

**Emma Bowd**

22 June 2009

Mr John Carter, Committee Secretary  
Senate Standing Committee on Education,  
Employment and Workplace Relations  
PO Box 6100,  
Parliament House  
Canberra ACT 2600

Dear Committee Secretary,

Thank you for the opportunity to make a submission into this important inquiry on “The Effects of Climate Change on Training and Employment Needs”. The attached submission has been prepared by Emma Bowd on behalf of The Wilderness Society Newcastle; the regional office of the environment advocacy organisation.

The Wilderness Society (TWS) was established in 1976 as a national, community based group committed to the protection of the environment. The basic principle behind the organisation is to ensure that our nation’s biodiversity is unharmed and its natural processes remain.

In regards to this inquiry The Wilderness Society Newcastle feels that there are many Governmental and institutional changes needed to help mitigate and adapt to the effects of climate change. This submission will concentrate on both of the terms of reference that were highlighted in this inquiry;

- The ability of universities and other research and training institutions to meet current and future demand for climate change professionals; and;
- Measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance.

We look forward to the findings of this review.

Yours sincerely,

Emma Bowd

**Submission:**

***The Effects of Climate Change  
on Training and Employment  
Needs***

**By Emma Bowd  
on behalf of The Wilderness Society  
Newcastle**

Submitted June 22<sup>nd</sup>, 2009

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## **1. Executive Summary**

Climate Change is one of the most serious and significant issues facing the world today. The challenge it poses is immense and has a wide-ranging impact on numerous aspects of life. Therefore much attention needs to be given to adapting to and lessening the effects of climate change.

The key argument of this submission is that more needs be done in the areas of research and training in order for Australia to properly meet the challenge of climate change. The Wilderness Society Newcastle feels that improvements in these areas will develop Australia's current and future capacity to deal with the issue.

This report addresses both of the terms of reference of the inquiry relating to the role universities and other research and training institutions play in producing relevant climate change professionals, and the other measures for increasing understanding on climate change in the Asia-Pacific Region.

The main recommendations by The Wilderness Society Newcastle are;

- *That universities offer multi-disciplinary courses and programs which cover the different aspects of climate change adaptation and mitigation.*
- *That universities and research institutions participate in multi-faceted, cross-disciplinary research.*
- *That universities and other training institutions run short courses on climate change for professionals.*
- *That research needs to be increased at universities and other research and training institutions.*
- *That specific research needs to be increased in the area of the psychology of climate change.*
- *That there needs to be greater integration between universities and research institutions at both a domestic and international level.*

## **2. Introduction**

The Wilderness Society Newcastle is the Novocastrian campaign centre for the national environmental protection organisation The Wilderness Society (TWS). Along with the national body, the Newcastle office operates with the aim of promoting conservation issues in the wider community.

Over the years TWS has been heavily involved in advocating for urgent action towards climate change. They have had a major, ongoing campaign on the issue.

The Wilderness Society Newcastle is committed to making sure that climate change mitigation and adaptation occurs. The organisation believes that changes can and need to be made in training and research to properly develop Australia's capacity for dealing with this serious global challenge.

This submission addresses both terms of reference highlighted in the inquiry;

- The ability of universities and other research and training institutions to meet current and future demand for climate change professionals; and;
- Measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance.

The Wilderness Society Newcastle has had a continuing involvement with public policy concerning climate change. As part of TWS they have mainly participated in lobbying activities which advocate the protection of natural environments and ending damaging practices like land clearing and logging.

The organisation is interested in commenting on this particular inquiry because they also recognise how crucial research, training and education will be for climate change adaptation and mitigation. We feel that universities and other research and training

institutions play an essential role in producing the people needed to deal with climate change.

This submission will emphasise that improvements and changes in research and training are desperately needed if Australia is to effectively manage the climate change challenge. It is a crucial time and unless we meet the new training and employment needs required Australia will fall behind.

The report will assess the current state of Australian research and training in climate change. It will also make suggestions for expansion in these areas, such as increasing research on climate change and introducing university courses that cover all the different aspects of the issue.

### **3. Background**

The Wilderness Society was formed in 1976 as an organisation committed to the protection of our environment. Their work has “a strong focus on natural environments and the role they play in keeping our world safe” (The Wilderness Society Australia Inc n.d.).

TWS is a not-for-profit, non government group that is currently involved in numerous campaigns. Some of these include being ‘Nuclear Free’, stopping ‘Land Clearing’, protecting ‘Forests’ and preventing the development of ‘Gunns’ Pulp Mill’ (The Wilderness Society Australia Inc n.d.).

More particularly, The Wilderness Society Newcastle presently runs campaigns for the greater protection of the NSW marine environment and to ‘Save the Williams River’.

One of the major campaigns the whole national organisation, including the Newcastle office, is involved with is on ‘Climate Change’. The nationwide effort from the organisation towards the issue reflects the nationwide problem that climate change poses.

In regards to this campaign, the main focus of TWS has been on advocating the need to maintain and protect vegetation like forests and bushlands because they house unique wildlife and actually guard against climate change. The group’s main message is that if we save nature we can mitigate climate change.

