Australian Academy of Science

transcript

National Academies and Open Innovation Forum
Academy of Science for Developing Countries General Conference

Tianjin, China
18 September 2012

Professor Suzanne Cory
President, Australian Academy of Science

The role of the Australian Academy of Science in promoting innovation through science policy

---

E&OE

Good afternoon.

It is a great honour to be here in Tianjin amongst such distinguished colleagues and to speak at this forum. My warm thanks to all concerned and in particular to the President of the Chinese Academy of Sciences, Professor Chunli Bai, for his invitation and hospitality.

The focus of this forum is the role of national science academies in fostering science, technology and innovation, both in their own countries and internationally.

Academies represent scientific excellence – and it is excellence, brought about by the contest of ideas, that provides the foundation for innovation. Just as every country is different, innovation strengths and weaknesses differ from country to country. Therefore there is no single solution to fostering national innovation.

I would like to briefly describe some of the issues that our Academy has encountered in endeavouring to promote science and innovation in Australia, and the responses we have made.

I hope you may find that some of this experience may usefully inform your own considerations. In return, I look forward to hearing about your experiences and about any ideas you may have about how our academies may more effectively to advance knowledge-based development and improve the human condition.

Australia currently has a robust economy with a booming resources sector, thanks in no small part to demand from China. Like all nations, however, our economic situation depends on global conditions that are continually fluctuating and we need to be adaptable and resilient. Furthermore, the ongoing development of our communities must occur within the material limits of our nation and the planet.

In our view, as I am sure all of you here will agree, sustainable growth in national wealth and health is dependent on strategic long-term investment in science, engineering and technology.

Wise investments made by successive governments during Australia's short history have created a robust and innovative science and engineering culture in our country. With only 0.3 per cent of the world's population, we produce more than 3 per cent of the world scientific publications. However, past performance is no guarantee for ongoing success and we must constantly strive to improve.

Unlike some of the national academies represented here today, the Australian Academy of Science does not run research institutes, nor do we have any specific obligations to the government. However, as you will see, we do play a significant role in shaping the national science and innovation agenda.

The Australian Academy was established in 1954, modelled on the Royal Society of London. Fellows are elected by their peers on the basis of outstanding achievements in the physical or life sciences. The Academy is located physically in Canberra, the nation's capital. Our lecture theatre and committee rooms are housed in a landmark circular building known as the Shine Dome, with the adjacent administrative block housing a Secretariat of about 30 staff.

In the early years of the Academy's history, there was a high level of cooperation between scientists, engineers and government in Australia. Since that time, however, the increasing pace of social change has made it increasingly difficult to get the ear of government.

As elsewhere, the popular media, professional lobbyists and noisy interest groups now make many claims upon governments, irrespective of their logical or empirical veracity. Over the last fifteen or so years, the Australian Government has gradually responded to the noise and increasingly accommodated such claimants. This has had the unfortunate effect of diminishing government regard for science as its primary source of reliable knowledge – or even as a primary means to address major national challenges.

In response to these recent trends, and to promote the development of national policies that are evidence-based, the Academy has enhanced its efforts in the areas of **science policy** and **public engagement** and it is this aspect of our work that I wish to focus upon today.

Let me first of all outline our work in promoting **science-based public policy**.

There has been, and probably always will be, tension between those who hold power and those who create knowledge. Therefore, to ensure government decisions are fully informed by the best available science, our challenge is to foster better dialogue and mutual understanding between scientists, public servants and politicians.

To ensure that the Academy's independent advice continues to be listened to and understood, we have established a small but highly experienced Science Policy Unit.

Working with the Fellowship, this Unit responds to calls for inputs into government inquiries or reports, identifies emerging issues and prepares position papers.

I'd like to highlight in particular a relatively new approach we have taken: the *Questions and Answers* series. The goal of this series of publications is to help explain important science issues in an easy and accessible manner and address contradictory information in the public arena.

The first, *The Science of Climate Change Questions and Answers*, has been well received by all branches and levels of Australian governments, and by the broader community. It is available on our website and has now been downloaded more 550,000 times. We have also provided a copy to every secondary school in Australia.

