



ACADEMIA EUROPAEA
BERGEN KNOWLEDGE HUB

POST-EVENT REPORT

Science advice for policy: European and Norwegian perspectives

HOUSE OF LITERATURE, OSLO

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Summary

The Academia Europaea Bergen Hub hosted a successful seminar in Oslo, in collaboration with the Norwegian Academy of Science and Letters. The seminar, held on 4th November at the House of Literature, assessed the findings of the recent SAPEA report, *Making Sense of Science for Policy*, and reflected on what insights might be applied to the science advice process in Norway.

Video streaming of the event is available at:

<https://aebergen.w.uib.no/making-sense-of-science-04-11-2019/>

Introduction

The *Making Sense of Science for Policy* report is a good opportunity to examine science advice in Norway. It is an important topic for everyone, not only the academic community. We live in a time of confusion, with the circulation of different 'truths'. It is vital that we use and make sense of scientific knowledge so that we can place our trust in sound policymaking.

The Academia Europaea Bergen Hub has cooperated with the Norwegian Academy of Science and Letters to organise this event. My thanks to Professor Matthias Kaiser for moderating the event and to the Academia Europaea Cardiff Hub for producing this post-event report.



Professor Eystein Jansen
Academic Director
Academia Europaea Bergen Knowledge Hub



Professor Eystein Jansen

Part 1: International science advice: the *Making Sense of Science for Policy* report

Professor Ole Petersen, Academia Director, Academia Europaea Cardiff Knowledge Hub

The European Scientific Advice Mechanism and the SAPEA project

Academia Europaea celebrated its 30th anniversary in 2018, having been founded in 1988. The concept of a network of 'hubs' came into being during the time of Professor Lars Walløe's presidency of the Academy.

Academia Europaea is a partner in the SAPEA (Science for Policy by European Academies) consortium. All five partners are pan-European organisations but Academia Europaea is unique in being an individual membership academy. SAPEA is a Horizon 2020-funded project, aiming to provide a broader-based and more transparent model of science advice. The new Science Advice Mechanism has three components – the Group of Chief Scientific Advisors (GCSA), SAPEA, and the secretariat at the European Commission.

The start of the science advice process is a policy-relevant question. If the Group of Chief Scientific Advisors accepts the request from the European Commissioner, then the Group will normally ask SAPEA to conduct an evidence review. One of the five partners takes the role of Lead Academy. The Lead Academy establishes an international working group of experts, which drafts the Evidence Review Report.

The Evidence Review Report is a completely independent piece of work that informs the Group's Scientific Opinion, which provides policy-specific advice. The completed science advice should lead to improved policymaking and better legislation.

The first topic tackled by SAPEA was *Food from the Oceans*, coordinated by Academia Europaea. It is regarded as the blueprint for how Evidence Review Reports should be done. It also led to effective outreach, including a successful infographics-based poster, aimed at the general public. SAPEA is also trying to bring together Europe's academies, and this event is a good example of that. Academies can help SAPEA in many ways, by nominating experts and hosting meetings, for example.

The *Making Sense of Science* scoping meeting at the European Commission was critical in defining the precise questions to be tackled. SAPEA subsequently appointed Professor Ortwin Renn, based at the Institute of Advanced Sustainability Studies in Potsdam, as the Working Group Chair.

From left to right: Professor Ole Petersen, Professor Jeroen van der Sluijs, Professor Risto M. Nieminen and Professor Silvio Funtowicz



Professor Jeroen van der Sluijs, University of Bergen and SAPEA Working Group member

The Making Sense of Science for Policy report

The *Making Sense of Science for Policy* Evidence Review Report was published in July 2019. The core question addressed was:

How to provide good science advice to European Commission policymakers, based on available evidence, under conditions of scientific complexity and uncertainty?

The Evidence Review Report informed the GCSA's Scientific Opinion, *Scientific Advice to European Policy in a Complex World*, which was launched in September and is addressed primarily to policymakers across the European Commission.

The SAPEA Working Group was made up of 16 members, all from different backgrounds. The Evidence Review Report is structured into 5 key chapters.

