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From a Policy Problem to a Research Question: Getting It Right Together

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Key takeaways:

- The mismatch between what is studied and what policymakers need to know (or think they need to know) is a crucial reason behind the challenges of increasing the uptake of evidence in policymaking.
- Instead of attempting to ‘translate’ research results at the end of a project, systemic cocreation of research questions early in the process helps mitigate that problem.
- Knowledge organisations, and sometimes individual researchers, can try to bridge this gap by organising systemic linkages between scientists and policymakers, focused on translating policy problems to a set of researchable questions.
- Individuals should not shy away from ‘questioning the questions’ and attempting to understand policymakers’ underlying goals to better define the type of knowledge that is missing. Early involvement of scientists also helps to refine the framing of a problem, bringing more clarity to what a perceived policy problem really is about.
- The JRC experimented with some institutional setups that can be adapted by other institutions. They include dedicated knowledge centres, coordinated work programming focused on policy relevance, exchanges between scientific and policy departments and employing dedicated facilitators between departments. The national and regional activities through Science meets Parliaments/Science meets Regions programme mainstream our philosophy across Europe.



Collaboration and relationships are reported as a key facilitator to evidence uptake (Oliver et al., 2014). Yet, the ‘two communities’ (see Chapter 1) often work in isolation. Science too often tries to bring new issues to the attention of policymakers and place it on their already full agendas as items to resolve (Cairney, 2016). Policymakers often realise after receiving scientific evidence that the information does not respond to the questions they need answering. It is symptomatic of Science for Policy 1.0, where the mismatch between the supply and demand sides of evidence leaves both frustrated and disappointed.

An obvious moment when the two can and should cooperate more is in discussing what knowledge is missing. Listening, engaging and iterating are fundamentals in Science for Policy 2.0, where a real partnership between scientists and policymakers is the driving force. Through such interactions, they can arrive at a mutual understanding about what needs to be answered and therefore what needs to be studied.

Using cocreation in deciding what to study brings two main advantages. It improves the relevance of the science, both through microlevel discussions on specific questions and macrolevel strategic planning of broader research topics. Moreover, dialogue early in the process creates a clear scope for a task, with clear expectations, which itself strengthens the relationship between science and policy, with increasing likelihood of a productive use of research. Over time, it is likely to create trust, and while collaboration should not be limited to defining what to study, it is a perfect moment to start forging these trusting working relationships.

This chapter presents some reasons why rethinking how we decide what to study for policy is important and how cocreation improves the process of scientific support and the implications for scientists. We also present some examples through which we promote dialogue around deciding what to study, and thereby strengthen relationships between science and policy.

Why Rethink How We Define Research Questions for a Policy Context?

The debate surrounding the evidence for policy field has long been focused on a need for translation of scientific results for nonscientific audiences. It implies that the scientific process happens apart from the policy process and that results only need to be better ‘translated’, because scientists and policymakers speak ‘different languages’. However, the responsibility for creating useful science for policy lies not only on the side of scientists: policymakers also need to clearly articulate their needs, knowledge gaps and expectations. In science for policy, the detailed discussion of what needs to be researched should predate the ‘translation’ process as this decision has fundamental consequences for the subsequent policy and research process. Involving scientists already in framing the problem can increase the effectiveness of scientific support and overall legitimacy of policies, provided that a diversity of research perspectives (of and within disciplines) is ensured and complemented by a broader discussion with citizens and stakeholders.



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A lack, perceived or actual, of relevant and clear research is reportedly one of the key factors preventing effective use of evidence in policymaking. Policymakers' limited knowledge of research methods may not help either: it discourages them from using scientific evidence and distorts their expectations of what research can deliver (Oliver et al., 2014). Exchanging only dry assignments and working in isolation without a proper debate on what to study will not help either side achieve their goals.

Following their extensive systematic review of the science of using evidence, Langer et al. (2016) recommended that the processes of 'building consensus on fit-for-purpose evidence and policy-relevant questions [should be made] explicit and more formalised'. They also found that user engagement through building an agreement on what to study tends to be effective in increasing the likelihood of using evidence, next to Delphi panels and journal clubs (Langer et al., 2016, pp. 24–27).

