

The Scientific Advice Mechanism

SUMMARY

After abolishing the post of Chief Scientific Officer in November 2014, the President of the European Commission announced the creation of the Scientific Advice Mechanism (SAM) in March 2015.

The main component of the SAM is the High-level Group (HLG) of seven prominent scientists charged with providing the Commission with independent scientific advice on specific policy issues, either at the request of the Commission or pro-actively. The HLG is expected to work effectively with existing advisory bodies such as the Joint Research Centre, national academies and the wider scientific community. The HLG is assisted by a dedicated SAM secretariat located within the Directorate-General for Research and Innovation.

The members of the HLG were appointed in November 2015 and began work in January 2016, focusing on two topics: the CO₂ emissions of light duty vehicles, and cybersecurity. They also issued an exploratory note on glyphosate in June 2016. In July 2016 two additional requests for advice were presented to the HLG: for support for the forthcoming evaluation of pesticides legislation and for an explanatory note on new animal and plant breeding techniques.

In order to harvest the full potential of national academies to provide scientific advice at European level, the Commission has supported the establishment of a European platform led by European networks of academies. The Science Advice for Policy by the European Academies (SAPEA) platform is expected to enter into operation in October 2016 with a grant of €6 million provided for four years under the Horizon 2020 framework programme for research.



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Setting up the Scientific Advice Mechanism

When taking up office in November 2014, President of the European Commission, Jean-Claude Juncker, did not renew the mandate of the Chief Scientific Adviser (CSA), a post that had been established in March 2010 by his predecessor, José Manuel Barroso. The CSA was in charge of providing the president of the Commission with scientific advice directly. However, the role and mandate created controversy.¹

President Juncker asked the Commissioner for Research, Carlos Moedas, 'to make sure that Commission proposals and activities are based on sound scientific evidence'. In January 2015, President Juncker confirmed in a [letter](#) to the UK House of Lords that Commissioner Moedas was in charge of presenting him with ways to 'better institutionalise future independent scientific advice to the Commission'.

In May 2015 the Commission produced a [review](#) of existing science advisory systems in selected Member States and third countries, in order to support the design of a new system for scientific advice that would be appropriate for the European Commission. The review concluded that the new system would need 'to match the short-, medium- and long-term demands of the Commission for scientific evidence and advice' and offer 'pro-active or on-demand advice on emerging policy issues'. It was also important to integrate the new system with the existing structures providing scientific advice at the European and national levels (academies, learned societies, research centres, agencies, expert committees, etc.). Following this review, Commissioner Moedas [presented](#) the main features of the Scientific Advice Mechanism (SAM) on 13 May 2015.²

The League of European Research Universities (LERU) [welcomed](#) this announcement and hoped that the universities would be part of the SAM. The European Academy Organisations also [saluted](#) the creation of the SAM and welcomed the opportunity to be fully integrated within the mechanism.

Organisation of the SAM

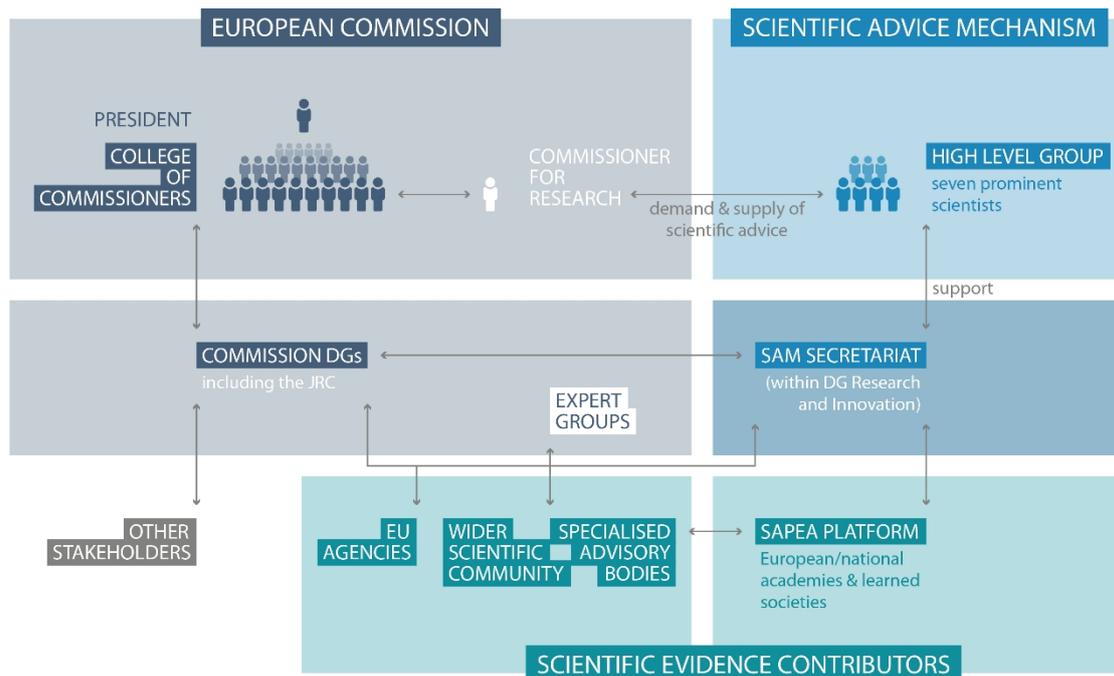
The SAM includes two key components.

