

# **How much evidence is in evidence-based policymaking:**

## **A case study of an expert group of the European Commission**

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## **Introduction: The Mode of knowledge co-production in modern Knowledge Societies**

Sustainability science describes processes and mechanisms within a new and inclusive strategy of knowledge co-production. This solution-oriented approach allows for analysing problems as they occur in real life (Lang et al., 2012; Popa et al., 2015). A typical organisational framework for knowledge co-production is a “Hybrid Forum”. Gibbons et al. (1994) describe hybrid fora as meeting points for a diverse range of actors and as a new market for knowledge exchange and expertise. Scientists may interact with practitioners and other actors who are not included in the traditional scientific research process. Hybrid fora stand for heterogeneous contexts and social positions. They have different competencies and encompass heterogeneous worlds of relevancies. In most cases, the main goal of the cooperation between heterogeneous actors within such a Hybrid Forum is to discuss, negotiate, and bargain for a solution to a specific problem with real-life application (Binderet al., 2015; Krick, 2014; Scholz et al., 2006; Takeuchi, 2014; Wiek et al., 2014). Real-life problems are usually very specific and therefore require knowledge that is “socially robust”, which means that it must be precise and applicable to the specific case (Scholz and Steiner, 2015a; 2015b). In contrast, science traditionally aims to develop universally valid and objective knowledge that is free of any specific context and based on predictions. This may result in uncertainty in the specific situation of real-life decision-making.

*“Researchers ... often produce scientific evidence which is not always tailor-made for application in different contexts and is usually characterized by complexity and grades of uncertainty.” (van Kammen et al., 2006, p. 608).*

Thus, mainstream scientific methodologies are often poorly equipped to deal with complex sustainability problems of real life (Popa et al. 2014). To overcome this limitation of the traditional knowledge production, a move to transdisciplinary collaborations, which brought together scientific and extra-scientific expertise, took place.

## **Theoretical framework: The transformation from disciplinary knowledge production to transdisciplinary knowledge co-production**

Social changes and global crises led to a transformation of the way knowledge was produced in and for society. Gibbons et al. (1994) described this transformation as a transformation from an exclusive scientific “Mode 1” to an inclusive and open “Mode 2”.

### *The concept of traditional disciplinary knowledge production in Mode 1*

Mode 1 stands for the old paradigm of scientific discovery. This mode could be characterized by the hegemony of an autonomous system of science. Here science was the system that systematises existing knowledge and is responsible for the production of additional knowledge. This production of new knowledge is usually guided by an internally-driven taxonomy of scientific theories of a specialised research discipline and analysed using approved experimental research methods. In Mode 1 scientific norms and regulations define which practices of knowledge productions are scientific and thus appropriate for this mode of knowledge production. So, for Mode 1 the hierarchical knowledge order is typical. This knowledge order differentiates between scientific appropriate knowledge and extra-scientific knowledge that is not appropriate and has to be excluded from this mode of knowledge production. Furthermore, Mode 1 can be characterised as exemplary knowledge, which is based on prediction and is primarily produced for the cognitive context of reflection. This means that it is produced for people to think over. In Mode 1 researchers stress that their knowledge is not produced for a direct application in real contexts (Gibbons et al., 1994).

### *The concept of Knowledge Co-production in Mode 2*

Mode 2 of knowledge production can be seen as an alternative means of knowledge production and is characterised as open and inclusive. All relevant stakeholders are included within the organisational process of a transdisciplinary discourse. Frontiers between scientific disciplines and the hierarchical knowledge order are hereby overcome and science acts as one agent among other complementary, extra-scientific agents (Nowotny et al., 2001; Scholz and Steiner, 2015c; Takeuchi, 2014).

*“Individuals from other social groups, whether members of other scientific communities, industrial partners or lay people, are now actively sought, valued and welcomed in the new game of knowledge production.” (Nowotny et al., 2001, p. 103).*

The aim of integrating heterogeneous forms of expertise is to use all the available knowledge by reflecting and merging their differing traditions, values, and preferences. Nowotny et al. (2001) describe this process as “contextualisation” of knowledge. Ideally, this contextualisation in different relevance systems of the heterogeneous stakeholders leads in negotiations on different solutions for a problem that can be synthesised by processes of “cross-fertilisation” (Choi, Yang and Park, 2015) to a common perspective. The common solution is then an innovative knowledge that is “socially robust”, shared by all stakeholders and capable of coping with specific real-world cases (Kauffman and Arico, 2014; Scholz and Steiner, 2015a). So to conclude, the essence of this form of knowledge co-production is to combine different epistemics (i.e., ways of knowing) to deal with a complex, societally relevant real-world problem (Scholz and Steiner, 2016a). Furthermore, the integration of relevant stakeholder groups creates a feeling of responsibility for problems and legitimisation for a common solution (Boswell, 2009; Lang et al., 2012). Hence, an ideal process of knowledge co-production in a Hybrid Forum leads to an outcome that is based on a number of negotiations and aggregates different worlds of relevancies and a variety of interests, such as practical or policy usefulness, social fairness or scientific rationality (Krick, 2014).

