EASAC Guidelines:

Good Practice in the Dialogue between Science Academies and Policy Communities

building science into EU policy

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1. Introduction

Many of the issues addressed by policy-makers in Europe and elsewhere are highly complex. They require considerable effort and knowledge to understand them and to develop possible options for managing them. Scientific knowledge has a crucial role to play in informing some of the most important policy decisions in modern societies. This is widely recognised and there is a growing body of guidance on how science should inform policy-making (see Annex).

To be of use to policy-makers and to benefit the societies these policy-makers serve, science advice should be genuinely independent and of the highest possible quality. The independence of scientific advice is particularly important for decision-takers in politics who are frequently presented with 'advice' from interested parties and lobby groups.

Science Academies are well placed to engage in the provision of such independent expert advice for decision-taking. They are associations of outstanding scientists who are able to stand aside from political, industrial or other special interests in reaching impartial judgements on the science underpinning policy decisions. However, not all academies are experienced in making the scientific excellence of their members available to support political decision-taking. The present guidelines therefore seek to strengthen academies in their role as providers of science-based policy advice.

2. The Guidelines

These guidelines have largely come out of a series of workshops held by the network of the National Academies of Science of EU Member States, EASAC (*European Academies Science Advisory Council*) in the years 2010-2011. They bring together the experience of EASAC and its member academies in engaging with policy-makers and the wider public. They are primarily intended as a source of information and inspiration for academies of science about good practice in providing science-based advice to policy-makers (e.g. Parliamentarians, EU Commissioners, Directors-General and Commission staff members, and EU Member State national governments).

The term "best practice" is deliberately avoided as it suggests that there is some single ideal way of providing science-based policy advice. Rather, in the present guidelines it is recognised that there are many good ways for science academies to engage in a dialogue with policy-makers and that different circumstances will require different approaches. In particular, the national context in which the contact between science and policy is conducted, with its particular expectations and ways of working, will determine which elements of good practice are most appropriate and effective. Therefore, science academies should adopt and adapt these guidelines in a way that best fits the particular context in which they operate.

3. The Policy Process

Policy-making is sometimes viewed as a cyclic process as illustrated here:
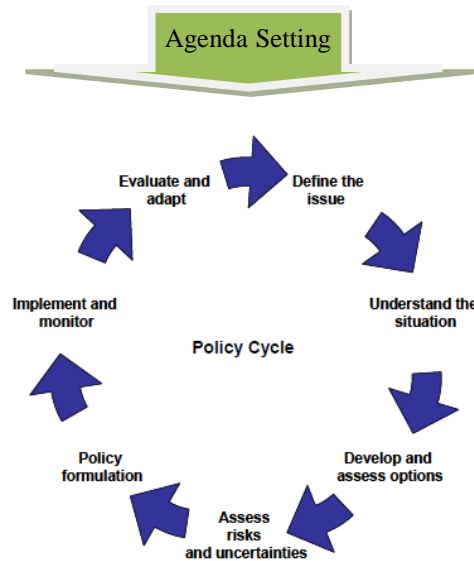
This illustration shows the stages in the policy cycle for addressing a particular issue, together with the important initial step of agenda setting (i.e. deciding on what issue should be addressed). Each of these stages may require scientific input, but such input is often particularly important in the early stages: "Understand the situation", "Develop and assess options" and "Assess risks and uncertainties".

Sometimes, science communities want to call attention to a topic which they think is of great relevance to society. In those cases, they may be said to try to bring a science topic onto the policy agenda. They would thus make a contribution to the step of agenda setting. At other times, an issue has already been recognised as important by policy-makers, but support from science is needed to define the issue, understand the situation and assess the connected uncertainties and risks.

4. Guiding principles in Science-Policy Dialogue

4.1. Providing effective advice requires a two-way process – a 'dialogue' – so that policy makers and science advisors can better understand each others' views on the issue to be addressed, on how things work and what can be achieved.

