

The Role of Science in 21st Century EU Policy-Making

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Today, more than ever, citizens expect value for money, not only from their elected representatives, but also from the laws and regulations passed to protect them. As the European economy faces continued challenges and limited economic growth, citizens rely on policy-makers to encourage innovation and stimulate growth and jobs. This requires flexible legislation which fosters start-ups, encourages SMEs during those early days, but which also simultaneously maintains the high levels of consumer health and safety that they have become accustomed to.

Public accountability is also increasing – and rightly so. Citizens don't just want legislation that delivers – they also want transparency and open dialogue. They want decision-makers to explain why certain policy choices were made over others, and what benefits they can expect from such choices. This requirement for information must also be seen against a backdrop of increasing demands on consumers' time and a tendency to deal in "twitterati" style soundbites. This often results in consumers feeling the need for analysis and validation of information via a third party, sometimes a journalist, sometimes an NGO or government agency.

This is a fairly tall order for the EU policy-maker. How can legislators be sure of the direct or indirect consequences of policy choices? How can they anticipate emerging issues where EU action may be necessary? How can they react to public pressure and media campaigns? The answer lies each time in science. EU policy-makers need now, more than ever, access to and an understanding of scientific evidence.

At the same time, the EU is facing a crisis of legitimacy – the results of the recent European Parliament elections, and various movements across Member States, suggest dissatisfaction with the status quo and a desire for reform. Reform cannot just take the form of modifications to bureaucratic structures or certain Member State competencies – it has to be applied throughout the whole policy-making process. The EU needs to be able to meet the challenges of the 2050s, rather than remaining focused on fixing the prob-

lems of the 1950s. This is an issue for all the EU institutions and is particularly acute for the EP. The EP must become more relevant to its citizens, not just reacting to developments but also initiating change and "leading the charge" on consumer safety. This means taking a responsible attitude through developing a debate on risks and benefits not just presenting easy answers.

With this in mind, 21st Century policy-making needs a shake-up in order to be different to – and better than – that of the last century. How better to react to the needs of 21st Century Europe than taking advice from cutting edge 21st Century science?

Challenges for the 21st Century

The European Union, and the rest of the world, face a number of critical challenges. There are issues around resource efficiency, energy independence, climate change and food security which need to be dealt with. These new challenges need new policy ideas, or new products and processes to be introduced. Many of the solutions to these challenges will come from scientific and technological advances but many such scientific advances are met with fear and confusion – they are believed to pose risks to public health, or the environment. In some cases, such concerns are absolutely justified, but in others, they are not. As responsible policy-makers, we need to consider new technologies on the basis of scientific evidence, and effectively communicate that evidence to concerned citizens. Acting simply on anecdotal evidence could have negative implications for long-term policy goals.

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Global food security is arguably one of the most significant challenges of the 21st Century. As the global population continues to grow, we need to seek practical solutions to ensure that people do not go hungry. Studies suggest that in order to feed the global population we will need to increase global food production by 50-70% by 2050.

GMOs could play a role in meeting this challenge. GMOs are widely cultivated across North America, South America and Asia, but cultivation remains limited in the EU. The EU has a rigorous approval process for GMOs and a number of tests are carried out to ensure their safety for human consumption and the wider environment. Despite this rigorous scientific process, public and political opposition to GMOs remains strong. I believe that by not accepting the evidence supporting GMO cultivation, the EU is falling behind the other major economies in terms of agricultural development, and thus heavily limiting any future contribution from the EU to the global food crisis.

Another controversial technology is the use of nanomaterials. There is much suspicion surrounding nanomaterials as there are suggestions that substances may be more dangerous in nano form. As yet none of these claims have been substantiated by scientific evidence, and the existing EU framework for the authorisation of chemicals – REACH – applies to nanomaterials in the same way as other chemicals. However, calls continue for a separate regulatory framework to approve the use of nanomaterials.

Such an approach needs to be carefully considered. Nanomaterials are an emerging technology which is currently in use in a number of highly useful applications. Nanoparticles of anatase titanium dioxide present in many in sun protection creams protect us against harmful UV rays; nanoparticles of silica carbide in tyres for cars and vans can reduce friction between those tyres and the ground, thus reducing the emissions from those vehicles and improving energy efficiency. There are many potential uses of nanomaterials which could meet pressing policy goals, so seeking to restrict their use without any compelling scientific reason would only serve to limit success in other policy areas.

