



# SCIENCE EUROPE

## GUIDANCE ON SCIENCE FOR POLICY ACTIVITIES

Principles, Actions, and Examples

April 2024



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April 2024

Science Europe 'Guidance on Science for Policy Activities: Principles, Actions, and Examples'

DOI: 10.5281/zenodo.10911927

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Acknowledgements: Science Europe would like to thank its Working Group on the Green and Digital Transition, with special thanks to its Chair Malin Mobjörk (Formas).

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# Foreword

In an era of unprecedented global societal challenges, the role of scientific research in informing decision makers has never been more critical. As we grapple with issues ranging from climate change and biodiversity loss to artificial intelligence, ageing societies, growing inequalities and pandemics, the call for science to contribute to tackling societal challenges has never been more evident. The interactions between science and policy making are complex. Yet, we are aware of this complexity, and we need to engage.

At Science Europe, we are committed to “strengthening the role and contribution of science in tackling societal challenges”, as stated in our Strategy Plan for 2021–2026. This Guidance represents a milestone in our ongoing efforts to improve science-policy interactions. Our role should be to enable, facilitate and support science-informed decision making following our Member Organisations’ institutional mandates and our [Values Framework](#) as Science Europe. This Guidance follows the 2023 report ‘[Science-Policy in Action: Insights for the Green and Digital Transition](#)’. I am grateful for the active engagement of the Working Group for the Green and Digital Transition, which developed its reflection on science-policy interactions for all Science Europe Member Organisations.

At its core, this Guidance is grounded in the belief that effective policy making benefits from science-informed contributions.





Central to our vision is recognising the unique role that research organisations play in facilitating the bi-directional exchanges between the policy and research communities. By serving as intermediaries and facilitators of these dialogues, our Member Organisations have the opportunity to catalyse transformative change, supporting the emerging approaches promoting the use of scientific outcomes for policy purposes such as mission-oriented research, and drive progress towards our shared goals. This Guidance aims to empower research organisations to fulfil this vital role with confidence and purpose.

The principles and values outlined in this report serve as guidelines for research funding and research performing organisations embarking on Science for Policy activities. From the importance of institutional mandates and dedicated resources to the principles of quality, integrity, and transparency, these guidelines provide a roadmap to develop science-informed policy making. By adhering to these principles, research organisations can ensure that their contributions are grounded in sound scientific evidence and guided by a commitment to the public good.

Together, we want to harness the role and contribution of science to tackle societal challenges. It is our responsibility to build a better world for the generations to come.

**Mari Sundli Tveit**

*President of Science Europe*

# Introduction

Scientific research can and should support policy makers in navigating how to tackle societal challenges. Decision makers deal with complex, knowledge-demanding challenges for which simple solutions do not exist. Science can provide rigorous evidence of the challenges that they want to and must address, enabling a better understanding of the problem and assessment of the likely implications of available options. This type of science-based contribution is able to improve the quality, effectiveness, and efficiency of policy making. This is the case for all policy challenges, but is particularly important for multi-disciplinary challenges, such as climate change, biodiversity, digitalisation, artificial intelligence, or pandemics, which require a clear understanding of all the issues.

This Guidance aims to support Science Europe's Member Organisations in developing their activities on 'Science for Policy', which refers to the interactions between policy and research communities. These guidelines build on the 2023 survey-based report '[Science-Policy in Action: Insights for the Green and Digital Transition](#)' that mapped Member Organisations' activities to promote and support science-informed policy making. The current Guidance and the 2023 report were realised with the dedicated support of Science Europe's Working Group on the Green and Digital Transition.


Encouraging and supporting Science for Policy activities is a fundamental part of Science Europe's [strategic priority](#) to "strengthen the role and contribution of science in tackling societal challenges" and the [related action](#) to "promote the role of science in shaping input for sustainable development beyond 2030." This objective aligns with the EU Council Conclusions adopted in December 2023 that promote the role and impact of research in policy-making processes. While this Guidance was conceived for Science Europe members, it may also be relevant for other research funding and performing organisations, as well as the broader policy and research communities.