4.2. The purpose of the dialogue between scientists and policy-makers is to ensure that the latter are well informed about the science relevant to a particular policy issue. The ultimate goal of the dialogue is to improve the quality of policy decisions for the benefit of society and future generations.

4.3. It is necessary that science advice is relevant, credible, legitimate and timely:

- **Relevant:** it addresses policy makers' key questions.
- **Credible:** it is scientifically sound and authoritative.
- **Legitimate:** it is developed through processes that are seen to be fair.
- **Timely:** it is delivered in time to inform the decision-making process.

4.4. *Relevance* of advice can be achieved if academies and policy-makers (and, where appropriate, other stakeholders) arrive at a mutual understanding of how a certain issue is 'framed'. This includes a shared definition of the issue, of what matters most in addressing it and what consequently are the key questions that need to be answered.

4.5. To be *credible*, advice needs to be generated by scientists who are considered by their peers as speaking with authority in their area of expertise, and who collectively cover the range of disciplines and scientific opinion relevant to the advice they are giving. They need to take a dispassionate and objective view on the issue at stake.

4.6. To be perceived as *legitimate*, the process through which the advice is generated and communicated needs to be perceived to be fair by all stakeholders. Fairness of the process implies that it is transparent and open. To be transparent, procedures should be clear, possible affiliations or interests be declared, underpinning information and reports made available, and the advice published. Openness requires that the views and knowledge of a range of stakeholders are sought and appropriately inform the 'framing' of the issue and questions, and the development of the advice.

4.7. To be useful, advice has to arrive in a *timely* fashion. If academies are not directly approached by policy-makers for support in taking decisions, they have to be well-informed about the timing of the policy cycle for the issue of concern. As demand for advice can arise quickly, academies may consider the creation of standing working groups for areas of policy that are expected to require science advice.

5. Preparations for Dialogue

5.1. It can be helpful for academies to develop a strategic plan for their dialogue with policy-makers. As is true of all strategic plans, this would take into account the particular strengths and limitations that an academy brings to that dialogue and also clarify which actions could be taken to position the academy as an effective advisor.

5.2. At the most fundamental level, academies would have to ensure that their membership includes people with an interest in the dialogue between science and policy-making and with appropriate skills. Some academies have made it a condition of membership that scientists are willing to contribute to working groups for policy advice and to participate in public debate.

5.3. Being an effective advisor requires considerable skill and although academy members will be outstanding experts in their own scientific fields, they may benefit from training in the specific skills of science policy dialogue. This could be a helpful offer to new academy members and, by involving more experienced academicians, also a way of sharing and building capacity to produce science-based policy advice.

5.4. Academies can also prepare by ensuring that they have ways of keeping up to date on key policy issues and the associated policy cycles, for example by regularly researching governmental websites, by building up and maintaining contact with ministries (and other relevant bodies), or by inviting policy-makers to meet with academy members.

5.5. Academies' involvement in a dialogue with policy-makers will need research and administrative support and academies should consider this in developing their staff

capability and capacity. Typically, the staff of an academy will have to help academy members in making sure that the science policy dialogue is conducted effectively.

6. Contacting Policy-Makers

6.1. Ideally, an academy would establish contact with policy-makers before a need for advice arises. The aim should be to develop a positive relationship and to differentiate the academy from other potential sources of 'advice' which may lack the independence and authority of the advice that can be provided by an academy.

6.2. Once an issue for advice has been identified by scientists and policy-makers, the early dialogue should lead to an understanding of how the policy-makers 'frame' the issue (cp. also 4.4. above). The term 'frame' stems from the social and psychological sciences and describes a kind of filter through which a topic is seen and understood. Apart from a detailed definition of the issue for advice, 'framing' includes:

- awareness and understanding of the wider 'system' to which the issue belongs (social, environmental, economic, political and other components);
- the boundaries of the issue within that wider 'system';
- the clear identification of what matters in addressing the issue;
- possible assumptions and pre-conceptions about the issue.