But this ideal theoretical model of transdisciplinary knowledge co-production rests on core assumptions. The first assumption refers to stakeholder's humility and openness to be moved by other stakeholders and their relevancies. The second assumption refers to the absence of a hierarchical knowledge order (Enria, 2015; Lawhon et al., 2010). If both are not the case, this inclusive strategy of knowledge co-production, however, is associated with an increased risk of adding dysfunctional procedures such as strategic and power-driven factors to the processes of knowledge production (Boswell, 2008; Eisenhardt and Zbaracki, 1992). This risk is because the heterogeneous stakeholders express different and often incommensurable or even incompatible worlds of relevancies. These worlds of relevancies influence their reflections on how a problem should be framed or addressed. In turn, these reflections frame how they act in the Hybrid Forum (Giddens, 1984). In practice, a major challenge for such a Hybrid Forum lies in the management of knowledge co-production because the problem context includes a plurality of values and perspectives, making consensus of stakeholder's world of relevancies difficult and unlikely. On the one hand, these leaders should provide equal opportunities to all participants to bring in their expertise, to discuss the problem and to grow intellectually. On the other hand, these leaders are also responsible for stimulating a commitment to the common project goal (Popa et al., 2014).

#### *Evidence-based policy-making as an application of co-produced Knowledge*

A popular example of knowledge application is evidence-based policy-making (European-Commission, 2001; Krick, 2014). Here, decision-makers often rely on specialist expertise co-produced in hybrid expert fora. The evidence necessary for decision-making is produced to anticipate and identify problems, to calculate risks, and to reduce the uncertainty of decisions (Beckert, 2013; Sharman and Holmes, 2010). This strategy is a common practice for political decision-making in the modern knowledge society, on a national as well as on an international

level (Clancy and Cronin, 2005; Nowotny, 2007; Nutley et al., 2010). This way of policy-making characterises the “instrumental” function of knowledge helping to reach its goals by, for example, basing decisions on innovative knowledge or rational facts (Boswell, 2008; Hoelscher and Schubert, 2015). However, studies analysing why expert organisations are in fact consulted in the policy context show that, in addition to their “instrumental” function in ideal contexts of evidence-based policy-making, experts’ knowledge can also have a symbolic function in decision-making processes of organisations. For example, Boswell (2008) differentiates two symbolic functions of expert knowledge in decision-making processes of policy organisations. The first function is “legitimising use”, where organisations request expertise to bolster their claim to resources and to endow their epistemic authority, recognition, and legitimacy (Herbst, 2003). The second function is “substantiating use”, which is the request of expert knowledge to substantiate organisational preferences and to create evidence for already existing decisions. Referring to the concept of evidence-based policy-making, this kind of symbolic knowledge requesting strategy is often characterised as “policy-based evidence-making” (Strassheim and Kettunen, 2014) or “cherry picking of evidence” (Pawson, 2007).

### **Study Objectives: Reconstruction of the Mode 2 knowledge co-production**

While criteria, regulations, and norms influencing Mode 1 of scientific knowledge production are well established, we know little about processes of effective Mode 2 knowledge production in hybrid fora. There are still some theoretical reflections, but given the rise in popularity of hybrid fora, there is a need to analyse how knowledge is co-produced in hybrid fora. It is especially important to analyse which factors influence knowledge production in this setting of multi-source expertise. From the perspective of transdisciplinary research, these studies should especially deal with an evaluation if and how the different perspectives of the

heterogeneous stakeholders are included into the outcome of such a cooperation and focus on which variables effect the inclusion of knowledge in the final outcome (Binder et al., 2015; Krick, 2014; Scholz and Steiner, 2015c). In addition, such an analysis is as well important from a practical political perspective. Following the reflections of Roggenthin (2008) studies reflection knowledge production are as well needed to point out, that indicator studies the European Commission is responsible for, often do not fulfil scientific quality criteria, and by cannot be taken as a resilient knowledge source for evidence-based policy-making. Thus, understanding the dynamics, structures, and functioning of hybrid fora requires a conceptualisation of their structural configurations and their procedural mechanisms (Renn and Klinke, 2013; Scholz and Steiner, 2015b).