We believe that innovating in the area of defining research needs and questions for policy processes is an extremely important step to increase the chances of policy impact from the use of evidence. It strengthens relationships, increases relevance of research and ensures that policymakers have more accurate expectations for what can be provided by researchers (Oliver and Cairney, 2019).

However, a better alignment of expectations is not always straightforward due to an underestimated difference between the nature of questions posed by researchers and policymakers, respectively. Moreover, the choices about what research to commission or what evidence to include in the decision-making process are not neutral and cannot be decided only on the basis of technical considerations. In fact, these choices are highly political. A decision not to ask or answer certain research questions can have important downstream effects on the policy process. Thus, researchers need to understand that their interlocutors approach problems differently. Policymakers need to include values and political considerations even in the seemingly technical aspects of evidence generation.

Tame Problems Versus Wicked Problems

It is a common claim that researchers and policymakers 'live in different worlds' (Chapter 1). However, a major reason is often unnoticed: namely that their respective problems and the nature of their inquiries are strikingly different. A lack of sufficient understanding of the other lies at the root of common frustrations. Rittel and Webber (1973) explained this tension by comparing the types of inquiries pursued by scientists and policymakers. They contrasted them as 'tame problems' of science versus 'wicked problems' of policy.

In science, the process of *solving* a problem is identical with the process of *understanding* the nature of that problem (Rittel and Webber, 1973, p. 162). Scientific questions, especially those tackled by individual research projects, are typically narrow in scope. Science has a collective responsibility to collect, verify and synthesise these results, in pursuit of more and more coherent knowledge. However, the scientific method cannot answer political or normative questions like 'what should be done about x'. Therefore, the process of interpreting science involves an inferential and philosophical gap between what is described and what conclusions can be drawn on that basis (Douglas, 2009).

Meanwhile, wicked problems of policy are not 'solvable' by technical knowledge. Such problems are defined as discrepancies between the state of affairs as it is and the state as



it ought to be (Rittel and Webber, 1973, p. 165). They are complex, interconnected, infinite and need a multidisciplinary consideration, which makes it difficult to even determine a definitive formulation. It is also impossible to objectively verify whether the solution to them is 'true' or 'false', as in the case of science (where a hypothesis can be objectively verified). Defining a problem dictates the realm of solutions, and as such is a nonneutral exercise. Moreover, there are no criteria that enable one to prove that all solutions to a wicked problem have been identified and considered (p. 164), which makes the process imperfect by nature.

While questions posed to science are of an analytical nature, policymakers also must deal with normative issues. A classical approach of science cannot attempt to *solve* open societal issues of a wicked kind. Policymakers still need to answer the analytical parts – to figure out what the technical possibilities to reach an objective are – but they simultaneously need to reconcile conflicting

values and objectives and also ensure that the course of action is approved by a majority, including of the public. Their best solution is one which best reconciles all these imperatives. Scientists help with the technical part, but the rest falls to the policymakers and decision-makers.

Sometimes research is commissioned to determine whether a policy action is even required. Such assessments should be asked of researchers only in their technical capacity, as they cannot judge the threshold for considering something worthy of a political or policy response. The frame for interpretation comes from policymakers or even politicians and the public. More on the division of roles in the policy context can be found in [Chapter 5](#).

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Scientists' Role in Framing of Policy Problems

Finding solutions to policy questions is not a purely technical exercise and no question is neutral. The way it is defined, some of its key aspects highlighted at the expense of others, bears consequences for what research can be useful and what solutions can be designed. Framing a policy problem is a political decision and an expression of power. However, it is not always a fully conscious choice. Particular definitions of a problem can seem obvious due to unconscious cognitive shortcuts, such as availability bias, confirmation bias and group reinforcement, among others (Hallsworth et al., 2018).

It is here that scientific experts, impartial as they should be, can propose reframings¹ and lead the discussions on possible alternative definitions of problems, questions, variables, indicators and methods to capture the relevant type of information. This is also the right moment to understand and explore the values behind a policy direction from the facts sought to inform the decision, distinguish the solutions from the diagnosis (Hallsworth et al., 2018, p. 31). Engaging in reframing and other self-critical reflections increases the chances that the

¹More on the concrete strategies can be found in Dewulf and Bouwen (2012). Hallsworth et al. (2018) also cover solutions to mitigate the other abovementioned biases.



right knowledge is employed in the process and that a more nuanced definition of the problem could be adopted. Techniques for widening the frames are discussed by [Dewulf and Bouwen \(2012\)](#), as well as [Hallsworth et al. \(2018\)](#). Some of the design approaches ([Chapter 13](#)) can also be useful in that endeavour.

