries. Once established from 2013, these regulators will be better positioned to introduce such changes on a national scale. For example, the National Rail Safety Regulator has primarily been established to harmonise Australia’s rail safety and accreditation processes. In the future this could potentially be used to investigate and assess climate change risks and mitigation strategies as they apply to rail safety concerns.
- The National Ports Strategy (p36) and the National Freight Strategy that is currently being developed (p82) are mentioned and should be seen as providing an opportunity to address impacts of climate change from a national perspective.

### Rail

- Chapter 2 - Rail industry and regulatory frameworks – Paragraphs 2.103 provide a misleading perception that rail is more heavily publically owned and operated than it actually is, and/or that the majority of the rail infrastructure is managed through government owned corporations. Whilst broadly correct, this perception hides the width and complexity of rail ownership, management and operations arrangements that currently operate in Australia. I would contend that this complexity is one of the major challenges in using regulation to influence behaviour in the rail sector.
- Chapter 2 – Rail infrastructure Standards - in context of the Report it does not recognise that there is no national level body or set of laws specifically responsible for setting rail infrastructure standards, beyond rail safety and state environmental planning institutions.
- Chapter 3 - Aspects which facilitate adaptation to climate change – rail - it is worth noting the COAG commitment to establish a National Rail Safety Regulator as a mechanism for possible further regulatory control.
- Chapter 4 - Infrastructure Works - Section 4.18 (page 100) discusses the federal government’s responsibility in implementation of infrastructure works. Further to the comments on the BBC program here, it is worth noting that the Commonwealth’s significant ongoing provision of tied grant funding to state governments for infrastructure projects, particularly through the Nation

Building Program and the Building Australia Fund (both many times larger than the BBC). This role provides the Commonwealth with a level of decision making power over the type and specifications of the transport infrastructure delivered by Governments, which in turn is used by the Commonwealth to shape transport infrastructure delivery around national objectives.

- As a separate issue, these investments are often targeted around overcoming barriers to the productivity of our national transport links. Where climate change exacerbates existing barriers to productivity (or creates risks of future barriers), this investment is already being used mitigate the impacts of climate change. For example, under the report's Table of Impacts of Climate Change on Transport, (pg 13), increased rail buckling events due to climate change is considered a high risk by 2070. However, the Commonwealth has invested in a number of concrete sleeper install programs on the interstate line designed to overcome this issue – but under the policy goal of productivity improvement rather than the explicitly goal of climate change mitigation.