*Case Study: An expert group of the European Commission as example of a Hybrid Forum*

To this end, the present study focuses on an exemplary expert group chaired by the European Commission for the co-production of decision-making knowledge. This expert group can be characterised as a Hybrid Forum and consists of actors coming from heterogeneous national and institutional backgrounds. This expert group includes national representatives who, for example, work in national ministries, national statistical institutions or research centres, as well as international representatives coming from the relevant department of European Commission and from Eurostat. The mission of this expert group is to create a set of social indicators (indicator system) that should be used as an information source and accounting measure to promote evidence-based policy-making and thereby to address sustainability development goals on European and national policy levels. The European Commission organises at least one Expert Group Meeting per year in order to create a common solution applying the “open method of coordination” (European-Commission, 2001).

The focus of this study is on empirically reconstructing how knowledge is produced within a Hybrid Forum. Additionally, this study will examine to what extent the knowledge developed within the discussions of the expert group is included as an evidence source in policy decision-making structure.

*Research question 1: “How is knowledge produced in a Hybrid Forum?”*

Building on the theoretical body of research on hybrid fora, this study is particularly interested in the specific factors that influence knowledge co-production and the extent to which it is affected by dysfunctional procedures and extra-scientific knowledge, such as the heterogeneous world of relevancies of the actors of a Hybrid Forum. There are theoretical indications that knowledge production and factors influencing the processes have changed to more pragmatic factors than in the traditional scientific mode (Popa et al., 2015). By reflecting this shift, the study complies with the call to focus more on the individual actors and factors influencing their exchange in hybrid fora (Siciliano, 2016).

*Research question 2: “Who is responsible for the produced knowledge and why is it produced?”*

Additionally, Sharman and Holmes (2010) claim for heightened awareness on why knowledge is produced in such heterogeneous cooperations between science and policy. According to Sharman and Holmes (2010), it is important to consider who produces the knowledge that is finally included in decision-making. Methodological studies show that this requirement is also true for the context of social indicator production on policy level (Høyland et al., 2012; Peeters et al., 2014). Thus, this paper tries to find an answer to the question of who is responsible for the knowledge that is included in the set of social indicators and why this knowledge is produced.



## **Materials and Methods: A Case Study using Multiple Triangulation**

Following Yin (2003a) there are six possible sources of evidence for case studies: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts. According to the recommendations of Martin (2012) and Koier and Horlings (2014), the present case study used a multi-method approach to illustrate how knowledge is co-produced in a Hybrid Forum. Data for the case study were taken from two different data sources (method triangulation):

A documentary analysis of relevant publications written by the expert group and by the European Commission (e.g. meeting minutes or commissions papers). These documents provide background information about the expert group, help to understand the structure of this group and give a hint which information is communicated by the European Commission. Additional to the documentary analysis, eleven expert interviews were conducted with interviewees selected by a theoretical sample (Cohen et al., 2007). This theoretical sampling aspired to select stakeholders of this Hybrid Forum who differ in relevant properties. Eight interviews were with national expert group members from different member states of the EU, representing a wide range of disciplinary backgrounds (statistics, policy, science, and practice). Three interviews were with experts from European institutions (Eurostat or other policy-departments of the European Commission). This research design allowed empirical reflections of processes of knowledge co-production from all relevant stakeholder perspectives (“perspective triangulation”) (McKim, 2015). The main sources of information are the interviews. Participants we chose to contact and interview were all suitable for illuminating and extending our knowledge of this unstudied domain (Eisenhardt and Graebner, 2007).

*(Insert Table 1 about here)*

## *Interviews*

The interviews were semi-structured, most lasting between 60 and 90 min. All interviews were conducted in person by the author as well as they were recorded and transcribed with each interviewee's permission. The aim of the semi-structured interview strategy was to generate a consistent baseline of topical coverage and a flexible strategy of discovery (Berg, 1995; Van Maanen et al., 2007). Thus in most cases, I allowed participants to speak at length and uninterrupted. Within the analytical strategy of this case study, data collection and analysis were developed together within an iterative process (Hartley, 2004). This allows a theory development, which is grounded in empirical evidence. All interviews were analysed using qualitative content analysis with a mixed strategy of deductive and inductive category development (Kohlbacher, 2006; Kuckartz, 2012). A central goal of this case study was to search for patterns in data and to interpret them in terms of the theoretical background of the case study, the social setting in which it occurred and the results of the document analysis. (Patton and Appelbaum, 2003; Neumann, 1997). Thus, the overall goal was to match these patterns and to develop a detailed case description of the structures and procedures of knowledge production.

Finally, the findings of the study have been crosschecked by three external experts as well as by three participants to enhance validity (Hartley, 2004).

## **Results**

Officially, EU expert groups give guidance regarding policy-making and support the European Commission in decision-making. Accordingly, the communicated goal of the group was to create a database for evidence-based policy making on national and international levels.