# Background and Positioning

This Guidance discusses ‘Science for Policy’ activities from the perspective of national research funding and performing organisations. This organisational angle aims to complement other viewpoints, such as those of individual researchers (see JRC’s tools ‘[Smart4Policy](#)’) or policy makers (see the EU Commission’s works on [evidence-informed policy making](#)). This Guidance provides an overarching framework and practical suggestions that each organisation can adapt to their mission, capacities, and contexts in developing its Science for Policy activities. Nonetheless, the fundamental belief is that **science can and should contribute to policy making in tackling societal challenges**. Specifically, scientific research can support decision makers in tackling complex, knowledge-demanding challenges, such as those defined by the United Nations’ Sustainable Development Goals (SDGs).

Science–policy interactions are complex. The emergence of misinformation, fake news and the so-called ‘post-truth’ politics caused a period of discredit for science. However, the COVID-19 pandemic has emphasised the crucial role of science-informed and evidence-based policy advice in decision making. Several reports and initiatives were recently launched to capitalise on the experiences gained from the pandemic, during which decision makers had to make rapid, complex decisions in a context of extreme uncertainty and turned to scientists as reliable sources. While scientific contributions have always been used by decision makers, this renewed interest is leading to better-structured and more ambitious interactions, clarifying roles, functions, mandates, and terminologies. Research funding and performing organisations are involved in supporting these exchanges between research communities and decision makers.





More recently, the emergence and diffusion of Artificial Intelligence (AI) and machine learning poses new questions: these technologies can significantly facilitate the summary and review of large bodies of (scientific) contributions for policy purposes. However, how to ensure the quality, rigour, and reliability of these automated summaries is still an open question. While the debate on AI-related impact is still at an early stage, its implications on Science for Policy activities already pose major challenges.

***“Science Europe and its members strongly believe that scientific knowledge can and should contribute positively to how societal challenges are tackled.”***

In December 2023, the EU Council set the framework on ‘Science for Policy’ activities, *“encouraging [...] to foster the establishment of a ‘Science for Policy’ ecosystem to connect the scientific and policy making communities in Europe”* (see 9.b in the [EU Council Conclusions](#)). In this perspective, this Guidance aligns with the broader European debate based on the principle that *“science should [...] be a key part of the process of preparing for political decisions, as well as for implementing, evaluating, and communicating them”* (ibid). Based on the most recent and advanced experiences, this Guidance aims to support the growth of well-organised interactions across policy and research, in Europe and internationally.


Science Europe and its members strongly believe that scientific knowledge can and should contribute positively to how societal challenges are tackled. Scientific knowledge helps understand complex challenges and assess the possible actions to be taken. This complex task requires proactive incentives and dedicated actions: it does not happen spontaneously. The policy and research communities often speak different ‘languages’ and

have different rationales and priorities: the recognition and acknowledgement of these differences (which have always existed) are crucial to improve fruitful exchanges.

Science for Policy activities imply enabling constructive exchanges between both policy and research communities – that is, identifying policy issues benefiting from scientific input and translating research findings into policy-relevant contributions. While all scientific knowledge is relevant, policy needs are specific and differ from purely curiosity-driven or industrial/market-oriented research, for instance. Aligning research agendas with policy needs has the goal to improve the collective understanding of societal challenges and assess available policy options. For this purpose, Science for Policy aims to identify relevant policy challenges, compile and synthesise research findings turning them into actionable knowledge for policy purposes. The other way round, public policy also shapes and orients research activities with thematic calls, co-design of research programmes, support for research infrastructures, and educational programmes. These examples show the bi-directional relationship between policy and research.

The European Commission has been particularly active in Europe via the Joint Research Centre (JRC) and with Science Advice for Policy by European Academies ([SAPEA](#)). The JRC published a [Handbook on 'Science for Policy'](#), followed by a specific training course and a series of national [workshops](#). Furthermore, SAPEA released a major report on ['Making Sense of Science'](#) in 2019, discussing the more theoretical aspects of Science for Policy. The European Commission's October 2022 staff working document ['Supporting and connecting policy making in the Member States with scientific research'](#) can be seen as the essential reference at EU level. In March 2023, the ['Competence Framework 'Science for Policy'](#) was published by the JRC, presenting the five competence





clusters for individual researchers. In December 2023, a second report was published with '[An evaluation framework for institutional capacity of science-for-policy ecosystems in EU Member States](#)'. Finally, the [Council Conclusions](#) adopted in December 2023 can be seen as the culmination of this process.