6.3. Depending on the kind of contact with policy-makers it may be important to negotiate and agree upon the details of the process of giving advice and where the roles of science advisor and policy-maker begin and end. For example, advice may:

- give an overview of the science relevant to the policy issue;
- interpret the implications of scientific knowledge for the policy decision;
- identify different policy options which emerge from the scientific analysis;
- suggest policy options that appear most likely to succeed, given a particular scientific analysis.

6.4. Consideration should be given to which part of government to engage with. In some situations it may be best to engage at a senior level; in others the 'desk officers' may be more appropriate contacts. Furthermore, some issues cut across the responsibilities of several departments. It is important to then look for the best 'entry point' for advice, e.g. cross-departmental committees.

6.5. The contact with policy-makers should generate an anticipation of, and appetite for, the advice. Policy-makers that have been involved in early discussions with scientists about an issue for which advice is produced will be more likely to later use that advice in policy-making.

6.6. If policy-makers are unreceptive to the academy's contact and/or messages, consideration should be given to other 'entry points', including the media. This is particularly relevant when an academy tries to get an issue on the policy agenda which has not yet been recognised as important for society outside of the scientific community, e.g. for lack of public awareness of the latest scientific developments.

7. Choosing topics

The choice of the topic on which an academy wants to give advice is very important and will be determined by:

- The interests of policy-makers, particularly where there is a new issue on the policy agenda which involves scientific questions or where the science relevant to an issue is particularly difficult, say, because of differences of scientific opinion, conflicting interests, or strong public opinions.
- The interests of the academy and its members, as identified for example by the recommendations of the academy's committee charged with identifying topics for dialogue, or through earlier work.
- The emergence of new scientific developments that may be of relevance to the public but have not yet been picked up by policy-makers.
- The expertise available to the academy, as topics of interest to policy-makers may demand a wide range of expertise, including in areas such as economics and social sciences.
- The potential for making a difference to policy outcomes, as an academy will have to consider the likely effectiveness of its efforts, especially with respect to the stage that an issue has reached in the policy cycle.

8. Forming Working Groups

8.1. Once an issue has been identified on which the academy wants to produce advice, very often a working group of academy members is established to draft such advice.

8.2. Members of working groups should be appointed on the basis of their relevant expertise and authority and their excellence should be recognised by their peers.

8.3. Working group members need to appreciate their role of science advisors as providers of an objective overview of the current status of the science relevant to a particular issue, rather than to promote a particular view.

8.4. In some cases, having a specific kind of expertise means that a certain level of 'interest' in the issue is almost inevitable. These should be made explicit upfront by working group members through a Declaration of Interests. A judgement needs to be taken at the most senior level of the academy regarding the point at which an interest could compromise the perceived integrity of the advice.

8.5. Taken together, the working group needs to include the full range of viewpoints necessary to support the required scope of advice, including the required range of disciplines and, for advice at an EU level, a sufficient geographical coverage.

8.6. It may be necessary to sometimes appoint scientists to working groups who are not members of the academy. While this is entirely appropriate to ensure the needed coverage of the working group membership, care should be taken in selecting these scientists as the reputation of the academy rests on the quality and integrity of the working group as a whole.

9. The Chair of a Working Group

9.1. The chair of a working group plays a crucial role for the success of the advisory process and therefore it is important to recruit someone suitable.

9.2. Furthermore, an appropriate and early appointment can be helpful in attracting other outstanding scientists to join the working group as members.

9.3. Essential qualities of a chair are: credible expertise, team leadership abilities and good judgement linked to the ability to take a detached view of evidence. He/she is responsible for:

- the working group's operation and its outputs, including their quality and timeliness;
- ensuring that the opinions of all working group members are heard and duly taken into account;
- enabling differences of opinion to be explored and resolved as appropriate;
- establishing a clear 'audit trail' showing how the working group arrived at its advice; and
- representing the working group in external interactions, including supporting the dissemination and uptake of the advice.