*“The major goal of this group is to reinforce the evidence-based policy on both sides, EU and national level. So it was decided to set up this expert group in order to identify and decide about common indicators that can be a kind of support of the implementation of a cooperation framework.” (Expert 1: European Commission)*

The common indicator set should be realised by the discourse of this group comprised of 60 experts coming from 26 member states and as well working in different stakeholder areas (like statistical agencies, research institutions, and political institutions) and the European commission (Document: Minutes of the First Meeting). This heterogeneity backgrounds were also perceived by the different experts.

*“On the first look people may actually be very similar, but they are wearing different hats, because they are representing different national bodies. And you hope that if they form the group, that somehow the balance is right. But it is not automatically right.” (Expert 2: Eurostat)*

The analysis of the empirical data highlights that knowledge production within this expert group can be interpreted as a process with two independent stages.

#### *Stage 1 of knowledge production in this Hybrid Forum:*

The first stage of the knowledge production process covers knowledge production that took place during the meetings of the expert groups. This stage of knowledge production is well documented in the meeting minutes.

At this stage heterogeneous perspectives of national and European experts influenced each other in discussion groups. Experts discussed and negotiated indicators that are necessary for the final indicator set. In the interviews, experts emphasised that not only traditional and formal expertise on indicator production such as “statistical competences” or “knowledge of

existing data sources” were important. They mentioned that other non-formal competencies such as “intercultural skills”, “adaption skills”, “negotiation skills”, “language skills”, and other “soft skills” are particularly relevant.

*“And of course communication and intercultural skills are important, to understand what other persons and disciplines bring in. [...] And when it comes to English, [...] I was very surprised that some experts did not say anything. It is problematic when discussions are dominated by experts that speak better English than the others.”*

*(Expert 3: National Expert)*

As already described, the ideal Mode 1 process of knowledge production is a “theory-driven approach” (Niemeijer, 2002). This means that theories guide the researchers as they seek the best possible indicator to cover the phenomenon of interest (Hoelscher and Schubert, 2015). As experts described, theory-based considerations have been excluded from the group’s discussions.

*“I believe that there are more practical issues we are focusing on when we are discussing particular indicators. We focus on issues reported by organisations and by experiences of stakeholders themselves and by the facts. It is always stressed ... that the policy should be based on facts, evidence-based policy. So we are always very careful when it comes to theories. ... Scientists are there to maybe explain based on the theories they represent why it is like that.”* (Expert 3: National Expert)

National experts also mentioned that the indirect invitation procedure guides them into a national policy perspective of acting. That means that national ministries are asked to nominate a national member for this group. Thus national experts do not feel invited as expert representing specific knowledge of a discipline. Instead, they feel invited as a delegate of their national ministry primarily representing national policy relevancies and targets.

*“Yeah I am absolute acting from a national perspective, because I was invited as representative of my home country. In other EU-programs, this differs. Sometimes people are invited as persons or in their position as a researcher. This is quite a different situation, because then you are quite independent. But when you are invited as representative of the ministry then you represent their interests.” (Expert 6: National Expert)*

The experts also described the setting of the expert group meetings as contributing to their seeing themselves as acting as representatives of their nations. In the meetings, the experts were, for example, sitting behind their national flag, which signals to them that they are primarily a national representative and not an expert in a relevant stake.

*“And I think it is also the setting which is coloured national. [...] When you are sent there by your national institution and sitting there behind a label with your country or the flag of your country on it [... this] guides you back to the national perspective.” (Expert 4: National Expert)*

The experts' taking on their national perspectives is not ideal for finding a neutral overall solution on the EU level. In most cases, their thoughts have been “coloured national”.

*“If we talk about a new indicator or a set of indicators for the EU, I think about what is important for the EU. But at the same time I also think, how can I implement those indicators in our national situation.” (Expert 5: National Expert)*

*“Everyone has some examples of good practices or main topics in their own country. [...] A main part of the discussions are questions like, ‘that’s not the case in our country’ but ‘that is important in our country’ and not, ‘well we know from that and*

*that kind of survey or that kind of research or article, we know that’.*”(Expert 5: National Expert)

To summarise, this first stage could be characterised as an interactive process of knowledge co-production of a Hybrid Forum. Within this stage, traditional scientific knowledge as well as extra-scientific values and organisational structures and relevancies are formative factors of knowledge production.

*“It is a very pragmatic discussion. It is not that people start with a big theory of a perfect set of indicators. But it is something which emerges. You have a mixture of things, which everybody agrees from the beginning [...]. And then people are looking at a number of possibilities and say like, ‘well there are 10 things that might be an indicator, what are the advantages and the disadvantages of these’. But what ends up on the final list is the result of all kinds of messy compromises.”* (Expert 2: Eurostat Expert)

These co-production processes can also be characterised as pragmatic because most of the discussions include experts’ experiences with practices in their home institutions. Because of this, the produced common result of knowledge co-production in this stage is often -- as the expert of the Eurostat stated -- a “messy compromise”.

