

**REMARKS TO THE GRADUANDS  
BY  
KEN MATTHEWS AO**

**FLINDERS UNIVERSITY GRADUATION CEREMONY  
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First I want to congratulate each and every one of you on your graduation - a tremendous accomplishment which will be life changing for you. Today, all those long days of lectures and long nights of swatting turn out to have been worth it! It is great that your families and friends are here to celebrate with you today. My advice for today is to go hard!

I know that most of you here today are scientists and engineers. I want to talk to you today about the way scientists (and I include engineers in that term) can participate in public policy-making – participate in the many decisions by governments that affect the lives of all of us.

I have been where you are. I started out at university studying Veterinary Science, although I ended up studying economics and public administration. But I never lost my love and respect for science, scientific method, logic, evidence and rationality. These concepts have served me well through a long career in public policy.

These same concepts when applied in public policy have also served Australia well. The problem is that the influence of science concepts is fading in public policy-making. This is a trend we urgently need to turn around.

***My key message to you today is that your country – whether it is Australia or somewhere else - needs more people – more young people – who are prepared to carry their science training into public policy-making processes so that public policy decisions are more evidence based, logical and rational.***

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So let me begin. Today you are leaving a fantastic institution and a close university community, but today you also are joining a wider community and the wider nation. Until today, community and national decisions affecting you have been made by others. Sometimes these decisions may have disappointed or

frustrated you. As scientists, you may, for example, have been frustrated by the apparent lack of science in national decisions about climate change.

If you have been frustrated, you are certainly not alone. All around the world, scientists are worried about the declining influence of science in public debate.

Since the Age of Enlightenment dawned in the late 17<sup>th</sup> century, science has been a prime mover and a respected input in society's debates and in government decision making. But in recent years it seems science and scientists are being left behind. People with science literacy have been less and less influential – sometimes completely absent - in public debates and in government decision-making in Australia. The quality of public policy has fallen as a consequence.

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Who loses when that happens? We all do, that's who. The collective national economy can lose. Our shared environment can lose. Our community's public health can lose. All sorts of socially desirable outcomes from good, rational, knowledge-based public policy can be lost.

So yes, you may have been disappointed by the quality of decision making about public policy issues, but as graduates from today, you now have a choice. You can now step up to the plate and influence those decisions. Our nation, probably every nation, urgently needs more young scientists who are prepared to participate, who are prepared to actively join the national debate.

We need you as young scientists to come to Canberra and join the policy advising processes. We need you to help build science and scientists back into government decisions. There are so many critical national-level public policy issues where good science input is essential but is not being properly heard. Governments make decisions every week about land use approvals, infrastructure projects, plant and animal quarantine, mining approvals, marine parks, fisheries quotas, coal seam gas developments, and so on. Ministers need advisors who can speak up and explain the science in these issues.

But public policy is not only policy making within Canberra, internal to the Government. General community and media debate is no less important and indeed, often determines the eventual decisions by politicians.

Too often we see a small number of the same old grey-haired science worthies struggling to make the case for science and rationality in that community and

media debate. What we really need instead, are articulate, passionate younger scientists like you to step up and make their mark in these debates.

Typically the issues in dispute are decisions for the longer term – decisions which will impact long after the grey heads are gone. When science related issues are being discussed in the community, we really need science, and science-trained younger people to ‘be there’. After all, it’s your future world that the grey heads are planning.

We need more, and better, and younger, communicators about science. We need you to shape the debate towards the excitement and opportunities of science. We need enthusiastic young women and men who can convince the community that science and engineering solve problems - they are not the cause of problems – as growing numbers of people alienated from science seem to think. We need you to lift and carry the message that science and engineering are the great historical forces for nation building and improvement of global standards of living and our way of life. We need you to remind people that it is science that has lifted billions of people around the world out of hunger, sickness, poverty, ignorance and misery.

We particularly need science communicators with a human face and compassion – young scientists who have or want families themselves and care every bit as deeply about the poor, the less privileged, the environment, the future of Australia, as do some of the non-science or anti-science pressure groups. These pressure groups do not have a monopoly over compassion, conscience and a love of their country.

Now you have graduated, Australia needs people like you - who can stand up for logic, rationality, evidence and knowledge in the national public debate, but do it with humanity, in a way which wins the sympathy and support of others. We need you to speak up in a way that engenders respect for science and scientists, not suspicion. We need to re-build community support for scientists so they again become "trusted independent advisors" to governments and the community at large.

Of course, when you do find yourself in these advising roles in the future, it is vital that, consistent with the great principles of almost 500 years of science tradition, you deliver your advice with rigour and intellectual honesty. It is vital to avoid exaggeration and unjustified alarmism. It is vital to base your advice on evidence and knowledge, not ideology. It is vital to avoid the ‘hired gun’ or

‘scientist for sale’ role. It is vital to keep your advice within your area of expertise, and avoid prescribing outside. And it is important to be pragmatic - be prepared to say how can we do this, rather than why we can't (for example by designing scientifically-sound conditional project approvals).

Beyond government processes we also need young scientists to show personal leadership in community debates where science is not at all well understood and scientists are even seen as a mysterious and slightly dangerous threat by many in the community. Think of the community debates about biotechnology, homeopathy and other alternative medicines, food regulation and labelling, pharmaceuticals approvals, teaching of creationism in school curricula, nuclear power, renewable energy and the vaccination of children. I expect you have all been at barbecues and heard ill-informed or even intolerant opinions about issues like these and rolled your science eyes. We need more young people who are prepared to step forward at the barbecue, not backwards, and speak up for science when these contentious issues arise. We need less eye rolling and more engagement by young scientists.

We need scientists in general to reclaim their status as enlightened thought leaders - from the single issue, sometimes self-interested pressure groups that are dominating our public discourse today. We need people like you who will insist that technically-related public policy issues be decided with the benefit of science advice not just made as political calls in an evidence vacuum – calls based on "the vibe of the thing".

However, please don't think for a moment that I am arguing that Government decisions in these debates should be determined only by the science. Too often, we hear scientists naïvely calling to "take the politics out of government decision-making". In my view that misunderstands our democratic processes.

Rather, in my view, these public policy decisions should be "science rich" but not "science determined". In the end, public policy (that is, the policy choices that governments make among alternatives) will always be a political judgement. Governments are elected to decide, for example, how many and how big our national parks should be, how much of our water should be directed to the environment and how much can be consumed by irrigators, how much should taxpayers invest to ensure the survival of rare and endangered species, how much public money should be spent on medical research, and so on. Science has a lot to contribute to these far-reaching national decisions but

ultimately they are political choices – choices made by the elected representatives of the voting people.

My point is that while governments are elected to make these choices, we need the choices to be made well informed by the science. Australia urgently needs more young scientists – like you -who will take the trouble to understand public policy making processes, make the effort to influence the national agenda, and stand up and be counted on the side of rationality.

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So, as you leave here today with your degree, please think about the opportunities – I would say responsibilities - that come with it. You can now play your part in the national public debate and in public policy making. The science community you have joined today needs you to speak for them. Your country does too.

Good luck on that journey!

[ken.matthews100@gmail.com](mailto:ken.matthews100@gmail.com)

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