In addition to this growing interest, the International Network for Government Science Advice ([INGSA](#)) has become an even more relevant forum for scientific advice. INGSA gathers similar experiences globally, demonstrating increasing focus on Science for Policy following the COVID-19 pandemic crisis. These references provide some examples of a longstanding discussion on science–policy interactions.

In this context, Science Europe launched the survey-based report '[Science–Policy in Action: Insights for the Green and Digital Transition](#)'. This study was carried out with the support of Science Europe's Working Group on the Green and Digital Transition, to gather examples and experiences from Member Organisations. A complementary collection of video lessons for (young) science–policy advisors was extracted from a [dedicated event](#) where top scholars and high-level research leaders shared their expertise. Based on these outcomes, the Working Group developed these guidelines for Science Europe's Member Organisations.


# Defining 'Science for Policy' Activities

In our study, '[Science–Policy in Action: Insights for the Green and Digital Transition](#)', Science Europe adopted the following working definition: *“Science–Policy Interfaces refer to all the activities carried out by research organisations, such as those funded or performed by Science Europe’s Members, that aim to promote science-informed policy making.”* This definition adopts the organisational angle in the broader debate on Science for Policy ecosystems.

Science for Policy activities have the objective to promote the research–policy dialogue. These interactions should aim to build trust across decision makers and researchers, as well as experts and societal actors (stakeholders, civil society organisations, and citizens) dealing with societal challenges. Specifically, they should include, but not be limited to the following actions:

- Identify policy-relevant research questions, co-designed with policy organisations.
- Present usable synthesis of research findings (briefings, reports, policy-oriented studies).
- Organise research–policy events (workshops, seminars, conferences) to exchange scientific results and policy priorities, aligning policy and research agendas.
- Co-design policy-oriented research programmes and funding instruments.
- Offer training and exchange programmes to facilitate the interactions between policy and research experts.

Dialogue between policy and research communities is crucial for activities enabling science-informed policy making. Therefore,



Science for Policy activities should be organised by Science–Policy Interfaces (SPIs), actively engaging both sides. The definition of policy-relevant questions is a first type of activity, requiring time, reflection, and commitment. Holistic approaches are needed to co-ordinate policy departments and tiers of government.

On the other hand, SPIs should also involve researchers engaged with societal challenges to address these policy-relevant questions. Gathering policy-relevant scientific contributions and turning them into ‘usable’ and ‘actionable’ knowledge for policy making are essential parts of SPI activities. This process, as succinctly presented, does not happen spontaneously: it requires the active involvement of dedicated organisations acting as intermediaries, ensuring quality, transparency, and integrity in these interactions as well as building trust among actors involved.

In this perspective, two elements should be considered:

- **Contributions should not be prescriptive.** Policy makers make decisions for the collective interests and preferences. Research organisations should help decision makers to navigate complex challenges by providing a rigorous synthesis of the collective knowledge and assessing available policy options and their likely implications. Policy makers receive input from various sources, not just from scientific research: scientific, evidence-based knowledge is one of many sources, including values, opportunities, feasibility, and acceptability. Importantly, however, scientific and evidence-based knowledge plays a critical role in providing factual statements of the challenges at hand and the implications of different options/choices. Therefore, scientific knowledge can improve the quality, efficiency, and even direction of policy making.



- **A collective, multidisciplinary approach is needed.** The scientific method reduces individual biases and bounded rationality. Science-informed and evidence-based policy making requires interdisciplinary and systemic approaches to understand complex challenges, assess different options, overcome personal biases and, ultimately, improve the way societal challenges are addressed. For these reasons, Science for Policy activities should always be seen as a collective process aiming to mobilise knowledge to tackle societal challenges.

Research organisations, such as Science Europe’s members, can act as those intermediaries, facilitating the exchanges in both directions: identifying policy demands and relevant research findings, and then enabling the interplay between science and decision making. More specific principles and values are presented in the next section.