10. Choosing the Approach and Types of Outputs

10.1. The most common approach and output is the formation of working groups that formulate their position in a statement or report, which then gets distributed to policy-makers and the public. At its best, this activity has the virtue of a rigorous process and influential output, but working groups take time to establish and to deliver findings.

10.2. However, academies have a wide range of possible ways of preparing advice for policy-makers and of engaging in a dialogue with them. The particular choice will depend on the context and the scale of the issues at stake, and should reflect such aspects as the public controversy surrounding an issue and the degree to which the science itself may be contested within expert communities.

10.3. Often, the form of the dialogue and its outputs will depend on whether the contact is a consequence of an academy's own initiative or a response to requests from the policy community. In the latter case, there may be an urgency that very much shapes the dialogue.

10.4. If an academy achieves a close and continuous dialogue with policy-makers and also has 'standing committees' of experts in specific areas, it may be able to bring together *ad hoc* groups of scientists and policy-makers to discuss the science and its implications in informal science briefings.

10.5 Sometimes policy-makers have to develop their own skills and more detailed understanding of issues. For these instances, workshops and seminars are an ideal way to bringing together policy and scientific communities. Academies with their power to convene outstanding scientists and reputation for excellence are well placed for this.

10.6. A known obstacle to close dialogue between science and policy communities is that both can feel exposed when they discuss matters of immediate and crucial

interest in the full light of media and public interest. In order to encourage openness and the sharing of information, it is therefore desirable to look for ways of creating a "Protected Deliberation Space" with rules of confidentiality.

10.7. Written outputs should be designed to meet the needs of their intended audiences. Short summaries, written for the non-specialist, are generally valuable to busy policy-makers who need to understand key points in a short period of time. They are often a useful complement to more detailed reports that provide the underpinning evidence and analysis. The latter may be of particular interest to policy-makers' support staff responsible for policy analysis and development.

11. Managing Openness: Transparency and Confidentiality

11.1. Openness means that the advisory process has actively taken account of all the relevant evidence and has been seen to do so. This might entail, for example, an open and public call for evidence and a willingness to listen to a wide range of different views on a particular topic.

11.2. Transparency means that the working practices of preparing advice for dialogue are clear and that any private interests of the participants are declared.

11.3. For effective dialogue which builds trust between the science and policy communities, openness and transparency should be considered the norm. However, this may conflict with the occasional need for confidentiality, say, when national security is at stake. Here a pragmatic balance needs to be struck. Clear explanations in such cases are considered essential to retaining trust in the process.

11.4. Another reason for adopting a policy of open and transparent process is to ensure that problems of bias are addressed. It may be very difficult to ensure that advice is completely unbiased. But a transparent process allows to see how the advice is formed and which parties are involved.

12. Consensus or Plurality in Conclusions?

12.1. A consensus view from an academy can be an influential input to the policy process, and hence efforts should be made to resolve scientific disagreements that may well arise during the development of advice. If well conducted, the associated discussion can help to clarify views and develop new insights.

12.2. However, the quest for consensus should not be at the expense of overriding legitimate minority views, or compromising on wording which is too generalised and woolly to be helpful to policy-makers. In these situations it is better to be clear on what is agreed upon, and where disagreements remain. A clear account of where disagreements lie within the scientific community can be a valuable input to policy-makers, particularly if accompanied by an evaluation of their implications for the policy decision and proposals for how they may be resolved.

12.3. Whether adopting a consensus approach or not, it will support the process of generating ownership and acceptance of advice if academies have clear procedures for weighing the evidence they gather and the views that are discussed.

12.4. It should be clearly stated whether advice that is proffered to policy-makers has been reached in a consensual manner or represents the majority view.