- A **High-level Group (HLG)** of seven eminent scientists is appointed for a mandate of two and a half years renewable once. It reports to the Commissioner for Research, Science and Innovation, who in turn provides a link with the College of Commissioners.
- A **SAM secretariat** within the Directorate-General (DG) for Research and Innovation offers the HLG operational support and facilitates its access to the best scientific evidence available.

In order to improve the collection of scientific evidence and its transmission to the HLG, the Commission has provided for the establishment of a third component: the **Science Advice for Policy by the European Academies (SAPEA) platform**. This European level consortium of academy networks is expected to play a key role in providing the HLG with scientific evidence.

The new system was designed to address some of the shortcomings that fuelled criticism about the CSA position. First, the mandate of the HLG does not overlap with the mandate of other bodies at European level providing scientific advice, such as the Joint Research Centre (JRC), the Commission's in-house research service. Second, with seven members, the HLG covers a wider range of expertise than a single CSA. Finally, the creation of a dedicated secretariat for the SAM, located within DG Research and Innovation, addresses the issue of lack of administrative support, a problem that had been [pointed out](#) by Anne Glover, the former CSA.

Figure 1 - The Scientific Advice Mechanism



Source: EPRS.

The High-level Group

Selection of the members of the HLG

In May 2015, Commissioner Moedas [established](#) an [Identification Committee](#) composed of three members, with the task of assisting the Commission in defining the selection criteria and conducting the selection procedure for HLG members.

In July 2015, the Identification Committee published a [statement](#) presenting the selection process. The candidates would be nominated by representative organisations of the research and scientific policy community. The Committee decided to reach out directly to 13 stakeholder organisations³ at European level but did not rule out nominations by other organisations.

The candidates were expected to 'have an undisputed reputation as research leaders and for their independence and commitment to research', 'have exercised scientific and policy leadership at European or world level' and 'bring experience in providing scientific advice to policy makers'. In September 2015, 74 organisations nominated a total of 162 candidates. 14 candidates were short-listed by the Identification Committee for interviews. The Committee then proposed a list of seven members for the HLG and retained five candidates as potential replacements.⁴

The [members](#) of the HLG were announced by Commissioner Moedas in November 2015:

- Henrik Wegener, Food and Microbiology, Denmark (chair);
- Elvira Fortunato, Material Sciences, Portugal (deputy chair);
- Janusz Bujnicki, Bioinformatics, Poland;
- Pearl Dykstra, Sociology, Netherlands;
- Rolf-Dieter Heuer, Particle Physics, Germany;
- Julia Slingo, Meteorology, UK;
- Cédric Villani, Mathematics, France.

Role of the HLG

The Commission [Decision](#) of 16 October 2015 formally establishes the HLG and defines its three tasks:

- to provide the Commission with independent scientific advice on specific policy issues;
- to support the Commission in identifying specific policy issues where independent scientific advice is needed; and
- to provide recommendations for improving the overall interaction between Commission policy-making processes and independent scientific advice.

Requests for scientific advice are addressed to the HLG by the Commissioner for Research, who is also responsible for sending the HLG's advice to the Commission. The chair of the HLG can also advise the Commission to consult the group on a specific policy issue. Hence, the HLG is expected to work in both a responsive and a pro-active way.

Financial support for the HLG is provided under the budget line⁵ of the current framework programme for research and innovation, Horizon 2020, which covers the resulting expenditure on studies, meetings of experts, information and publications directly linked to the achievement of the objectives of the programme.

