

## Why science gets cut out of policy†

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Science has an important role to play in influencing decision-making in international and national forums. But do scientists understand how it needs to be delivered, or what's required from science for the development of policy and achieving consensus<sup>1</sup>? And do they know what constitutes a solution that a policymaker can use<sup>2</sup>?

The extent to which scientific knowledge gets traction in policy will depend partly on the state of science knowledge on the issue, and partly on the degree of controversy surrounding the issue under consideration. It will also depend on the degree of public and political attention the matter gets.

It's much easier to gain acceptance if the scientific community is united in describing the problem and how to address it. Obviously, the nature of the problem affects the influence of science – the more politically controversial the issue, the less likely it is that scientific evidence will be used to inform important decisions. By the same token, for low-conflict issues, political attention tends to increase the influence of science.

Policymakers do care about scientific evidence insofar as it helps them make better and faster decisions. So scientists must listen and understand the problem they are purporting to solve. Too often, scientists will pop out some recommendation that shows they haven't got a complete grip on the problem and how their knowledge will be used. It's a bit like Monty Python's architect sketch: 'Hmm, that is a lovely abattoir, but I asked you for a block of flats'<sup>3</sup>.

Scientists need to be bold in recommending things in a way that allows non-technical decision-makers with political agendas to make decisions in a consensus environment.

Easy, right?

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There's also a significant responsibility on scientists to explore uncertainty, but nevertheless be prepared to give their expert opinion in the face of it. Scientists, individually and collectively, need to be more assertive in presenting what they think is right, rather than everything that could be right. There's a need for scientists to engage with policymakers, regulators and industry stakeholders in advance of building science proposals. Credible knowledge-brokers can play a very valuable role in making science useable by policymakers. All this will give the policymaker greater confidence in scientists' expert judgements when they put forward recommendations.

Too often, scientists tend to think they know what is best or what is needed, and then they are disappointed, frustrated or angry when their ideas and hard work are rejected or put on the shelf.

In my experience, policymakers and politicians understand uncertainty because they are constantly making assessments of uncertainty. So it's important that scientists explain the risks involved in basing decisions on particular scientific advice or results. It is often the case that a scientist has to say 'we don't know for sure what is going to happen, or what is driving this change'. But it is also helpful if they add, 'but we do know that it is x, y, or z, and it can really be only one or several of these three things going on. Precisely which one is what we're working on.'

This helps rule out a bunch of possible drivers and offers some guidance to policymakers, who get bombarded with many ideas of the causes of change, some of them quite extreme.

When policymakers say they need the scientific information soon, they normally mean weeks, so scientists need to be able to work to their schedule. It won't help the Minister to say to them: 'Just weather the political storm for five years till we get the advice to you!'

Scientists need to recognise that there are many other inputs to policy, especially resource considerations and public opinion. Effective scientists deliver their advice in forms to suit multiple audiences, including the public.



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Scientists must also appreciate that science is expensive and understand that policymakers need to know what is or is not a credible level of scientific investment. A sure-fire way to annoy a Minister is to say you can't offer an opinion till you get a multi-year research grant. Scientists need to work with policymakers on how to manage these things to get a credible result. It has to involve mutual listening and learning.

What politicians want is objective (fact-based), transparent (important underlying assumptions are expressed clearly), and unbiased advice (not manipulated to achieve a particular outcome with selective use of facts and arguments).

It's also important for scientists to recognise that, by and large, policymakers don't like starting from scratch when they get science advice – they prefer solutions that evolve from existing approaches. Policymakers hate the answer: 'Well Minister, if I was going to ... (*insert place*), I wouldn't start from here.'

Scientists should recognise that it is policymakers who will have to sell a decision. Where politics are in play, an issue is unlikely to be resolved through a simple statement of the scientific facts.

And surprise, surprise, politicians may choose to act in their own interest! In the long run, it's fair to say for most politicians the best policies are the best politics.

When scientific advice is perceived merely as advocacy, trust in the advice will be undermined. When employed by government, scientists should publicly highlight what the science says. They are, after all, publicly funded. But that's not to say it should always be the business of publicly funded scientists to comment on government policy. Scientists shouldn't be surprised if they're excluded from policy decisions if they become public commentators or activists.

If the Minister thinks that their stakeholders are being ignored, or worse, threatened, then it's highly likely they will see the science as suspect. Stakeholders' alternative views will be fed into the Minister's office with a foghorn's clarity.

When it comes to offering advice on natural resource management, scientists will often offer advice using economic models. But Ministers will often be focused around social and political matters. That's why scientists should integrate the social sciences with the natural sciences to provide information that will affect important decisions.

Policymakers are operating in a political context where there are multiple goals and conflicting values. So scientists have to recognise that, on occasion, politics will override the science. Science is not the new religion – it's all right for a Minister to say: 'Well, I've heard the science, but I've also heard the people.' A politician who thought science stood at the top of the knowledge hierarchy wouldn't be around for long – public policy is always more complex than it seems, with unpredictable

outcomes. So scientists shouldn't just assume they know what questions decision-makers will see as relevant. There'll often be some gap between the views of experts and decision-makers when it comes to what information is credible and useful.

That's a good reason why scientists need to work with industry, so policymakers are not blindsided by different assessments. By talking to industry, scientists can understand how their advice fits in with the bigger picture. Industry leaders will head to Ministers the minute they feel threatened, so engaging them along with the government representatives is wise.

I'd also say that scientists should not be afraid to work with citizen science groups and help them understand what the science is all about. After all, politicians do listen to such groups. If you are a trusted scientific voice (and yes, your personal brand matters, so you've got to keep publishing), and if your advice is given in a tone that's not patronising, your ideas will find a much warmer reception among policymakers.

Evidence-informed policy isn't a requirement of any scientific law. It's a value, and it's up to the scientific community to be prepared to fight for it in the policy process and be fearless in their convictions. This means scientists should speak truth to power, but just not tweet about it after the meeting!

In a way, scientists need an inside and an outside persona. With rights come responsibilities, and good scientists can find a way through this, especially when they talk publicly.

My final thought comes from *The Simpsons*<sup>4</sup>. Lisa Simpson's project for the science fair was a genetically-modified tomato. Bart's project was 'Can hamsters fly planes?' Lisa protests Bart's project has no scientific merit, but the cute hamster flying a miniature plane wins over the school's headmaster, who hands Bart the winning ribbon, much to Lisa's dismay. The school principal tells Lisa: 'Every good scientist is half B.F. Skinner and half P.T. Barnum.'

This isn't an argument for going with style over substance, but rather the need for scientists as a collective to inspire interest in others, including policymakers.

## Bibliography

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