This can only work if done together with policymakers. Scientists' role is then a supporting one, almost one of a facilitator, monitoring if the evidence is not abused, incorrect conclusions drawn and facts weaponised. Scientists have the right to point out some logical fallacies or inappropriate use of evidence in the process of problem definitions (although in a constructive tone, see more in [Chapter 5](#)). Due to their political nature and a need for legitimacy of such a process, reframing activities also benefit from citizen engagement, either through their direct involvement in the process or by using insights generated through previous participatory activities. Given the uncertain and highly contested area of science for policy, citizens should be able to influence what needs to be researched by the experts hired to provide the evidence and to increase the quality and legitimacy of the process. For more details, see [Chapter 8](#).

Implications for Science for Policy Researchers

Acknowledging the difference in respective questions of science and policy and the politically constructed nature of questions has consequences for researchers.

Firstly, they cannot expect the same analytical-only approach from their policy interlocutors. Given how many factors influence finding a solution on the policymaking side, the mindset of policymakers will be far from purely analytical ([Oliver and Cairney, 2017](#)). Hence, it is very important to speak of evidence-informed, rather than evidence-based, policymaking. To properly understand what needs to be researched, scientists need to know the ultimate policy goals and major unknowns among policymaking actors (including citizens and stakeholders). This helps them design research questions more likely to provide answers relevant for drafting policy responses to advance these goals. It is not about cherry-picking data, but understanding where knowledge is lacking. Sometimes it means that the questions initially posed change radically because only through dialogue both sides realise the true extent of the knowledge gaps and evidence needed to bridge them.

As policy questions and research questions are not interchangeable, there is a need for an iterative process of translation from policy questions to research questions. This implies active engagement, openness and attention to detail. It has to be done in a cocreative way, including opening up and 'questioning the question'.

Researchers should not take policy questions at face value. The questions posed in 'dry' assignments do *not* specify such levels of detail, so they require actual in-depth conversations. Equally, the questions *not* being asked by policymakers are worthy of consideration.

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The decisions about several aspects of a research design have to be made: population, indicators, measurements, definitions, scope, etc. It means debating whether the questions expressed are really the ones to be answered. It is an analytical inquiry, a systematic analysis of knowns and unknowns to finally propose better alternatives in order to produce the most relevant knowledge to fill the gaps identified by policymakers. Given how little one side knows about the other, and how differently they conceptualise answerable questions in their 'bubbles', scientists should not fear probing for more information to make sure their research is relevant.

In the policy context, scientific research is used with sociopolitical concerns in the background. This means that research findings may become politically inconvenient or touch upon issues which are politically sensitive. A dialogue on the questions and expectations allows to fully assess the sensitivity of an issue and adapt a communication strategy accordingly, early in the process. It includes both a plan on how to communicate sensitivities to policymakers, and to external audiences, with the right framing and appropriate degree of confidentiality.

Our Best Practice

We have established that the nature of questions that policymakers deal with and ones that scientists respond to makes it necessary to work together on deciding what knowledge to collect, to avoid misunderstandings. Here are a few strategic activities that the JRC has implemented in order to foster the relationships with policymakers and the collaboration around research needs for policy.

We Experiment With Novel and Interdisciplinary Approaches to Governance of Knowledge

In order to increase the relevance and uptake of our research for policymaking, we have set up special entities focused on knowledge for policy in several priority areas (e.g., migration and demography, disaster risk management, territorial policies, among others). These so-called Knowledge Centres (managing knowledge around a certain area) help to collect policy-relevant knowledge and questions around a given field in one place.

The joint governance of the Knowledge Centres by research and multiple policymaking departments ensures that the research questions in their action plans are truly driven by the knowledge needs of policymakers. The diversity of participants helps to make sure that the cross-cutting 'wicked problems' meet a policy response as comprehensive and as coherent as it can be, accompanied by relevant knowledge to answer appropriate questions. They are, however, just as important in managing the policy questions as in managing knowledge. Often comparing questions from different policy actors reveals the deeper knowledge needs behind the questions or alternative framings.