13. Handling Uncertainty and Communicating Risk

13.1. There will inevitably be uncertainties in the science underpinning policy decisions. A key component of advice is to explain these uncertainties and their implications for the policy decision. In doing so, advisors need to tread a careful line between over-emphasising what is not known and being over-confident in their assertions. (A useful motto for explaining uncertainties is: "be helpful to the policy-makers but true to the science".) Any pressure from policy-makers to make more certain statements than the science can support should be resisted.

13.2. In identifying and describing uncertainties, science advisors need to reflect on the limitations of their own analysis of the issue at stake: what may lie outside of their field of view?

13.3. Policy-making can often concern complex natural-social systems were scientific uncertainties are high. In these cases the scientific advisor can still play a useful role, helping the policy-maker to appreciate what science can, and cannot, tell us about how the system works. Such situations call for a collaborative approach, involving not just science advisors and policy-makers but other stakeholders with their own forms of knowledge, who together can explore the issue.

13.4. Science advice may include some form of risk assessment: for example, evaluation of the risk of harm to individuals, or the risk that a particular policy option will not work. In doing so, advisors should be aware that risks may be perceived differently by different stakeholders and that these different perspectives may usefully be included in the risk assessment. If a narrower, scientific analysis of risk is presented, then its limitations need to be clearly explained.

14. Maintaining Quality

14.1. As a general principle, advice should be subject to peer review. This should cover:

- a review of the scientific quality of the work;
- a review of the completeness of the analysis (for example, does it cover the full range of opinion?);
- whether the advice addresses the questions of policy-makers and can be used in policy making.

14.2. It can be helpful for reviewers to receive a review form from the academy which lists the most important aspects that should be covered in the review.

14.3. Where peer review is not possible – for example, if there are overriding concerns about confidentiality or where time does not permit – documenting the steps taken internally to address the above three points will be a helpful quality control measure.

14.4. It is recognised that the quality of advice rests on the competence of the advisors and it is suggested that academies consider a system of performance reviews for academy members involved in advisory work.

14.5. Similarly, a process of monitoring and evaluation of the uptake and impact of advice given would enable academies to follow up on advisory work, to document the ways advice is used and to assess its impact on policy. This might be done, for example, through following up with policy communities and with stakeholders.

15. Engagement with the Public and Stakeholders

15.1. Consistently with the guiding principle of openness, an opportunity should generally be provided for stakeholders in an issue – including, where appropriate, the interested public – to make an input to the dialogue between science and policy-makers. If effectively conducted, such engagement can also help to generate ownership and acceptance of the advice. The overall aim should be to enable the development of more robust advice and hence more effective policies.

15.2. There are inherent tensions in some wider forms of dialogue that engage all stakeholders. For example, the engagement of stakeholders with vested interests might compromise the impartiality of the advice. In some cases, policy communities will be less able to engage in an open and frank dialogue in the presence of the public or the media.

15.3. An open call for inputs and evidence on an academy's website may elicit a limited response, and consideration should be given to a more proactive approach to stimulate inputs.

15.4. A highly contested policy issue may reflect radically different 'framings' and views on what matters by different groups. High levels of disagreement, characteristic of the complex systems which are often the subject of policy interventions, may mean that other kinds of knowledge, for example local and contextual, may appropriately complement that of the scientific community.

16. International Co-operations and Networks

16.1. Co-operations for the provision of science-based policy-advice may be appropriate for a number of reasons:

- Where an issue concerns policy-making in a number of different countries.
- Where advances in science pose new questions which are relevant for the policy of a number of different countries.
- Where there are international political bodies at which science-based advice may be most appropriately addressed.

16.2. Furthermore, when giving advice to policy-makers, academies should try to obtain relevant high quality science information in other languages. There may be scope here for using networks of academies within Europe and internationally when calls for evidence are issued.