#### *Stage 2 of knowledge production in this Hybrid Forum:*

The unofficial Stage 2 of knowledge production process took place outside the formal meetings of experts. Decisions concerning changes of the indicator system were made at this stage. The major question here was, to what extent the discussions of Stage 1 de facto influence the decisions to change the set of social indicators.

Within the documentary analysis no information about these decision-making processes was available. Only the decisions to add or change an indicator have been published in the documents. But in the interviews experts mentioned that this process could be characterised as exclusively taking place within the department of European Commission, the leading actor of this group.

*“You do not really know what they do with the results of the discussions. It is a kind of black box for me. [...] But in my impression, many decisions are made outside of the expert group, by the representatives of the commission. [...] I think [...] in the meetings they act like equal brainstorm partners. But the commission has the last word.” (Expert 7: National Expert)*

The actors of the expert group felt excluded from the decisions and noted that these decisions were not transparent to them. This is reflected by the use of expressions such as “black box” to characterise the expert groups’ perspective on the decision-making process regarding modifications of the indicator system. These changes were made and decided by the department of the European Commission. Experts doubted that they had an influence on the composition of the indicator system because modifications were often not based on the discussions and the co-production processes of the meetings (Stage 1).

*“I am not sure what the commission does with the advices. I think they also have their own conclusions and I am not sure about the influence of expert group or the members of the expert group.” (Expert 5: National Expert)*

Another national expert estimated that only 20% of the situations where expert knowledge is used are really to make a decision. In 80% of the situations, the experts are asked to legitimise decisions that are already set, but not communicated to the public. So at the Stage 2 of knowledge production, when final decisions on changes to the existing indicators were made, the experts felt not integrated.

*“At the best you get some emails about what is going on and you get some updates and it is not like you really have a view on what is going on there.” (Expert 7: National Expert)*

As the following quotation highlights, experts coming from other European institutions like Eurostat share the feeling of being excluded and acting at least one level below in the decision-making structure of this group. The expert mentioned that the European Commission as chair of this group has the last word concerning knowledge production, even if the decision is not in their direct area of expertise.

*“I would say over all the policy-people tend to have a presidency on many questions, even questions that are quiet statistical. They even have the last word very often.” (Expert 2: Eurostat Expert)*

So for the final outcome it was evident for all interview partners that the Commission used its exposed position in the group hierarchy to control the outcome of this group. The question then is why the expert group was consulted over years.

*“[P]olicy makers [...] have to justify actions. I mean it is a major principle of democracy to create evidence. And the other reason is budgetary. Because budgets have been shrinking for a long time, at least since the start of the economic crisis and there is a stronger need to justify why an action should be taken.” (Expert 1: European Commissions)*

This quote offers the perspective that one major reason for this consultation is the symbolic function of this group. On the one hand, the goal of the expert group is to justify and legitimate the decisions of the Commission referring to the principles of democracy. On the other hand, it is to legitimise existing budgets.

## **Discussion**



An objective of this study was to reconstruct knowledge production and the motives behind this knowledge production of an indicator expert group. This expert group is an example of a political guided Hybrid Forum consisting of transdisciplinary experts. According to Scholz and Steiner (2015b), the ideal type of transdisciplinary knowledge co-production means that “science and practice collaborate on equal footing which (...) is established by co-leadership between science and practice” (p. 3). This definition delineates the ideal process of knowledge co-production within a Hybrid Forum.

However, when it comes to processes of knowledge production, the transdisciplinary expert group examined here differs from the ideal type of knowledge co-production. Instead of the equal footing and co-leadership, knowledge production appears to be controlled by the hierarchy of the group. Thus, at first glance this expert group appears to be a Hybrid Forum in that they reflect and negotiate the heterogeneous world of relevancies to find a common solution and reach a consensus. However, with a look at *research question 1* that asks, “Which factors influence knowledge production in a Hybrid Forum?” it becomes obvious that the input of this hybrid expert forum does not seem to have a strong influence on the final outcome of this group. In this case, knowledge production is closed and the department of EU-Commission places themselves above the actors of the expert group in the decision-making hierarchy.