We are now about to release a second publication, *The Science of Immunisation*, to help address the community concern and misinformation that surrounds vaccination.

Both these documents are thoroughly researched and compiled by the nation's leading experts, primarily drawn from our Fellowship. With the help of professional writers, they are couched in easy-to-understand language designed to be accessible to people with no background in science.

To gather and disseminate knowledge relevant to policy development, the Academy also holds focussed workshops and conferences. These workshops provide a forum for both experienced and young researchers from a range of scientific backgrounds to think about issues of national importance and bring to bear novel applications of existing science and technology. A recent example that is having ongoing impact is ***Searching the Deep Earth****: The Future of Australian Resource Discovery and Utilisation.*

By these and other strategies, our Academy works hard to provide advice that is independent, frank and fearless and, as appropriate, public or confidential.

It is all very well preparing informed and insightful position papers. But because the Academy is an independent body, there is no obligation on government to listen to our advice, let alone accept it. Whether or not we are heard therefore depends very much upon building relationships and trust, with both politicians and bureaucrats.

The trust between the Academy and government needs to be able to survive ministerial changes, changes of government, and changes of personnel in government departments. Building this trust not only takes considerable personal effort on the part of myself and my colleagues, it requires a time scale that is often longer than the time scale of politics and individual politicians and Presidents!

_____

Let me turn now to my second major theme: **Promoting Science Literacy.**

At the same time as the Academy is building its relationship with government to inform public policy development, we must enhance greater understanding of the relevant science by the general community. In this way tension can be reduced and larger policy steps can be taken.

We do this in a variety of ways.

We've long undertaken direct activities in *science education*, producing textbooks and other curriculum resources and devising training for teachers at all levels – to support quality science education.

Our award-winning primary and high school education programs, **PrimaryConnections** and **Science by Doing,** have been enthusiastically embraced by Australian schools and education specialists.

These are supplemented by:

Nova, a web-based program providing information on scientific issues in the news accompanied by suggested classroom activities. And a series of **interviews with Australian scientists** available as transcripts and DVDs, with teachers' notes.

The Academy has also established a *Communication and Outreach Unit* to ensure that our message is heard in the noisy public policy sphere. This has involved communicating through the traditional news media, and engaging with the new forms of social media such as *Twitter* and *Facebook*.

We also hold regular free public lectures on a variety of topical science issues, attracting a diverse audience both in person and online, as we broadcast these lectures live via our website. We further ensure that our key messages are taken to both the scientific community and the broader public in an annual televised address to the National Press Club.

In 2011 we established the Australian Early- and Mid-Career Researcher Forum, the goal of which is not only to help the career development of our future scientific leaders, but also to expose them to opportunities to contribute to national scientific debate and policy development. This forum currently links 3000 of our brightest and best and is growing rapidly.

The Academy activities I have just described help to ensure that we have a government that *understands* the importance of evidence-based public policy and a well-informed community that can *participate* in informed debate to ensure better decision-making. We've had some significant successes, but not as many as we'd like.

Concluding remarks

There are enormous challenges ahead for all 7 billion of us.

- Water
- Global warming and climate change
- Conservation of the biosphere
- Food security
- Soil fertility
- Population control
- Economic prosperity without inexorable growth

to mention but a few.

These challenges will not be effectively addressed without new ideas and improved scientific understanding.

Everyone in this room understands with great clarity that scientific research and innovation offer the best hope to achieve and maintain sustainable societies.

Therefore our Academies must consistently advocate to our governments that they promote long-term investment in science, technology and innovation and develop public policy that is underpinned by high quality scientific evidence.

But governments cannot act without the support of the people. And too often the wider community is ignorant or even antagonistic to science and innovation.

To us, scientific method should not *need* to be so constantly and basically defended. The reality is that it does. To the majority of people, science is a mystery – and the advancement of technology, driven by science, exacerbates this sentiment.

Therefore our responsibility is considerable and our challenge clear:

In this rapidly changing world, we must ensure that our scientific advice is sound and that it is relevant, accessible and understandable to the community as well to government.

Thank you.