The Knowledge Centre on Migration and Demography (KCMD) is one example of this approach. It is steered by eight Commission departments and the European External Action Service, who regularly meet in the KCMD Steering Group at middle management level, including inter alia departments responsible for migration and home affairs, international development, civil protection and humanitarian aid, foreign policy, EU political strategy, research and statistics.



Recent work of the KCMD on improving EU migration data is a good example of our cocreation when it comes to knowledge gaps. Data on migration are known to be patchy and not always timely. Instead of trying to improve the situation alone only on the research supply side, the KCMD organised a regular series of workshops to discuss EU migration data with relevant Commission departments and EU agencies who are either users or publishers of migration data. Together, they focused on identifying uncertainties and gaps in data, reviewing analytical tools and policy needs, and on the most relevant concrete actions to improve the data. KCMD efforts are also strengthened by multiple internal and external partnerships and collaborations of data scientists, economists, policymakers and operational authorities.

Sustained close relationships with groups of policymakers allow to provide tailored support to Commission departments for priority ad hoc analysis requests. Parallel to the Knowledge Centres, we also run Competence Centres, which facilitate the use of specific tools in policymaking (e.g., foresight (see [Chapter 12](#)), modelling (see [Chapter 18](#)), text mining, evaluation, among others).

Our Work Programme Is Tuned in to the Policy Priorities

Ensuring that what scientists study remains close to policy needs can be achieved through various ways. Face-to-face interpersonal interactions represent an important channel for cocreation. In the JRC, this approach is complemented by a top-down process, the Work Programme. Designed to provide an overview of the JRC's annual research activity, its coordination process provides additional benefits. Indeed, the Work Programme goes through a set of formal processes throughout its yearly production cycle, which allows policy considerations to input into research planning.

For instance, the Work Programme undergoes ex ante and ex post evaluations, whereby independent panels scrutinise respectively planned work and delivered outcome to check their policy relevance. At the ex ante stage, panels deliver opinions to senior staff on such relevance. These opinions trigger strategic discussion at the top level of the organisation and can lead to significant modifications.

The Work Programme is also submitted to all policy departments (Directorates-General, DGs) for consultation. This process is yet another check of policy relevance where DGs are formally invited to share views on ongoing cooperation. This consultation allows policymakers to flag new priorities and represents an opportunity to discuss new cooperation.

It is important to note that not all research organisations enjoy such proximity to policymaking processes. Equally, this formal macrolevel planning does not replace the importance of interactions between individual researchers and policymakers on lower levels (sometimes strengthened by facilitators and knowledge managers), to ensure alignment of details or fulfilling the needs emerging ad hoc beyond the planned activities. The JRC Work Programme may not be directly replicable in other organisations, but it highlights how a top-down approach can complement lower-level interactions to ensure policy relevance. The principles behind our system – debate, consultation, evaluation – can be incorporated in other forms, with equivalent policy audiences. [Chapters 13](#) and [7](#) provide some inspiration for the cocreative processes.

Our Scientists Join Policy Departments through Short-term Exchanges

With a growing complexity of policy problems, the JRC staff must become more agile, be able to quickly grasp the orientations of priorities in policy support while maintaining scientific excellence. Close relationships with policymakers help orient in such an environment



([Chapter 5](#) elaborates on that further, with more information on managing related risks in [Chapter 10](#)). To that aim, we set up the JRC Exchange Programme, which gives a possibility to participate in a short-term stay (2–4 weeks) in policy departments relevant to one's scientific work. The visits are most frequently based on already existing collaborations with policymakers and help deepen the relationships.

The exchange is meant to help scientists

- Gain better insights in policy development processes;
- Foster working relations and strategic collaborations;
- Provide feedback on key policy issues requiring scientific input;
- Give ad hoc support to the host in helping them understanding specific scientific issues in policy debates.

While the exchanges are not designed solely to focus on defining research questions, it is one of the crucial tasks they can accomplish. The exchanges happen throughout the whole year, which means that researchers and their managers can propose a stay at a moment most suitable, e.g., for defining the scope of a new project or for best understanding the needs of policymakers for an upcoming big collaboration.