This leads the discussion to part one of *research question 2*: “Who is responsible for knowledge production?”. In this case the European Commission uses its elevated position to control knowledge production and to exclude or ignore knowledge co-produced by the expert group. Therefore, knowledge production can independently take place outside of the discourse of the expert group. Processes of knowledge production, thus, can be characterised as dysfunctional and strategic. Thinking of processes of evidence-based policy-making, this means that the European Commission is able to design the evidence for their decisions almost

autonomously. Thus, here a “hidden agenda” on European policy level reduces knowledge co-production of this expert group to formal social consultation, with no real impact on knowledge that is generated or integrated into policy-making. This finding is in line with the conclusion from Renn (2015), who has pointed out that two different types of expert groups may be encountered: The first group is charged with the generation of innovative results, while the second group is considered more strategic and will generate legitimation. The second part of *research question 2* asks, “*Why is knowledge produced?*” In this case, the hybrid expert forum was consulted to create evidence in different ways: For general public to symbolise a desirable “rational” decision-making process of a democratic system and to justify budgets within policy area. Referring to Boswell’s typology, this type of expertise request is most reminiscent of the “legitimising use” of expert knowledge.

The instrumental knowledge that is used to influence or guide policy in evidence-based policy-making processes in this case was not co-produced within the expert group. It was produced by EU policy makers in closed and non-transparent processes outside of the expert group, in a black-box.

### **Conclusion:**

Based on empirical data, this case study reconstructs how knowledge is co-produced within a hybrid expert group of the European Commission. The way that knowledge is “co-produced” differs from the ideal type of knowledge co-production (Scholz and Steiner, 2015b).

Moreover, the results of this study challenge the normative theoretical perspective on the genesis of knowledge, which traditionally claims that rational criteria such as the power of an argument or the soundness of the theoretical knowledge base are conducive to the development of knowledge (Boswell, 2008; 2009; Scholz and Steiner, 2015a). Instead, in this particular expert group, pragmatic and extra-scientific criteria such as specific stakes and

interests as well as the hierarchical structure of the Hybrid Forum predicted and controlled the process of knowledge production. Collaborations between experts of this Hybrid Forum seem to be not structured enough to generate and sustain a collective action that is challenging the “hidden agenda” of the political strategy (Popa et al., 2015). So it seems that knowledge produced by the interaction of experts within the Hybrid Forum has a more symbolic policy-orientated function than an instrumental function of creating decision-making knowledge. This may mean that the expert group is not organised to produce rational evidence for decision-making. Rather, the purpose of the expert group is to legitimise and substantiate governmental preferences and to stress or symbolise integration of member states (Boswell 2008; 2009).

### **Limitations and outlook:**

It could be argued that this expert group might represent a highly specific case that is not representative of international expert organisations per se. Alternatively, this exemplary group can be seen as a typical case of an expert group of the European Commission. The group can be seen as typical because the legal basis structure of decision-making processes for all expert groups of the European Commission and their organisation structure are spelt out in the following passage of the “Register of Commission Expert Groups and other similar Entities”:

*“None of this [expert group] input is binding on the Commission and its departments, which remain fully independent regarding the way they take into account the expertise and views gathered.” (European-Commission, 2016)*

The latter interpretation enables the perspective to generalise results of this specific case by extrapolating and testing them across various cases and contexts, and to find similarities and dissimilarities (Krohn, 2008; Mayring, 2007). This moderate generalisation allows researchers

to develop models that are consistent over more than one case in order to reflect reasons for similarities of cases and also reasons for dissimilarities across cases (Krohn, 2008). It is highly likely that there are many similarities concerning structures and processes of knowledge co-production in other expert groups of the European Commissions and other political evidence-based decision-making structures.

Results of this study show that further case studies are needed which have a focus on structures and processes of knowledge production of expert groups within evidence-based policy-making. Here the central questions is to elucidate to what extend it is really “evidence” that is produced and how this knowledge is de facto used within the policy process. In addition, it would be important to reflect other types of knowledge co-productions especially in other application contexts with differing leadership structures. For example, a focus on other Hybrid Fora with scientific chairs or changing chairs as well as with a co-leadership as proposed by Steiner (2015b) would have an added value for this underresearched area.