The report identifies a number of challenges in science for policy:

- Policymakers want relevant knowledge, but it is not easy to define what the relevant knowledge is.
- There is a need to reduce complexity and to confine the policy issue to a selection of various policy options.
- Solutions have to be found within a certain timeframe, and this is often part of a conflict between policymaking and science.
- There is a need to explore possibilities, to balance pros and cons, and instruments are needed to do so.

- There is a need to legitimise the decisions within an arena of competing different interest groups.
- There is a need for robustness and consensus in the assessments.
- Assessors have to negotiate credibility with scientific peer groups, policymakers and other actors involved.

Discussions in the Working Group were robust and focused on some of the following issues:

- How useful is scientific knowledge for public decision-making?
- What other forms of knowledge and understanding are required within democratic policy processes?
- Should scientific understanding be regarded as universal, or is scientific understanding dependent on context and situational conditions?
- What status should be given to scientific knowledge within sometimes polarised and controversial issues?
- Concepts such as transformative, transdisciplinary or co-creative research and extended peer communities elucidate the direction in which the debate about the nexus between science and society is moving.

As a diverse group, the Working Group did not always agree on the answers but did arrive at a consensus. It was agreed that the definition of 'science' should be a broad one, incorporating the social sciences and humanities.

Post-Normal Science (PNS) is key for a new practice of science and policy, based on a focus towards knowledge quality assessment. The core elements of PNS are as follows:

- The appropriate management of uncertainty, quality and 'value-ladenness'
- A plurality of commitments and perspectives
- The 'internal' extension of the peer community, including the involvement of other disciplines
- The 'external' extension of the peer community, including the involvement of a wide range of actors in problem framing, environmental assessment and quality control

The report also considers the plurality of styles of scientific reasoning, which characterise the way by which academic disciplines and practices arrive at scientific propositions. These determine what counts as rational or irrational, scientific or quasi-scientific, valid or invalid evidence, true or false.

There are also unrealistic assumptions about scientific evidence by policymakers. In the report, these are classified as 6 so-called illusions. Likewise, the report acknowledges that there are different functions of scientific knowledge in policy advice. This requires the integration of different types of knowledge in the policy process.

In conclusion, the world's most pressing problems are also incredibly complex, and scientific knowledge around these areas can often be uncertain or contested. The report presents a number of key messages, including:

- Science is one of many sources of knowledge that inform policy. Its unique strength is that it is based on rigorous enquiry, continuous analysis and debate, providing a set of evidence that can be respected as valid, relevant and reliable.
- Science advice supports effective policymaking by providing the best available knowledge, which can then be used to understand a specific problem, generate and evaluate policy options and monitor results of policy implementation.
- Science provides meaning to the discussion around critical topics within society.
- Science advice works best when guided by the co-creation of knowledge and policy options.
- The relationship between science advisers and policymakers relies on building mutual trust, where both scientists and policymakers are honest about their values and goals.
- Scientific knowledge should always inform societal debate and decision-making. Citizens often have their own experiences of the policy issue under consideration and should be included in the ongoing process of deliberation between scientists, policymakers and the public.

Professor Silvio Funtowicz, University of Bergen

The MASOS report: views, suggestions and perspectives

Professor Funtowicz focused on one aspect of science advice process – the rightful place of science in society. In his view, the MASOS report's virtue is that it has avoided the temptation of 'scientism', i.e. the belief that all human and social problems can be solved by science. Policy issues are increasingly complex, with a plurality of perspectives and the involvement of values, with no simple solution. Who decides which is the correct problem to solve? We are now living in times where there is a potential conflict between techno-science and democracy. An example is the idea of a 'smart' world and 'smart solutions', which are presented as both rational and non-ideological. The public space is increasingly dominated by such 'objective' and technical solutions, increasing the risks of conflict between science and democracy. As far back as 1961, President Eisenhower spoke of the industry-military complex, warning that 'public policy could become captive of a scientific-technological elite'.