There are many other areas of concern, ranging from endocrine disrupters, food contact materials and plant protection products. The arguments are many and various and the solutions will all be found through science.

What is the role of science?

I believe that science is the *objective* evidence used to support policy-making. Different groups will support different policy choices for a number of subjective reasons (ideological beliefs, socio-economic concerns, cultural differences). For me, scientific evidence should transcend these differences and should indicate a preference for one particular policy choice. In practice, however, what constitutes 'sound science' and 'independent science' has become rather ambiguous.

Where do we get the 'science' used to support policy choices? The obvious answer would appear to be those scientists and labs with expertise in the relevant policy areas. However, a growing phenomenon in EU circles has had policy-makers calling for only 'independent' science to be considered. In principle, this is not overly problematic - scientists with a direct conflict of interest should not be informing policy, just as MEPs with a direct conflict of interest should not be legislating on a particular policy area. However, the definition of 'independent' seems to have rapidly evolved to cover any scientist who has ever had any contact with industry. Not only does this prevent many highly qualified scientists from providing meaningful and valuable contributions to the policy debate, but it also limits the scope for industry-driven improvements in public and environmental safety, as scientists will be dissuaded from engaging with industry.

21st Century EU policy-making cannot be based on evidence drawn from only a narrow segment of the scientific community. Scientists from across sectors – industry, academia, NGOs, EU institutions – need to engage with policy-makers *and each other* in order to find areas of scientific consensus. This is where the sound basis for effective policy-making will be found.

Developments at EU-level

Over the past few years there have been some encouraging developments within the EU institutions which would suggest that the role of science is increasing.

The most obvious development was the creation of the role of Chief Scientific Adviser to the President of the European Commission in January 2012. The role, currently filled by Professor Anne Glover (a for-

mer Chief Scientific Adviser for Scotland), places science at the forefront of high level EU decision-making.

In addition, in February 2013 then-President Jose Manuel Barroso appointed Professor Glover as Chair of the newly created Science and Technology Advisory Council to the President. This move further increased the number of scientists engaged in the policy debate at EU executive level, and drew on experience from across sectors and disciplines, thus broadening the knowledge base informing the President.

Looking forward, I received personal assurances from the newly-appointed Commission President, Jean-Claude Juncker, that the role of Chief Scientific Adviser will be retained under his leadership. However, to retain the role is not enough - the role needs to have increased visibility, be properly resourced, and continue to be tied to the Science and Technology Advisory Council if it is to contribute to policy-making in a meaningful way. I am yet to be convinced that Mr Juncker will give the role the resources and visibility it deserves, and am not wholly convinced that he fully embraces science-based policy-making, given his recent remarks against GMO cultivation in the EU. I shall be keeping a close eye on these developments once the new Commission is appointed in the autumn.

In the European Parliament things are also starting to move in the right direction. In addition to the existing Science and Technology Options Analysis (STOA) group, the European Parliament's Library has undergone a transformation into the newly established European Parliamentary Research Service. As well as managing the former Library's resources, the EPRS provides targeted briefings for MEPs based on new studies and academic literature, and also works

in conjunction with the Impact Assessment Unit in assessing the outcomes of proposed legislation and amendments. This welcome development gives MEPs in the Parliament direct access to the latest evidence in a number of policy areas, and also provides them with the option of having different policy options assessed for environmental, economic and public health outcomes.

For my part, I plan to take the issue of science and evidence-based policy-making forward under the working group on 'Research and Innovation' of the Intergroup on Climate Change, Biodiversity and Sustainable Development. This highly subscribed, cross-party intergroup will give a formal platform to the issue and will build on the work carried out informally during the last mandate.

The momentum of such developments needs to be maintained, and decision-makers need to make use of the resources at their disposal if such developments are going to have a significant impact on EU policy-making. With so many global challenges facing us, and the eyes of citizens more focused than ever on the actions of their elected representatives, the EU needs to be seen to be taking the lead in finding effective, sustainable solutions. This can *only* be achieved by acting on the basis of scientific evidence.

All of these developments require investment, both financially and in human expertise. This is a nettle that we must grasp. Support for legislators must be independent and unbiased. MEPs should not have to rely on NGOs or industry, these should both be considered as useful but not definitive; reliable unbiased scientific assessment is essential. For my part, I am hoping to continue my work in parliament promoting the use of science-based evidence and the understanding of risk management, and I look forward to five years of progress.