## References

- Beckert, J, 2013, Imagined futures: fictional expectations in the economy, *Theory and Society*, 42, 3, 219-240, doi: 10.1007/s11186-013-9191-2
- Berg, BL, 1995, *Qualitative research methods for the social sciences*, Boston, MA: Allyn & Bacon.
- Binder C, Absenger-Helmli I, Schilling T, 2015, The reality of transdisciplinarity: a framework-based self-reflection from science and practice leaders, *Sustainability Science*, 10, 4, 545-562, doi: 10.1007/s11625-015-0328-2
- Boswell C, 2008, The political functions of expert knowledge: knowledge and legitimation in European Union immigration policy, *Journal of European Public Policy*, 15, 4, 471-488, doi: 10.1080/13501760801996634
- Boswell C, 2009, Knowledge, legitimation and the politics of risk: The functions of research in public debates on migration, *Political Studies*, 57, 1, 165-186, doi: 10.1111/j.1467-9248.2008.00729.x
- Choi S, Yang JS, Park H 2015, Quantifying the Triple Helix relationship in scientific research: statistical analyses on the dividing pattern between developed and developing countries, *Quality & Quantity*, 49, 4, 1381-1396, doi: 10.1007/s11135-014-0052-5
- Cohen, L, Manion L, Morrison K, 2007 *Research Methods in Education*, New York: Taylor & Francis, doi: 10.4324/9780203029053
- Clancy C, Cronin K ,2005, Evidence-based decision making: Global evidence, local decisions, *Health Affairs*, 24, 1, 151-162, doi: 10.1377/hlthaff.24.1.151
- Eisenhardt, K, Graebner, M, 2007, Theory building from cases: Opportunities and challenges, *Academy of Management Review*, 32, 1, 25–32, doi: 10.5465/amj.2007.24160888
- Eisenhardt KM, Zbaracki, MJ ,1992, Strategic decision making, *Strategic management journal*, 13, 2, 17-37, doi: 10.1002/smj.4250130904
- European-Commission ,2001, *European governance: a white paper*, Brussels: Office for Official Publications of the European Communities.
- European-Commission, 2016, *Register of Commission Expert Groups, other similar Entities*, Brussels. Retrieved from <http://ec.europa.eu/transparency/regexpert/index.cfm?do=faq.faq&aide=2>.
- Gibbons M, Nowotny M, Limoges C, 1994, *The new production of knowledge: The dynamics of science and research in contemporary societies*, New York: SAGE Publications, doi: 10.4135/9781446221853.
- Giddens A, 1984, *The constitution of society. Outline of the theory of structuration*. Cambridge: Polity Press, doi: 10.1016/0260-9827(86)90040-6
- Hartley, J, 1994, Case studies in organisational research, in C. Cassell, G. Symon, G. (eds.) *Qualitative methods in organisational research, a practical guide*, London: Sage, 208-229,
- Hoelscher, M, Schubert, J, 2015, Potential and Problems of Existing Creativity and Innovation Indices, *Creativity Research Journal* 27, 1, doi: 10.1080/10400419.2015.992656
- Herbst S, 2003, Political authority in a mediated age, *Theory and Society*, 32, 481–503.
- Høyland B, Moene K, Willumsen, 2012, The tyranny of international index rankings. *Journal of Development Economics*, 97, 1, 1-14, doi: 10.1016/j.jdeveco.2011.01.007
- Kauffman J, Arico S, 2014, New directions in sustainability science: promoting integration and cooperation, *Sustainability Science*, 9, 4, 413-418, doi: 10.1007/s11625-014-0259-3

- Kohlbacher, F, 2006, The use of qualitative content analysis in case study research, *Forum: Qualitative Social Research*, 7,1
- Koier E, Horlings E, 2014, How accurately does output reflect the nature and design of transdisciplinary research programmes?, *Research Evaluation*, 24, 1, 37-50, doi: 10.1093/reseval/rvu027
- Krick E, 2014, Negotiated expertise in policy-making: How governments use hybrid advisory committees, *Science and Public Policy*, Online First, doi: 10.1093/scipol/scu069
- Krohn W, 2008, Learning from case Studies, in G. Hadorn-Hirsch et al. (Eds.), *Handbook of Transdisciplinary Research*, Amsterdam, Springer Netherlands, pp 369-383 Doi: 10.1007/978-1-4020-6699-3\_24.
- Kuckartz, U, 2012, *Qualitative Content Analysis. Methods, Practice, and Computer Use.* [Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung.] Weinheim Juventa Verlag GmbH.
- Lang D et al., 2012, Transdisciplinary research in sustainability science: practice, principles, and challenges, *Sustainability Science*, 7, 1, 25-43, doi: 10.1007/s11625-011-0149-x
- Lawhon M, Manomaivibool P, Inagaki H, 2010, Solving/understanding/evaluating the ewaste challenge through transdisciplinarity? *Futures*, 42, 10, 1212-1221.
- Martin B, 2012, *Innovation studies: Challenging the boundaries*, Cambridge.
- Mayring P, 2007, On generalization in qualitatively oriented research, *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*.
- McKim C, 2015, The Value of Mixed Methods Research: A Mixed Methods Study, *Journal of Mixed Methods Research*, Online First, doi: 10.1177/1558689815607096
- Neuman, WL, 1997, *Social research methods, qualitative and quantitative approaches* (3rd ed.), Boston: Allyn and Bacon.
- Niemeijer D, 2002, Developing indicators for environmental policy: Data-driven and theory-driven approaches examined by example, *Environmental Science & Policy*, 5, 2, 91-103, doi: [http://dx.doi.org/10.1016/S1462-9011\(02\)00026-6](http://dx.doi.org/10.1016/S1462-9011(02)00026-6)
- Nowotny H, 2007, How many policy rooms are there? Evidence-based and other kinds of science policies, *Science, Technology & Human Values*, 32, 4, 479-490, doi: 10.1177/0162243907301005
- Nowotny H, Scott P, Gibbons M, 2001, *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*, Cambridge: Polity Press.
- Nutley S et al., 2010, Evidence and policy in six European countries: diverse approaches and common challenges, *Evidence & Policy: A Journal of Research, Debate & Practice*, 6, 2, 131-144, doi: 10.1332/174426410x502275
- Patton, E, Appelbaum, SH, 2003, The case for case studies in management research, *Management Research News*, 26, 5, 60-71, Doi: 10.1108/01409170310783484
- Pawson R, 2007, *Evidence-based policy: a realist perspective*. Wiley Online Library.
- Peeters H, Verschraegen G, Debels A, 2014, Commensuration and policy comparison: How the use of standardized indicators affects the rankings of pension systems, *Journal of European Social Policy*, 24, 1, 19-38, Doi: 10.1177/0958928713511279
- Popa F, Guillermin M, Dedeurwaerdere T, 2015, A pragmatist approach to transdisciplinarity in sustainability research: From complex systems theory to reflexive science, *Futures*, 65, 45-56, doi: 10.1016/j.futures.2014.02.002
- Renn O, 2015, Ethikkommission: Wie legitim ist die Legitimation der Politik?, P. Weingart, G. Wagner (eds.), *Practical test of Scientific Policy-advise [Wissenschaftliche Politikberatung im Praxistest]*, Weilerswist: Vellbrück, 17-34 doi: 10.5771/9783845277424-15
- Renn O, Klinke A, 2013, A framework of adaptive risk governance for urban planning, *Sustainability*, 5, 5, 2036-2059, Doi: 10.3390/su5052036