*“Gathering policy-relevant scientific contributions and turning them into ‘usable’ and ‘actionable’ knowledge for policy making are essential parts of SPI activities.”*



# Principles and Values

'Science for Policy' activities should be recognised as independent activities, distinct from policy making and scientific research. Through its work, Science Europe has identified four principles and values that are key in guiding research organisations engaged in Science for Policy activities:



## INSTITUTIONAL MANDATE

Science for Policy activities need to have an explicit institutional mandate given by policy makers to a dedicated body, properly recognised by the scientific community. In this way, the 'mandated' organisations are legitimised to provide 'qualified' scientific expertise and evidence-based opinions. This mandate must engage the institutional leadership to provide adequate organisational settings for science-policy interactions to happen.



## QUALITY, INTEGRITY, TRANSPARENCY

'Science for Policy' activities need to explain their process of gathering scientific contributions transparently. The official mandate must ensure the highest quality and scientific integrity, while relying on the clear commitment and engagement of both researchers and policy makers. Quality also implies the adoption of multidisciplinary approaches, mobilising panels of experts with different backgrounds (instead of relying on individual experts). Transparency requires addressing the uncertainties of scientific evidence and methodological constraints, as well as discussing system boundaries in the analysis, and communicating uncertainties.

## RESOURCES

The mandate for ‘Science for Policy’ activities needs to be associated with dedicated resources, including qualified personnel, sufficient funding, and adequate organisational settings. These resources should be committed for a period aligned with the given mandate, avoiding disruptive interruptions or short-term missions.



## OPTIONS, MORE THAN ADVICE

Science for Policy activities should aim to contribute to policy making as ‘one of the sources’ for decision makers. These activities should present scientific and evidence-based options, rather than prescriptive recommendations. These options should always be provided by panels of experts, not single researchers, to overcome individual biases, provide multidisciplinary perspectives, and help decision makers navigate complex societal challenges.





# Designing & Operating Science for Policy Activities

Based on the previous principles and values, this section presents key steps to develop strategies on 'Science for Policy' activities for research funding and performing organisations. These strategies require: 1) a long-term vision, 2) relevant connections with policy and research communities, 3) methodological and process-oriented expertise on identifying policy issues, synthesising research, and assessing policy options, and 4) communicating findings towards different audiences. Additionally, the activities also include networking with other similar organisations engaged in Science for Policy activities to advance processes and methods. Finally, depending on the mandate and mission, Science for Policy activities could be focused on specific themes (such as climate change or health) or provide more general advice.

The following proposed actions are general and should be adapted to the specificities of each research organisation and its context. The objective is to help research organisations in developing Science for Policy strategies, promoting a fruitful exchange between policy and research communities, as well as with other societal actors.


## Setting up Science for Policy activities

1. **Define the institutional mandate for the selected research organisation.** This mandate should be formalised in an agreement with policy makers and granted to a research organisation with the credibility and resources to implement the following points.

2. **Gather policy-relevant questions to be addressed.** This process should involve societal actors such as policy makers (at various levels, depending on the national settings) and researchers as well as stakeholders, civil society organisations and citizens. This step might require multiple interactions to make sure that the selected topics match policy makers' priorities/needs so that the relevant scientific experts are involved.
3. **Set up a system to gather scientific and evidence-based contributions.** This system should be able to mobilise all relevant disciplines and include a panel of experts to overcome individual and disciplinary biases. The compilation of research should be able to present scientific consensus but also guide decision makers to understand possible disputes in research as well as in society enabling them to better understand wicked problems and possible actions.
4. **Allocate specific resources (funding, personnel, and infrastructure) aligned with the given institutional mandate.** These systems should be adapted to the contexts in which the Science for Policy activities will be carried out.

## Ordinary activities

5. **Organise regular interactions between policy and research communities (discussions, briefings, workshops, and events).** These interactions should aim to gather policy-relevant questions and scientific and evidence-based contributions. The type of interactions can be developed according to the needs and contexts with the overarching goal of building trust between the policy and research communities.