TWS supports the Green Carbon concept which shows how natural forests can store large amounts of carbon and thus help reduce global warming. Research from Brendan Mackey of the Australian National University (ANU) found that if forests are “protected from logging, and allowed to reach their maximum carbon-carrying capacity, they could store up to 10 billion tonnes of carbon safely out of the atmosphere” (The Wilderness Society Australia Inc 2008).

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Beneficial solutions for climate change adaptation and mitigation, like the Green Carbon concept, can be found and built on if we expand education, training and research in Australia.

Australia is falling behind and there is so much room for development in creating green jobs and using renewable energy technologies. Our country should be following world leaders like Spain and Germany. In Spain wind energy supplies 11% of the total electricity used and in Germany 250,000 people are employed in the renewable energy sector (Greenpeace n.d.).

If Australia is to develop in its climate change mitigation and adaptation it is absolutely essential that numerous changes are made now in research and training.



## **4. The ability of universities and other research and training institutions to meet current and future demand for climate change professionals**

### **4.1 Climate change courses/programs at universities**

There are numerous courses and programs related to climate change already offered at Australian universities. The existence of these courses is a good start but to adequately manage climate change more programs across more disciplines will have to be introduced.

Currently The University of the Sunshine Coast offers a Master of Climate Change Adaptation which focuses on theoretical understanding of the issue and the development of environmental management skills (Walsh 2009).

ANU has recently begun a Master of Climate Change which allows a wide-ranging understanding of the aspects involved in the complex climate challenge (The Australian National University 2009).

The University of Melbourne has an 'Introduction to Climate Change' course as a breadth unit for many undergraduate degrees. The unit offers a broad look at the wide-ranging aspects to the problem (Scott 2007). There are also a number of other climate change-focused units and courses at undergraduate and postgraduate level being provided at universities across Australia.

Climate change impacts many disciplines and therefore climate change professionals will have to come from these numerous disciplines if we are to limit the effects and adapt to the future of climate change. Beyond the obvious areas like science and mathematics, climate change experts will need to come from politics/policy studies, economics, business, agriculture, architecture, engineering, law, tourism, education and many more disciplines.

As Adams (2009) says “climate change will affect the nature of the work done by scientists, health professionals, engineers, lawyers, business managers, accountants, tourism operators and social scientists alike.”

Therefore universities have the responsibility to train people for climate change in and across these disciplines. An inter-disciplinary approach needs to be adopted at universities to reflect climate change as the multi-faceted issue it is. Courses and programs will have to deal with the wide-ranging aspects of mitigating and adapting to climate change. To provide these courses there will need to be more resources, academics and therefore government funding.

As most professions and disciplines will be affected by global warming and therefore nearly all the workforce will have to be climate change professionals, we recommend that climate change units and elements be introduced in most undergraduate degrees. This prepares the students on what influence climate change will have on their future work.

Additionally we feel that there needs to be cross-disciplinary postgraduate degrees focused on climate change. Students could complete an undergraduate degree on a certain discipline e.g. law or engineering, and then at postgraduate level specialise in how it interacts with climate change.

By making these kind of changes at universities we would be creating a future workforce who understand the implications of climate change on their professions and therefore will be able to adapt to and mitigate the effects. Likewise we would have climate change professionals across all affected areas and would achieve far better management of the climate problem.

<p><u>Recommendation:</u> That universities offer multi-disciplinary courses and programs which cover the different aspects of climate change adaptation and mitigation.</p>
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#### **4.2 Multi-disciplinary research**

Similar to the need for multi-disciplinary education is the need for multi-disciplinary research. Universities and other research and training institutions need to conduct research on all aspects of climate change to get a complete understanding of the complex challenge. There is also many areas to climate change adaptation and mitigation so Australia should not be limited to just looking at the issue from a science perspective.

As ANU Vice-Chancellor Professor Ian Chubb said that “there is no simple solution to this problem. It is one that reaches across the boundaries of science, social sciences, health, economics, law, philosophy and more” (The Australian National University 2008).

Research across disciplines will enable more complete strategies for dealing with this environmental problem. It will ensure our nation better deals with climate change. For this kind of research approach to occur the Government needs to provide more financial assistance to more research areas/groups so that they can diversify their work. Additionally universities need to ensure academics are researching climate change from numerous perspectives.

**Recommendation:** That universities and research institutions participate in multi-faceted, cross-disciplinary research.

## **5. Measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance**

### **5.1 Short courses for professionals**

We believe that one way to achieve greater understanding on climate change in the Asia-Pacific region is by providing short courses and other similar educational programs for both current professionals and the wider community.

There is a definite value in universities and other similar institutions offering small yet worthwhile courses for professionals and the public. Universities have the expertise and knowledge on the issue and therefore can play an important and vital role in educating society about what businesses and the general public needs to know and do about lessening and adapting to the effects of climate change.

Short programs will teach professionals and other people about how to be sustainable at work and home. There is also the need for universities and research institutions to organise and host public lectures and events that can also raise awareness and provide knowledge on adaptation and mitigation.