16.3. As interconnected networks of outstanding and independent scientists, academies are particularly well placed to engage in 'horizon scanning' activities, trying to pick up from the cutting-edge science activities conducted by its members those issues which are likely to be of relevance to society, and therefore to policy-makers.

Sources of Further Advice

Berlin-Brandenburgische Akademie der Wissenschaften, 2008. *Leitlinien der Politikberatung.* http://www.bbaw.de/service/publikationen-bestellen/manifeste-und-leitlinien/BBAW_PolitischeLeitlinien.pdf

European Commission, 2002. *Communication from the Commission on the collection and use of expertise by the commission: Principles and guidelines: "Improving the knowledge base for better policies".* Commission of the European Communities Brussels, 11.12.2002 COM(2002) 713 final. http://ec.europa.eu/governance/docs/comm_expertise_en.pdf

European Commission, 2010. *Communicating research for evidence-based policy making: A practical guide for researchers in socio-economic sciences and humanities.* Directorate General for Research. http://www.spia-europa.de/pdf/guide-communicating-researc.pdf

Government of Canada, 2000. *A framework for science and technology advice: principles and guidelines for the effective use of science and technology advice in government decision making.* http://publications.gc.ca/collections/Collection/C2-500-2000E.pdf

The Swiss Academies of Arts and Sciences, 2011. *Scientific Policy Advice. Recommendations of the Swiss Academies of Arts and Sciences for Researchers*http://www.akademien-schweiz.ch/en/index/Publikationen/Archiv/Richtlinien-Empfehlungen.html

UK Government Office for Science, 2011. *Code of Practice for Scientific Advisory Committees*. https://www.gov.uk/government/publications/scientific-advisory-committees-code-of-practice

UK Government Office for Science, 2010. *Principles of scientific advice to government*. https://www.gov.uk/government/publications/scientific-advice-to-government-principles

UK Chief Scientific Advisor, 2010. *The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making.* UK Government Office for Science. https://www.gov.uk/government/publications/scientific-and-engineering-advice-guidelines-for-policy-makers

EASAC – the European Academies Science Advisory Council – is formed by the national science academies of the EU Member States to enable them to collaborate with each other in giving advice to European policy-makers. It thus provides a means for the collective voice of European science to be heard.

Through EASAC, the academies work together to provide independent, expert, evidence-based advice about the scientific aspects of public policy to those who make or influence policy within the European institutions. Drawing on the memberships and networks of the academies, EASAC accesses the best of European science in carrying out its work. Its views are vigorously independent of commercial or political bias, and it is open and transparent in its processes. EASAC aims to deliver advice that is comprehensible, relevant and timely.

The EASAC Council has 27 individual members and is supported by a professional secretariat based at the Leopoldina, the German Academy of Sciences, in Halle (Saale). EASAC also has an office in Brussels, at the Royal Belgian Academies for Science and the Arts.

Academia Europaea
All European Academies (ALLEA)
The Austrian Academy of Sciences
The Royal Academies for Science and the Arts of Belgium
The Bulgarian Academy of Sciences
The Academy of Sciences of the Czech Republic
The Royal Danish Academy of Sciences and Letters
The Estonian Academy of Sciences
The Council of Finnish Academies
The Académie des Sciences (France)
The German Academy of Sciences Leopoldina
The Academy of Athens (Greece)
The Hungarian Academy of Sciences
The Accademia Nazionale dei Lincei (Italy)
The Royal Irish Academy
The Romanian Academy
The Latvian Academy of Sciences
The Lithuanian Academy of Sciences
The Royal Netherlands Academy of Arts and Sciences
The Norwegian Academy of Science and Letters
The Polish Academy of Sciences
The Academy of Sciences of Lisbon (Portugal)
The Slovakian Academy of Sciences
The Slovenian Academy of Arts and Science
The Spanish Royal Academy of Sciences
The Swiss Academies of Arts and Sciences
The Royal Swedish Academy of Sciences
The Royal Society (UK)

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