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6. **Deliver regular and/or ad hoc outputs.** The most common products are, but should not be limited to, policy-oriented research studies, events (workshops, seminars, roundtable discussions, conferences), and policy briefs/notes summarising scientific findings.
  7. **Ensure quality, integrity, and transparency.** When providing scientific and evidence-based contributions, the experts' panels should ensure the highest scientific quality, research integrity and transparency. The review of scientific evidence should highlight the way findings were gathered, the resources and tools, and discuss the system boundaries and points of uncertainty.
  8. **Follow up with policy makers about the provided input.** Set up multilateral communication channels with policy makers and other stakeholders to have regular interactions and exchange of information. Policy makers and societal actors should be regularly consulted to ensure that Science for Policy activities contribute to their needs.
  9. **Monitor scientific trends.** Evolving scientific topics should be monitored, beyond the current policy agenda. This monitoring function can be done via systemic literature reviews, interactions with scholars, and participation in scientific conferences. The objective is to ensure updated knowledge on emerging scientific topics is available.
  10. **Disseminate publicly the activities to develop a credible, transparent, and reliable institutional profile.** Consultation with stakeholders on the outcomes of the research-policy interactions should be organised depending on the context. The objective is to build public credibility and reliability vis-à-vis the broader audience.

## Long-term activities

- 11. Create a repository of relevant experts.** This repository should be associated with thematic policy and scientific challenges. Furthermore, it should aim to foster ethical awareness of what it means to be involved as an expert. Specifically, researchers should focus on representing a scientific community, rather than producing new knowledge or advancing their own research activities.
- 12. Build up data repository infrastructure to facilitate policy-oriented research studies.** This data should be accessible for policy makers and researchers (as well as the broader audience) to explore topics to be addressed. These data repository should aim to support activities tackling societal challenges.
- 13. Develop specific training and staff exchanges.** The training activities should include schemes for researchers engaged in scientific and evidence-based policy briefings, and for policy makers involved in science-informed decision making. Furthermore, staff exchange programmes between policy and research organisations can also facilitate and improve, among others, the exchange of information, formulation of questions, risk analysis, and feasibility assessment.
- 14. Network for Science for Policy activities.** Establish and develop contacts and co-operation with other organisations with similar Science for Policy activities. This networking function aims to exchange experiences, expertise, good practices, and other relevant benefits from partnering.
- 15. Evaluate the Science for Policy activities.** These evaluation activities should be aligned with the given institutional mandate.

# Examples from Science Europe Member Organisations

This section presents some examples from Science Europe members to show the previous points in practice. These examples were selected based on the report '[Science-Policy in Action](#)' and contributions from the members of Science Europe's Working Group on the Green and Digital Transition. The objective of this selection is to hint towards significant practices where the principles and values presented in this Guidance are put into practice.






## Health Research Board, Ireland

Ireland's Health Research Board ([HRB](#)) is a specific, inspiring example because the role of research funding organisation is complemented with a long-term and well-advanced strategy for Science for Policy activities. This example is particularly relevant for promoting the engagement of both policy and research communities, building in-house capacity, investing in long-term research support and working with policy makers to identify key questions to be addressed. The '[Science-Policy in Action](#)' report provides an in-depth discussion of this specific case; here, only the key elements and references are presented.

The HRB developed a mixed strategy to support the policy and research dialogue. The internal [Evidence Centre](#) conducts annual evidence reviews, focusing on policy questions from the Irish Ministry for Health. These questions are aligned with national government strategies by the Ministry, while HRB connects them to ongoing research trends in Ireland. HRB research funding applicants must demonstrate the policy relevance of their proposals, among other criteria.

- Encouraging Researcher Engagement: HRB promotes researcher involvement with policy and decision makers, following the 'Buxton-Hanney Payback Framework' that explicitly contains a category for Science for Policy activities (see [example](#)).
- Compiling Impactful Insights: HRB collects information on grant outcomes through surveys and includes policy-relevant



findings and case studies in its annual report (see [2021 edition](#)).

- **Spotlighting Emerging Trends:** HRB actively participates in priority-setting exercises, ensuring research alignment and uptake. It collaborates with the Ministry of Health on the 'Evidence for Policy' programme.
- **Facilitating Knowledge Translation:** HRB supports knowledge translation through initiatives like conference sponsorship and Knowledge Translation Awards for grant-holders.
- **Enabling Research–Policy Exchanges:** HRB promotes science-informed policy making with short-term researcher placements in policy organisations.
- **Navigating Complexity with Evidence:** HRB acknowledges scientific evidence limitations and aids decision makers in navigating complexity through evidence synthesis and appraisal.
- **Investing in Evidence Synthesis Capacity:** HRB has significantly invested in 'Evidence Synthesis Ireland (ESI)' to enhance capacity, provide training, and collaborate with global evidence centres.
- **Empowering Trials and Multicentre Studies:** HRB initiated a programme to establish trial infrastructure and support multi-centre trials.
- **Monitoring Long-Term Trends:** HRB conducts national longitudinal studies to track ageing in vulnerable populations.
- **Strengthening Data Infrastructure:** HRB focuses on enhancing data infrastructure, aligning with the European Health Data Space programme for secure cross-border data sharing.