<p><u>Recommendation:</u> That universities and other training institutions run short courses on climate change for professionals.</p>
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### **5.2 Increased research**

The Wilderness Society Newcastle believes that more research will be needed on all aspects of climate change. This is the most obvious way for developing Australia's capacity in the area of climate change.

The Government needs to encourage, support and fund more research on the issue because all research is beneficial and will lead to developments in successfully meeting the climate challenge.

This research will help persuade climate skeptics about the seriousness of the issue and it would provide the information to improve on our management of it. With more proof comes more understanding and therefore climate change is a life long area for research. We will never know enough about the issue so we need to keep going with our research efforts.

We believe if the Government is serious about climate change and developing our national capacity to deal with it then one of the most obvious and beneficial steps is definitely supporting more research in general.

<p><u>Recommendation</u>: That research needs to be increased at universities and other research and training institutions.</p>
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### **5.3 Research on the psychology of climate change**

We suggest that government funding be provided and grants established for looking into the psychology surrounding climate change. This research goes into discovering what motivates humans to stop doing something and change their behaviour.

This is clearly a beneficial area for research because by understanding our human nature we can understand what needs to be done to make people change and practice sustainability.

If we know this kind of information on changing behaviour to be more environmentally friendly and reducing carbon emissions then Australia will be immensely better in regards to climate change mitigation.

Recommendation: That specific research needs to be increased in the area of the psychology of climate change.

#### **5.4 Collaborations between universities and/or research institutions**

We believe that partnerships and collaboration between universities and/or research institutions are essential for building national expertise and expanding our management of the climate change challenge.

Sharing knowledge amongst institutions will ensure that a more complete, cross-disciplinary approach towards climate change is achieved. Progress and solutions will arrive quicker also.

The Government needs to financially assist and encourage the development of hubs for climate change knowledge and research. These hubs would consist of universities and other research and training institutions.

These hubs should exist on a domestic and international level, taking advantage of different regions' and institutions' researchers and resources. The Asia-Pacific region needs a co-ordinated, top level of research institutions where collective discussion and interchange of ideas can occur.

Recommendation: That there needs to be greater integration between universities and research institutions at both a domestic and international level.

## **6. Conclusion**

In conclusion it is essential that changes are made to Australian research and training so that our country can properly fight climate change. Key changes in these areas can broaden and expand our capacity to deal with the major environmental challenge because it will allow for more development in ways to mitigate and adapt to climate change.

How effectively Australia deals with the issue will depend on the skills and knowledge that our workforce possesses. So it is essential that universities and other research and training institutions equip the future workforce with the knowledge and understanding that is needed.

Governments need to support and encourage the changes necessary at these institutions so that Australia can properly develop its climate change capacity. We believe that new education approaches and structures need to be introduced. These will allow for a current and future workforce that, collectively, is knowledgeable on all aspects concerning climate change. Australia will be able to deal with the issue across all the affected areas and professions. Research also needs to become multi-faceted so likewise, we can understand and tackle the global problem across the board.

Increasing research and collaborations between institutions are other crucial areas for change. More information on climate change will always be required and it will provide better understanding of the problem and its solutions.

We hope this submission has been able to communicate that definite changes need to be made in regards to Australia effectively being able to face climate change. The issue will have an unavoidable impact on training and employment needs and therefore there are necessary developments that should be made to improve Australia's capacity in managing the problem.

## **7. Recommendations**

In summary it is important that the Government and its associated institutions initiate the following changes so that Australia can meet the challenge of climate change:

- *That universities offer multi-disciplinary courses and programs which cover the different aspects of climate change adaptation and mitigation.*
- *That universities and research institutions participate in multi-faceted, cross-disciplinary research.*
- *That universities and other training institutions run short courses on climate change for professionals.*
- *That research needs to be increased at universities and other research and training institutions.*
- *That specific research needs to be increased in the area of the psychology of climate change.*
- *That there needs to be greater integration between universities and research institutions at both a domestic and international level.*



## **8. Sources**

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## **Inquiry into the Effects of Climate Change on Training and Employment Needs**

### **Information about the Inquiry**

On 26 June the Senate referred to its Standing Committee on Education, Employment and Workplace Relations an inquiry into the capacity of universities and other research and training institutions to meet current and future demand for climate change professionals, and possible measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance.

The committee has had to further postpone report on this inquiry because of pressure of work resulting from urgent legislation. The Senate has agreed to a motion moved on 11 March 2009 to extend the reporting date till **17 September 2009**.

Accordingly the submission deadline has been extended to **26 June 2009**.

**Source:** [http://www.aph.gov.au/Senate/committee/eet\\_ctte/employ\\_climate/info.htm](http://www.aph.gov.au/Senate/committee/eet_ctte/employ_climate/info.htm)

**Inquiry into the Effects of Climate Change on Training and Employment Needs**

**Terms of Reference**

The committee will inquire into and report on developing Australia's capacity in the area of climate change, with particular reference to:

- a. the ability of universities and other research and training institutions to meet current and future demand for climate change professionals; and
- b. measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance.

**For further information, contact:**

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