Functioning of the HLG

The Commission Decision was completed by the [rules of procedure](#) adopted by the HLG at its first meeting on 29 January 2016. The HLG is expected to meet four to six times a year but can be convened for additional meetings when urgent advice is needed. The members of the HLG can be asked by the Commission to spend up to 40 working days per year on the group's activities (up to 60 days in the case of the chair and the deputy chair).

Decisions are expected to be taken by consensus of the members. All relevant documents about group meetings are to be made publicly available. The rules of procedure include media guidelines that require members of the HLG to refrain from communicating their personal opinions on topics tackled by the group. Requests for interviews have to be reported by the members to the SAM secretariat.

Current activities of the HLG

At its first meeting in January 2016, the HLG received two requests for scientific advice. Commissioner for Climate Action and Energy, Miguel Arias Cañete, [asked](#) the HLG to [provide](#) scientific advice on improving the measurement of light vehicle CO₂ emissions, in terms of reliability and transparency, in order to help develop the Commission proposal for post-2020 emission performance standards. To tackle this issue, the HLG arranged a visit in March 2016 to the JRC institute in Ispra (Italy) which houses the Vehicle Emissions Laboratory and Laboratory for Interoperability of E-vehicles and Smart Grids. The HLG also hosted a scientific workshop in June 2016 in Lisbon. The opinion of the HLG on this topic is [expected](#) to be delivered in October 2016.

The second topic – [cybersecurity](#) – was proposed by the Vice-President of the Commission for the Digital Single Market, Andrus Ansip, and the Commissioner for Digital Economy and Society, Günther Oettinger. At its second [meeting](#) in March 2016 the HLG decided to focus its activities on this topic in the area of Digital Identities for a Digital Single Market, covering issues such as encryption, trust, multidimensionality and risk. The opinion of the HLG on this topic is expected to be delivered in early 2017.

At its second meeting, the HLG undertook to prepare an explanatory note for the Commissioner for Research on the situation regarding glyphosate.⁶ The [note](#), published

in June 2016, provides an explanation of the conclusions reached by different safety agencies regarding the hazards and risks attributed to glyphosate. This note does not however provide scientific advice regarding the Commission decision to renew authorisation of this chemical.

At its third [meeting](#) in July 2016, two new requests were presented to the HLG on behalf of Commissioner for Health, Vytenis Andriukaitis: an explanatory note to describe in scientific terms the new techniques used in animal and plant breeding, and a request for advice on the risk assessment procedures underlying market authorisations for plant protection products to support the forthcoming pesticide legislation review.

At its first meeting, the HLG also discussed potential topics on which it could pro-actively propose advice. Some of those topics related to science policy, such as inequality in research systems in Europe or the problem of the brain drain, were considered to be beyond the scope of the HLG at the second meeting. Deliberations continued at the third meeting and one pro-active topic should be selected at the fourth HLG meeting⁷ in September 2016.

The SAM secretariat

A small group within DG Research and Innovation helped form the SAM and supported the Identification Committee. In October 2015, a SAM unit [reporting](#) directly to the deputy director-general was set up within DG Research and Innovation and became known as the SAM secretariat. The SAM unit also covers the sector of ethics and research integrity⁸ and the secretariat of the European Group on Ethics in Science and New Technologies ([EGE](#)). The SAM secretariat⁹ provides operational support for the HLG in organising its activities. Its other tasks include identifying and facilitating access to the best scientific evidence on topics tackled by the HLG. This evidence can be provided by internal Commission services, whether the JRC or related entities such as existing expert panels advising the Commission or the European agencies.

The SAM secretariat can also gather scientific evidence externally from the scientific community through publications or academies at national and European level. Scientific evidence is also an output of the research projects supported by EU funding under Horizon 2020. Some Horizon 2020 projects, such as the European Knowledge and Learning Mechanism to Improve the Policy-Science-Society Interface on Biodiversity and Ecosystem Services ([EKLIPSE](#)), are also fully dedicated to producing scientific advice.

The Science Advice for Policy by the European Academies platform

Academies, as self-governing communities of scientists and scholars, are among the key institutions that provide policy-makers with scientific advice at national level. At European level, there are four networks of national academies.

- All European Academies ([ALLEA](#)), the European federation of academies of sciences and humanities, brings together 67 academies from 41 countries in the Council of Europe region.
- The European Academies Science Advisory Council ([EASAC](#)), a network of 25 national science academies of EU Member States, Norway and Switzerland, provides policy-makers with scientific advice in the areas of the environment, energy and the biosciences.
- [Euro-CASE](#) is a grouping of academies of engineering, applied sciences and technology from 22 European countries, with a special focus on innovation, energy and bioeconomy policy.