## Foundation for Science and Technology, Portugal

The Foundation for Science and Technology (**FCT**) in Portugal has established a mixed portfolio of actions on Science for Policy activities. The three most relevant are presented here. First, **thematic R&I agendas** are co-designed with experts and companies to identify national challenges and opportunities in the medium and long term. The agenda-setting process aims to align research activities and policy priorities in areas such as 'Climate Change', 'Circular Economy', 'Ocean', 'Cyber-physical Systems and Advanced Forms of Computation and Communication', or 'Sustainable Energy Systems'.

Second, protocols have been established between FCT, national policy makers, universities and research organisations to facilitate the regular exchange of information, knowledge and priorities (see the examples in the areas of **social sciences** and a call specifically directed to **public policy studies**). Moreover, FCT developed a call for PhD fellowships directed towards non-academic environments for which public administration organisations supporting evidence-informed public policies can be the host institution.

Third, the implementation of prizes to reward researchers engaged in Science for Policy activities, especially in tackling societal challenges. For example, the prize **'Impact of Science on Economy and Society in Portugal'** aims to distinguish scientific work/articles and to foster a forum for discussion on public policy solutions. The importance of these activities is also included in mainstream systems for research assessment and recognition.



# CSIC

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

## Spanish National Research Council

The Spanish National Research Council ([CSIC](#)) is the largest public research performing organisation in Spain, with the statutory mandate to inform, assist, and advise public and private entities on science and technology. CSIC operates this mandate under the principles of financial sufficiency, impartiality, independence, and confidentiality. Its duties include participating in the formulation, evaluation, and execution of scientific and technological policies; contributing to defining public policies to address natural disasters and national emergencies; and implementing government policies related to agriculture, food, environmental protection, oceanography, fisheries, marine environment, earth science and technology.

CSIC fulfils its mandates by evolving from a pure 'knowledge generator' to integrating the role of a 'knowledge synthesiser' in Spain's scientific advisory ecosystem. Specifically, CSIC has developed new structures and activities linking research and policy. For instance, the [Spanish Institute of Oceanography](#) provides a yearly assessment of the state of marine species. In its growing role as a 'knowledge broker,' CSIC runs the following instruments:

- The '[Science for Public Policy](#)' collection gathers eight reports with the aim of contributing to defining evidence-informed policies. Since June 2023, these reports summarise the scientific state of the art and CSIC-specific research lines on

- selected topics, such as forest fires or the management of plastics, for public administrations and the broader public.
- The [Cicero Itineraries](#) are events where CSIC opens its doors, inviting politicians, entrepreneurs, and journalists to visit its laboratories and learn about its research on specific topics, namely those which are part of the European objective on Strategic Autonomy (health, digital, food and energy).
  - The preparation of an Emergency Action Protocol, which stems from the Spanish government's commitment to assist in case of emergencies. This Protocol envisages improving the CSIC response and action during crises.
  - The CSIC [Interdisciplinary Thematic Platforms](#) (PTIs) bring together different research groups addressing societal challenges, together with other stakeholders.
  - The [CSIC Hubs](#) seek multidisciplinary and inter-centre collaboration to foster group collaboration, visibility of research on various topics and the connection with external stakeholders, including public administrations.

## Swedish Research Council for Sustainable Development

Formas, the Swedish Research Council for Sustainable Development, has the institutional mandate to foster collaborations between researchers and stakeholders, recognising the importance of interdisciplinary research efforts in addressing sustainability challenges. It conducts systematic evidence syntheses, strategically aimed at supporting Sweden's environmental objectives. These syntheses are particularly directed towards areas where the state of knowledge remains contested or insufficient, thereby playing a pivotal role in guiding decision making and shaping the trajectory of future research endeavours.