- Roggenthien, 2008, The Structured dialog with Youth – Quo vadis. [Der Strukturierte Dialog mit der Jugend - quo vadis?]. München: Federal Ministry of Family Affairs, Senior Citizens, Women and Youth.
- Scholz R et al., 2006, Transdisciplinary case studies as a means of sustainability learning: Historical framework and theory, *International Journal of Sustainability in Higher Education*, 7, 3, 226-251. doi: 10.1108/14676370610677829
- Scholz R, Steiner G, 2015a, The real type and ideal type of transdisciplinary processes: part I—theoretical foundations. *Sustainability Science*, 10, 4, 1-18, doi: 10.1007/s11625-015-0326-4
- Scholz R, Steiner G, 2015b, The real type and ideal type of transdisciplinary processes: part II—what constraints and obstacles do we meet in practice? *Sustainability Science*, 10, 5, 1-19, doi: 10.1007/s11625-015-0327-3
- Scholz R, Steiner G, 2015c, Transdisciplinarity at the crossroads. *Sustainability Science*, 10, 4, 521-526, doi: 10.1007/s11625-015-0338-0
- Sharman A, Holmes J, 2010, Evidence-based policy or policy-based evidence gathering? Biofuels, the EU and the 10% target. *Environmental Policy and Governance*, 20, 5, 309-321, doi: 10.1002/eet.543
- Siciliano M, 2016, Ignoring the Experts: Networks and Organisational Learning in the Public Sector, *Journal of Public Administration Research and Theory*. Online First, doi: 10.1093/jpart/muw052
- Strassheim H, Kettunen P, 2014, When does evidence-based policy turn into policy-based evidence? Configurations, contexts and mechanisms, *Evidence & Policy: A Journal of Research, Debate & Practice*, 10(2), 259-277, doi: 10.1332/174426514x13990433991320
- Takeuchi K, 2014, The ideal form of transdisciplinary research as seen from the perspective of sustainability science, considering the future development of IATSS. *IATSS Research*, 38, 1, 2-6, doi: 10.1016/j.iatssr.2014.05.001
- van Kammen J, de Savigny D, Sewankambo N, 2006, Using knowledge brokering to promote evidence-based policy-making: the need for support structures. *Bulletin of the World Health Organisation*, 84, 8, 608-612, doi: 10.2471/blt.05.028308
- Van Maanen, J, Sorensen, J, Mitchell, T., 2007, The interplay between theory and method, *Academy of Management Review*, 32, 1145–1154, doi: 10.5465/amr.2007.26586080
- Wiek A et al., 2014, Sustainability science in action: a review of the state of the field through case studies on disaster recovery, bioenergy, and precautionary purchasing, *Sustainability Science*, 10, 1, 17-31, doi: 10.1007/s11625-014-0261-9