- The Federation of European Academies of Medicine ([FEAM](#)) brings together 18 national academies of medicine and medical sections of academies of science.

In addition to these networks, [Academia Europaea](#) is a Europe-wide humanities, arts and science academy founded in 1988 with around 3 500 individual members.

On 26 March 2015, these five organisations signed a [Memorandum of Understanding](#) for closer collaboration, especially in the field of independent scientific information and advice to society and EU policy-makers.

To support the SAM secretariat in its task of collecting scientific evidence for the HLG, the Commission decided to back the establishment of a collaborative platform led by these organisations. The funding for this platform is provided by a specific grant of €6 million for four years under the Societal Challenge on inclusive, innovative and reflective societies within the Horizon 2020 [2016 Work Programme](#).

This platform is designed to improve coordination between individual academies from different Member States and to facilitate their contribution to the European Commission policy-making process. It also provides support for academies to work together on topics of common interest; to promote cooperation across scientific domains in order to tackle interdisciplinary policy challenges more efficiently; to provide timely scientific evidence to support the work of the SAM; to develop a working mechanism and use it to provide rapid and efficient scientific advice; and to support individual academies in developing scientific advice. Other qualified stakeholders such as universities or research-performing organisations are also expected to contribute to the activities of the platform.

In March 2016, the presidents of the five organisations [met](#) the members of the HLG at the group's second meeting, in order to discuss models for their future cooperation. They also agreed to support the HLG in the formulation of its opinions on the two issues being dealt with by the HLG by providing scientific evidence.

The Science Advice for Policy by the European Academies (SAPEA) proposal presented by the academies networks [includes](#) various work packages. The bulk of the platform's activity will involve producing multidisciplinary scientific advice by harvesting scientific evidence from the 100 academies. Communicating the advice in different formats will be a key aspect of SAPEA work. The platform will also provide academies with assistance in producing scientific advice by developing quality assurance instruments and by sharing best practices.

SAPEA's work will be overseen by the presidents of the five organisations involved. A team including a senior scientific policy officer, a head of communication and five scientific policy officers should be set up in autumn 2016, as the SAPEA proposal is expected to be approved by the Commission by October 2016.

Main references

[Strengthening Evidence Based Policy Making through Scientific Advice](#) – Reviewing existing practice and setting up a European Science Advice Mechanism, European Commission, May 2015.

[Scientific advice for policy-makers in the European Union](#), V. Reillon, EPRS, European Parliament, September 2016.

Endnotes

¹ In July 2014, nine health and environment NGOs [considered](#) that 'the post of CSA is fundamentally problematic as it concentrates too much influence in one person' and that the position was 'unaccountable, untransparent and controversial'. In August 2014, 24 NGOs [stated](#) that 'there should be more objective and diverse expertise available

to policy-makers than any single adviser could reasonably be expected to provide'. An overview of scientific advice systems and the situation concerning the position of Chief Scientific Adviser are provided in [Scientific advice for policy makers in the European Union](#), V. Reillon, EPRS, European Parliament, September 2016.

² The SAM was expected to be operational by autumn 2015. However, the HLG met for the first time in January 2016 and the academies platform is expected to start its activities in autumn 2016.

³ The list of organisations directly consulted by the committee is included in the [statement](#) on methodology.

⁴ A full review of the selection process is presented in the [Identification Committee Activity report](#).

⁵ The budget [line](#) is 08 01 05 03: External personnel implementing research and innovation programmes — Horizon 2020.

⁶ Glyphosate is an active substance in herbicide. Studies from health agencies on its potential carcinogenicity were at the centre of controversy surrounding the [renewal](#) of the authorisation of glyphosate by the European Commission. For the position of the European Parliament, see [Renewing authorisation for glyphosate](#), D. Bourguignon, EPRS, European Parliament, April 2016.

⁷ This meeting will take place during the 2nd International Network for Government Science Advice [Conference](#) to be hosted jointly by the European Commission and the International Network for Government Science Advice ([INGSA](#)) in Brussels.

⁸ This sector was previously included in the Science With And For Society Unit.

⁹ When the SAM was proposed by Commissioner Moedas, it was [expected](#) that the secretariat would employ up to 25 civil servants. The composition of the SAM unit shows that less than 10 full-time administrators are currently working for the SAM secretariat.

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