In this context, Formas' [Council for Evidence-Based Environmental Analysis](#) plays a central role. This Council ensures the alignment between national priorities and research evidence synthesis, offering valuable insights on research evidence and recommendations to the Swedish government. The evidence synthesis follows the guidelines produced by [Collaboration for Environmental Evidence](#), which details the steps from planning to reporting of findings with the aim to ensure integrity and transparency throughout the whole process. In Formas' work, a socio-economic analysis is also conducted to complement the systematic review. Depending on the result of the systematic review, the socio-economic analysis focuses on, for example, cost-effectiveness or cost-benefit analysis. Importantly, the analysis focuses on pointing out possible alternatives and their implications - it does not provide recommendations on specific policy measures.

To conduct the evidence-based environmental analysis, Formas has specific financial and staff resources. For each synthesis, external expertise is commissioned to support the analysis. Experts are also commissioned to act as reviewers of the final report. Finally, the Council establishes the conclusions of each evidence synthesis. The syntheses are published and openly available at Formas, and are disseminated through seminars, roundtable discussions and other relevant fora. For an overview of Formas' work with evidence synthesis and to download reports, see [Evidence syntheses](#) on the Formas website.





## UK Research and Innovation

In the UK, several examples of [UKRI](#)-related organisations are active in the field of Science for Policy. Three examples were selected among the units active in Science for Policy.

- The 'Centre for the Evaluation of Complexity Across the Nexus' ([CECAN](#)) at the University of Surrey, funded by UKRI, is a pioneer in testing and promoting innovative policy evaluation approaches and methods across different domains through a series of 'real-life' case study projects. This experimental approach allows for testing new methods and developing new skills and expertise in policy evaluation.
- The UKRI-supported [RIDE Forum](#) unites 24 public sector bodies to enhance environmental research and innovation by facilitating collaboration, reducing duplication, and informing policy making effectively.
- An important aspect is the UKRI internal system to scan in-house policy-oriented expertise. Monitoring in-house capacities includes a system of incentives to engage researchers in policy making. This task is part of the institutional mandate of UKRI.



# Open Challenges

This final section provides elements to integrate the previous discussion and relevant questions to further develop Science for Policy activities.


## Points of Attention

- Scientific evidence should go beyond the funded or performed research to include all available scientific knowledge, from other research funders/performers and other countries. In this perspective, Science for Policy activities do not aim to develop new scientific knowledge, but to gather what exists. The objective is to mobilise the collective understanding by scientific communities on societal challenges.
- Not all scientific research must have policy relevance. The importance of Science for Policy activities should not undermine fundamental, curiosity-driven research activities or other types of scientific contributions.
- Science for Policy activities should be integrated into research and innovation policies, when possible and relevant, to strengthen the role of science in tackling societal challenges. The emerging mission-oriented approach can be seen as an example for identifying policy-relevant questions.
- Incentives and rewards should be implemented and developed to promote research activities addressing the United Nations' Sustainable Development Goals.

## Questions for Next Steps

- **How to adapt Science for Policy activities to the different national settings?** These activities change between federal or decentralised states and 'large or small' countries. Users of this Guidance should reflect on how to adapt these principles to their context.



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- **How to monitor the effects of Science for Policy activities?** This monitoring function is an open challenge that might require developing new tools, instruments, and approaches.
  - **How to evaluate Science for Policy activities?** The evaluation is another open challenge that might require involving stakeholders/users of the interface about their experience; by quantitatively monitoring the outcomes and impacts of Science for Policy activities, and other evaluation instruments. Nonetheless, this should be undertaken by aligning the activities with the given mandate and validating the relevant criteria and indicators.
  - **How to develop the relevant expertise among policy makers and researchers?** The European 'Coalition for the Advancement of Research Assessment' (COARA) looks at developing new models for promoting and rewarding research activities. This important initiative aims to broaden the perspectives on research assessment to include, among others, the contributions to policy making and tackling societal challenges. Similar initiatives should also be developed by decision makers.
  - **What are the implications of emerging of Artificial Intelligence (AI) on Science for Policy Activities?** AI-based instruments can facilitate the review and summary of vast corporuses of scientific publications and contributions. This type of summary can significantly enhance the capacities of qualified professionals engaged in Science for Policy activities, but it risks being automatised without qualified supervision. This challenge should be addressed in the perspective of a fast-evolving technology.

Science Europe will support its Member Organisations to develop their Science for Policy Activities.





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