Professor Risto M. Nieminen, President of the Finnish Academy of Science and Letters

The Finnish science advice project

SOFI is a national initiative focusing on building a next-generation science advice mechanism in Finland (2019-2021). The work is coordinated by the Finnish Academy of Science and Letters. The main objectives are to:

- Create a new science advice mechanism in Finland
- Promote dialogue between researchers and decision-makers
- Facilitate discussions on a future vision of science advice

SOFI proposes to represent the voice of the independent science community. It started in January 2019 and recommendations for change and for a new science advice mechanism are expected by end-2021. The SOFI partners are currently running trials and analyses, leading to the recommendations. The activities include science panels appointed around government political programmes, horizon-scanning and foresight activity. So-called 'red teams' look into future and flag dangers/risks. SOFI is also piloting engagement models. It is engaging with SAPEA and similar initiatives.



From left to right: Professor Ole Petersen, Professor Jeroen van der Sluijs, Professor Risto M. Nieminen and Professor Silvio Funtowicz

Discussion

A number of discussion points were raised:

- The importance of the Precautionary Principle, and the balance between precaution and innovation.
- Bias and lack of equal representation within the science community. This is not only about issues like gender and socio-economic representation, but also about the diversity of knowledge and the importance of local experiential knowledge.
- The role of the humanities in science advice. SAPEA pays considerable attention to representation on its working groups by members of the social sciences and humanities communities.
- The difference between enlightenment and the instrumental use of knowledge. Within the *Making Sense of Science for Policy Working Group* there was extensive discussion about the instrumental use of the social sciences and humanities, taking a position against it. The humanities are fundamental to science-technical questions, and it is important that policy is not reduced to a technical argument.

Part 2: The Norwegian Dimension

Professor Øystein Hov, Torbjørn Digernes, (President of the Norwegian Academy of Technological Sciences) and Kyrre Lekve



Professor Øystein Hov, Secretary-General of the Norwegian Academy of Science and Letters

Science advice as seen from academia

Professor Hov reminded the audience that science advisers operate in a context. He provided some examples of science advice and how it works, particularly in Norway:

- The example of acid rain is a success story, where scientists were able to play the role of 'honest broker'. This 'honest broker' role evolved over time, creating a dynamic and trusted relationship between the science community and policy processes, with both formal exploratory and reviewing mechanisms, as well as experts acting in an individual capacity.
- The EAT-Lancet-Commission report *Food in the anthropocene: on healthy diets from sustainable food systems*, is an example that did not work well in the Norwegian context. Although the Academy of Norway held a meeting, the science advice process had not yet started.
- International advice on reactive nitrogen did not work either in the Norwegian context, because of the dominance of the agricultural complex.
- In climate change, there is a mismatch between the science advice mechanism and the political and public pull; the evidence and knowledge lag behind the challenges ahead. This creates a 'bubble', where policymakers and parts of the climate change research community speak as if the Paris Agreement on Climate Change will work.

The approach of the Academy is to act as a translator between science and the policymaker. However, the Academy can only facilitate, and cooperation with the NTVA is vital.

Kyrre Lekve, Simula

Science advice as seen from a research unit

Founded in 2001, the Simula Research Laboratory is a limited company (AS) owned by the Norwegian Government.

The models explored so far are very linear. In general, scientists are bad at influencing policy. The timing is bad; the messaging is bad.

There are two possible pathways for science advice, the 'bureaucratic' and the 'political'. The bureaucratic approach means that scientists work with civil servants. There is an extensive system for this in Norway, and it provides a necessary basis for political decisions. The primary lesson for scientists to learn is that Norwegian bureaucrats are excellent at their job.

The 'political path' is a totally different game. It is vital for scientists to create 'win-win' situations, to understand the nature of politics, to demonstrate societal value and build trust.

In essence, scientists must distinguish between the two paths and prepare accordingly. Never underestimate politicians or bureaucrats. Above all, stay scientific and rational.

Discussion

The case of a toxic mercury-filled German U-boat, sunk off the island of Fedje, provoked an interesting discussion between the audience and the panel. Kyrre Lekve wondered if the prime concern was political or scientific. A risk assessment is essential, with full transparency and a focus on credibility within the community.

Conclusions

In conclusion, the European Scientific Advice Mechanism will probably be seen as the 'gold standard'. Norway has the opportunity to adopt a similar model, using a small group of chief scientific advisors to apply international science advice to the Norwegian context. Above all, we must build trust, adopt open and transparent practices, acknowledge the diversity of knowledge and work within the limitations of science. All these points are covered in the *Making Sense of Science for Policy* report.



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