The exchange also helps forge stronger relationships through systematic, face-to-face contact. Trust and better contextual awareness of each other's realities develop. This principle is in some areas extended in efforts to create 'mirrored units' in the JRC and policy departments, whose work is complementary and where staff often has experience of working on the other side.

We Empower Facilitators Between Science and Policy

The science-policy interface is a broad field with many roles on the spectrum from pure scientists to politicians. We believe all researchers working in organisations aiming to impact policy should be aware of how science for policy differs from pure science. However, not all of them will be in direct contact with policymakers and will not have to acquire all the knowledge about the policy context.

The culture of Science for Policy 2.0 relies heavily on teamwork. Different parts of scientific organisations count on each other for knowledge and skills relevant to effective policy support ([Chapter 4](#) explains these in detail), contributing to joint impact. In the JRC, we have a team of desk officers and knowledge managers with knowledge of specific policy fields that facilitate collaboration between our scientists and policy departments. Researchers are still encouraged to engage with policymakers bilaterally, but the transversal perspective and expertise provided by these desk officers offers an additional advantage, both to scientists and to policymakers. Literature names them knowledge brokers, but we consider the entire JRC as a knowledge broker. Therefore, we rely on other terms to refer to these actors.

- Our facilitators strive to establish or complement connections and interactions between policymakers and scientists and facilitate the exchange of ideas regarding what and how to study to address a policy problem. Far from replacing existing relationships between the two communities, they act as a catalyst to increase cooperation and craft new ones.
- Our facilitators help increase context sensitivity. They can provide insights on policy developments and advise on ongoing or future processes to identify windows of opportunity for input. Reporting on political events can also help translate their significance to researchers, thereby making them aware of the nuances of a policy field.



- Our facilitators help instil interdisciplinarity in the organisation. With the emergence of increasingly more complex policy questions, the required expertise needs to come from multiple fields. These multifaceted issues highlight the need to draw knowledge from various areas and bring experts together. By being in-between policy and science, facilitators benefit from an understanding of a policy issue and of an institutional setup in the research community. They can utilise this transversal view point to identify synergies, introducing experts from additional fields to the mix.

We Stimulate Dialogue and Stronger Relationships Between Scientists and Policymakers in the National and Regional Contexts

Our way of working is not limited to the European Commission or the EU level. We want to promote the culture of cocreation in evidence-informed policymaking throughout Europe. One way we go about it is by organising the ‘Science meets Parliaments’ series of events with the European Parliament since 2015, later extended to ‘Science meets Regions’ events across Europe. These events bring together scientists and policymakers at EU, national and regional levels and engage them in a regular dialogue to find the right approach to how science can best support the local challenges at hand.

We tested the concept in Brussels and in some other EU regions on a smaller scale before we rolled out an EU-wide pilot project ‘Science meets Parliaments/Science meets Regions’, approved by the European Parliament, in 2018–19. Our events are now present in 26 member states, regions and cities, supporting scientists and policymakers in finding local solutions together while stressing the importance of evidence in policymaking. While we facilitate these events and lend scientific support where relevant, the ownership ultimately lies with the local organisers themselves, who define with local scientists the issue they want to tackle and the expertise they need.

To this end, we fund events accompanied by scientific studies, with the local organising authorities taking full ownership of the event and its follow-up. We are also preparing an educational package for policymakers to help them effectively collaborate with researchers and make use of scientific evidence in their own decisions.

Conclusion

Despite seeming like technical debates, honest discussions about knowledge needs and defining the policy-relevant research questions are a process of political negotiation. They mix power relations, expert advice, values, cognitive shortcuts and time pressures. They require trust and strong relationships, as well as mutual understanding of each other’s potential and expectations.

Done well, through an interaction and with the inclusion of citizens’ and stakeholders’ perspectives, these processes bring an increase in quality of science for policy in a complex world. A broader consensus, as opposed to singular decision of either scientists or policymakers, increases the legitimacy and relevance of the knowledge being produced. Moreover, the collaborative approach strengthens the trust and relationships in the science–policy interface, clarifies expectations and increases the chances for the research to be productively used.